Hart Street Wastewater Pump Station

DEPARTMENT OF WASTEWATER MANAGEMENT

CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

JEREMY HARRIS
MAYOR

KENNETH E. SPRAGUE, P.E., Ph.D.
DIRECTOR

CHERYL K. OKUMA-SEPE
DEPUTY DIRECTOR

WPP 98-289

May 22, 1998

Mr. Gary Gill, Director
Office of Environmental Quality Control
State of Hawaii
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

'98 MAY 27 A11:35

RECEIVED

Dear Mr. Gill:

Subject: Hart Street (New) Wastewater Pump Station
Finding of No Significant Impact (FONSI)
Tax Map Keys: 1-5-34: 6 and 1-5-34: 21
Honolulu, Oahu, Hawaii

The City and County of Honolulu has reviewed the comments received during the 30-day public comment period which began on March 8, 1998. The agency has determined that this project will not have significant environmental effects and has issued a FONSI. Please publish this notification in the June 8, 1998 Environmental Notice.

We have enclosed a completed OEQC Publication Form and four copies of the Final EA. Please contact Mr. Kumar Bhagavan at 527-5158 if you have any questions.

Sincerely,

KENNETH E. SPRAGUE
Director

Enclosures

52

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1998-06-08-OA-FEA- Hart Street Wastewater Pump Station

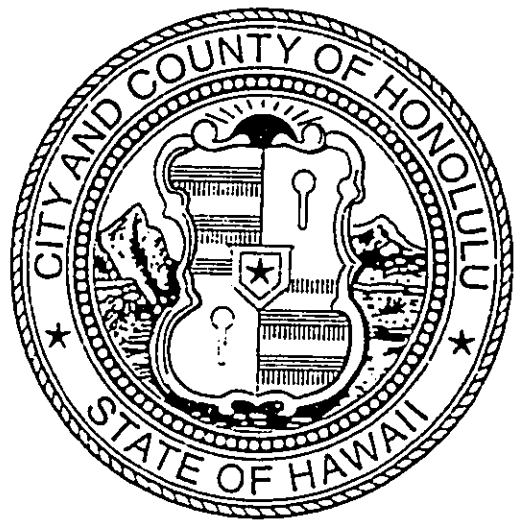
JUN 8 1998

FILE COPY

FINAL ENVIRONMENTAL ASSESSMENT

HART STREET (NEW) WASTEWATER PUMP STATION

Honolulu, Oahu, Hawaii



CITY AND COUNTY OF HONOLULU
DEPARTMENT OF WASTEWATER MANAGEMENT

WILSON OKAMOTO & ASSOCIATES, INC.

JUNE 1998

FINAL ENVIRONMENTAL ASSESSMENT

HART STREET (NEW) WASTEWATER PUMP STATION

Honolulu, Oahu, Hawaii

TMK: 1-5-34: 6 and 1-5-34: 21

Proposing Agency:
DEPARTMENT OF WASTEWATER MANAGEMENT
CITY AND COUNTY OF HONOLULU
650 South King Street
Honolulu, Hawaii 96813

Responsible Official:

5/26/98
Date

Kenneth E. Sprague, Director
Department of Wastewater Management
City and County of Honolulu

Prepared by:
Wilson Okamoto & Associates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826
Contract No. F-44806 (WOA: 3441-02)

Submitted pursuant to Chapter 343 Hawaii Revised Statutes, as amended, and Chapter 200 of Title 11, State of Hawaii Department of Health Administrative Rules, Environmental Impact Statement.

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PREFACE

Chapter 343, Hawaii Revised Statutes (HRS), as amended, Environmental Impact Statements, requires that a governmental agency or private developer proposing to undertake a project consider the potential environmental impacts of the proposed project by preparing an assessment. The criteria set forth in Chapter 343 HRS, as amended, for preparation of an environmental assessment is the use of public funds or public lands for a project. The proposed Hart Street (New) Wastewater Pump Station project will require the use of public funds and public lands.

This Environmental Assessment (EA) has been prepared to meet the requirements of Chapter 343 HRS, as amended, and its implementing rules, Chapter 200 of Title 11, State of Hawaii Department of Health Administrative Rules, Environmental Impact Statement.

This EA has determined the proposed project will not have significant adverse environmental impacts and a Finding of No Significant Impact (FONSI) should be issued.

1. INTRODUCTION

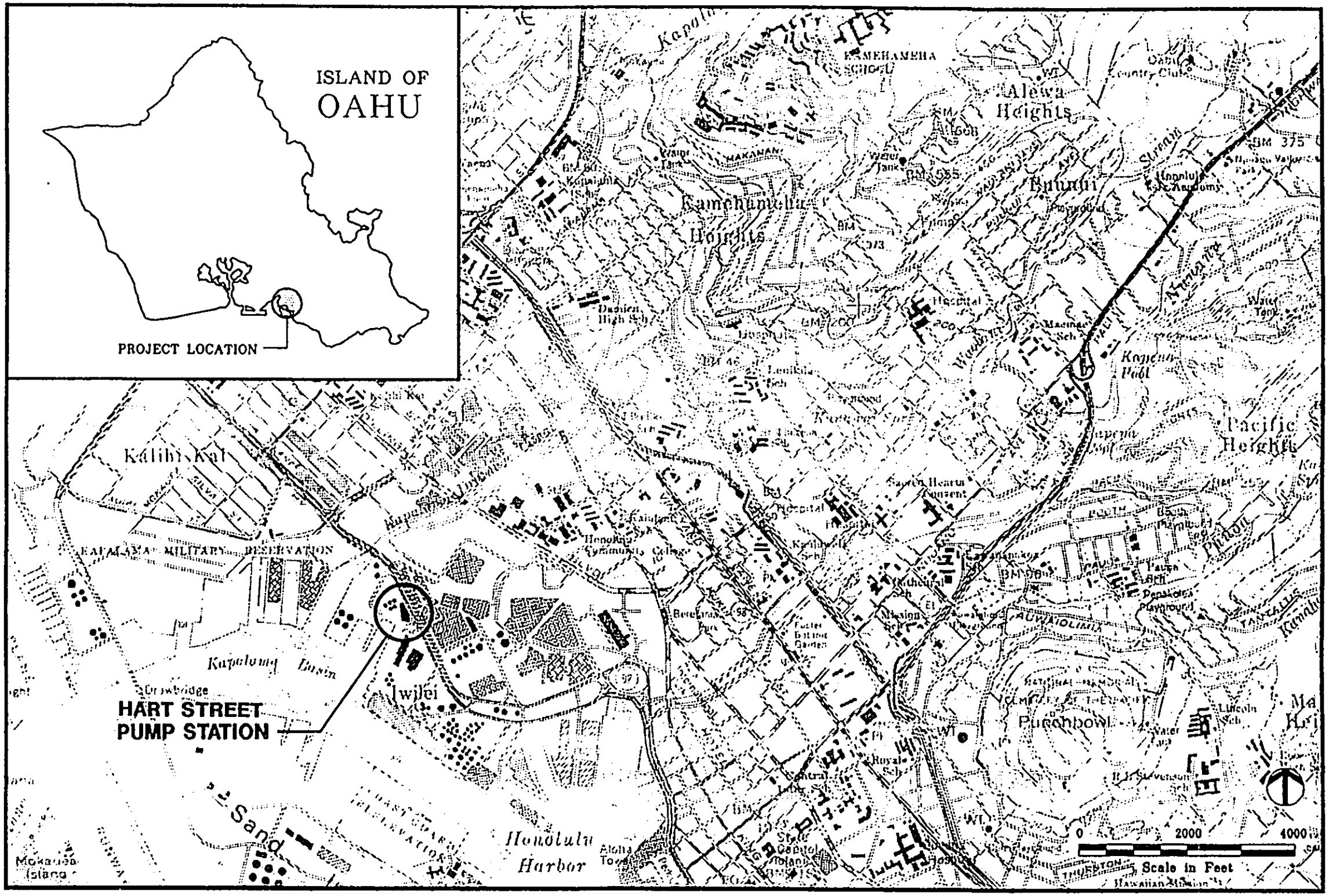
1.1 Introduction

This environmental assessment was prepared to identify and assess impacts from the proposed rehabilitation and improvements to the Hart Street (New) Wastewater Pump Station (WWPS). The proposed rehabilitation and improvements are based on findings set forth in the August 1997 Preliminary Engineering Report (PER) for the Hart Street (New) WWPS prepared for the City and County of Honolulu Department of Wastewater Management (WWM). The PER determined rehabilitation and improvements to the WWPS were more cost effective than construction of new facilities as proposed in the East Mamala Bay Wastewater Facilities Plan in 1993.

1.2 Project Site and Ownership

The major portion of the Hart Street WWPS project site is located on the west side, or makai, of Nimitz Highway near the north end of Pier 35 which lies about 2.5 miles west of downtown Honolulu. The project site occupies all of Tax Map Key 1-5-34: 6, an area of about 0.568 acres. The site and adjacent force main easement are available to the City and County of Honolulu under State of Hawaii Executive Order No. 1345 (dated January 1, 1950) which set aside the land for use as a pumping station and force mains. Figure 1.1 shows the location of the Hart Street WWPS. Figure 1.2 shows the site map. Figure 1.3 shows the Tax Map Key.

In addition, to provide access and sufficient space for the proposed rehabilitation activities and to construct necessary improvements, WWM needs an additional area of about 9,972 square feet of the adjacent parcel (TMK: 1-5-34: 21) owned by the State of Hawaii and controlled by the Department of Transportation Harbors Division. WWM intends to acquire this land by purchase or long-term lease from the Harbors Division. Since April 1996, use of this parcel has been the subject of discussions between WWM and the Harbors Division. These discussions are currently still continuing. However, in April 1998, the Harbors Division has indicated by letter a willingness to lease the area to the City and County of Honolulu. See Figure 1.2. Appendix A contains documentation between WWM and the State.



HART STREET (NEW) WASTEWATER PUMP STATION Environmental Assessment	Fig. 1.1 **LOCATION MAP**	Prepared for : City & County of Honolulu Dept. of Wastewater Management Prepared by: Wilson Okamoto & Associates, Inc.

(Note, the additional area of 9,972 square feet was decreased from an earlier plan (an area of 14,370 square feet) to accommodate the turnaround ingress/egress area for the Domestic Commercial Fishing Village proposed by the Harbors Division.)

1.3 Surrounding Uses

The Hart Street WWPS is located in an area with harbor-related waterfront industrial-type uses, including general cargo operations at Pier 33, fueling operations and storage at Pier 34, and the Hawaii Stevedores building at Pier 35 which houses the Hawaii Stevedores, Castle and Cooke Federal Credit Union, KEMS Kewalo, Pacific Ocean Producers, Navatech, and Harbor Ice. A temporary corrugated aluminum structure used to house a water taxi service is located at Pier 36, and the Hawaii Transfer Company has a building and operates a freight forward facility to the west of Pier 36.

The land immediately adjacent to the west of the Hart Street WWPS (Tax Map Key 1-5-34: 21) is currently vacant except for a corrugated metal structure (leased) and wooden building (abandoned) which lie almost against the WWPS security fence. This land was previously used as a construction staging site by during construction of the Nimitz Highway Relief Sewer.

Currently, the Pier 38 area, including the adjacent parcel (TMK: 1-5-34: 21), is being considered for development as a Domestic Commercial Fishing Village by the Harbors Division. The proposed Domestic Commercial Fishing Village would replace the existing fish auction at Kewalo Basin and would include a fresh fish wholesale and distribution center, fresh fish retail stores, restaurants, and other visitor attractions.

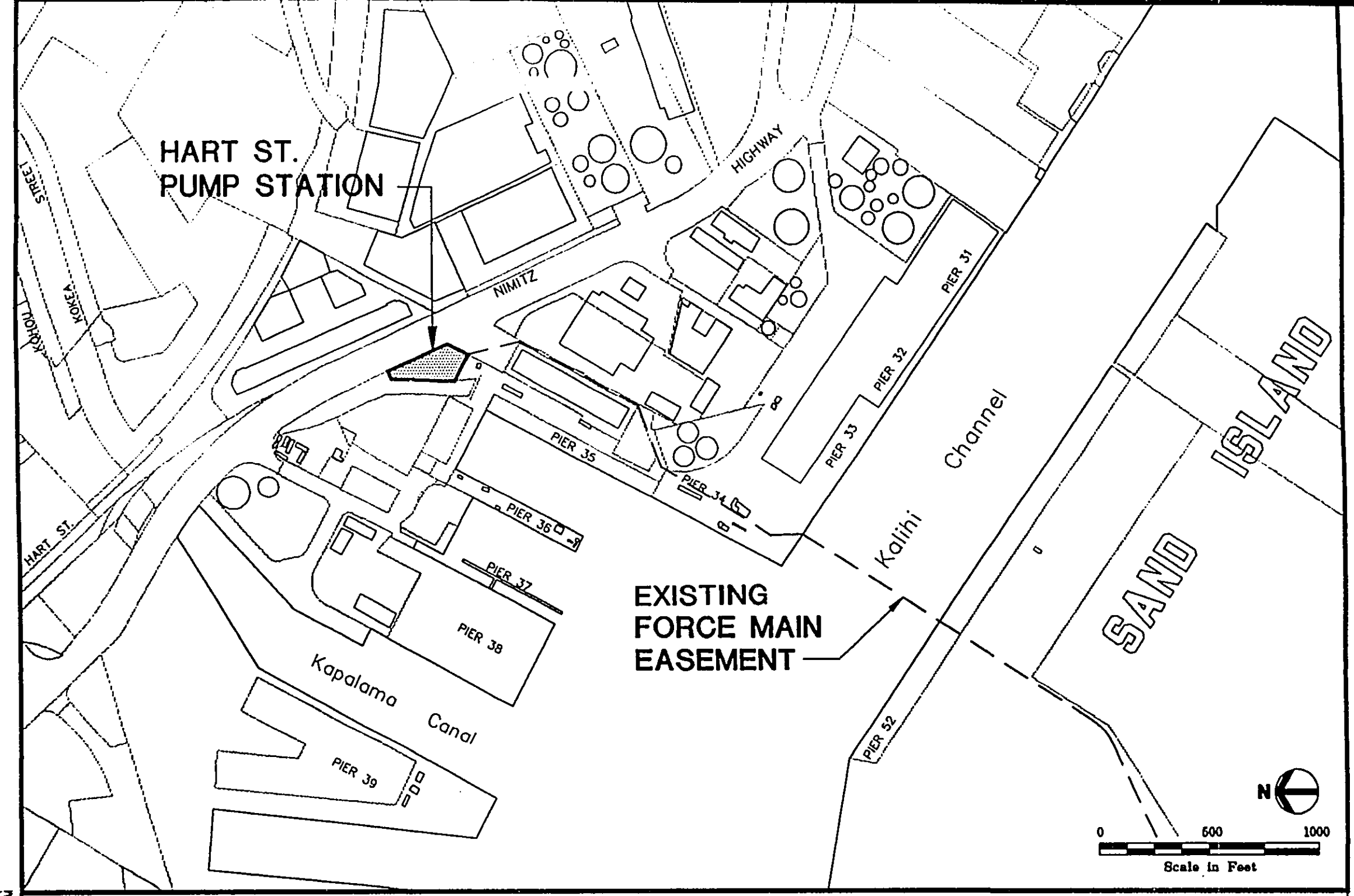
The area east, or mauka, of Nimitz Highway is occupied by various industrial and commercial uses including the Nimitz Business Center.

1.4 Service Area

The Hart Street WWPS is part of the East Mamala Bay Subdistrict which includes three other pump stations, Ala Moana, Fort Shafter, and Sand Island Parkway, pumping directly to the Sand Island Wastewater Treatment Plant. The boundaries of the Hart Street WWPS subsystem are Aala-Puunui/Nuuanu to Moanalua/Aliamanu. A total of 29 square miles is encompassed in this service or tributary area. Figure 1.4 shows the service area.

The Hart Street WWPS encompasses the North Honolulu subsystem and serves a total of 12 general areas:

Kalihi Valley;
portions of Nuuanu;
portions of Aliamanu/Salt Lake;
portions of Moanalua;
Halsey Terrace Naval Housing;
Camp Catlin Naval Housing;
Liliha/Kapalama;
Kalihi/Palama;
Iwilei;
Honolulu International Airport;
Radford Terrace Naval Housing; and
Red Hill Coast Guard Housing.



HART STREET (NEW) WASTEWATER PUMP STATION

Environmental Assessment

Fig. 1.2

SITE MAP

Prepared for :
City & County of Honolulu
Dept. of Wastewater Management

Prepared by:
Wilson Okamoto & Associates, Inc.

(DWG):H:\DWG\3261-01\SITEMAP
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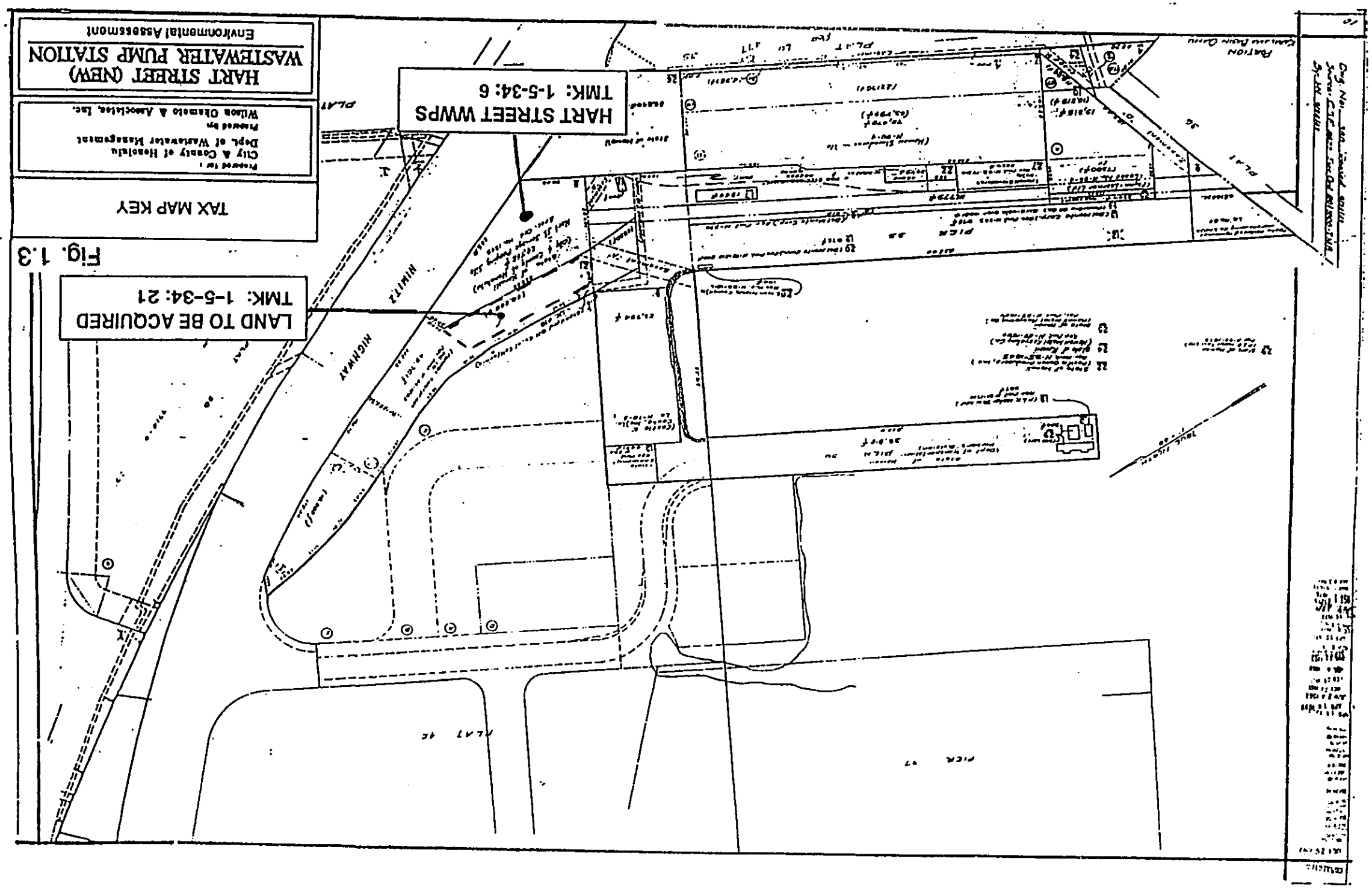
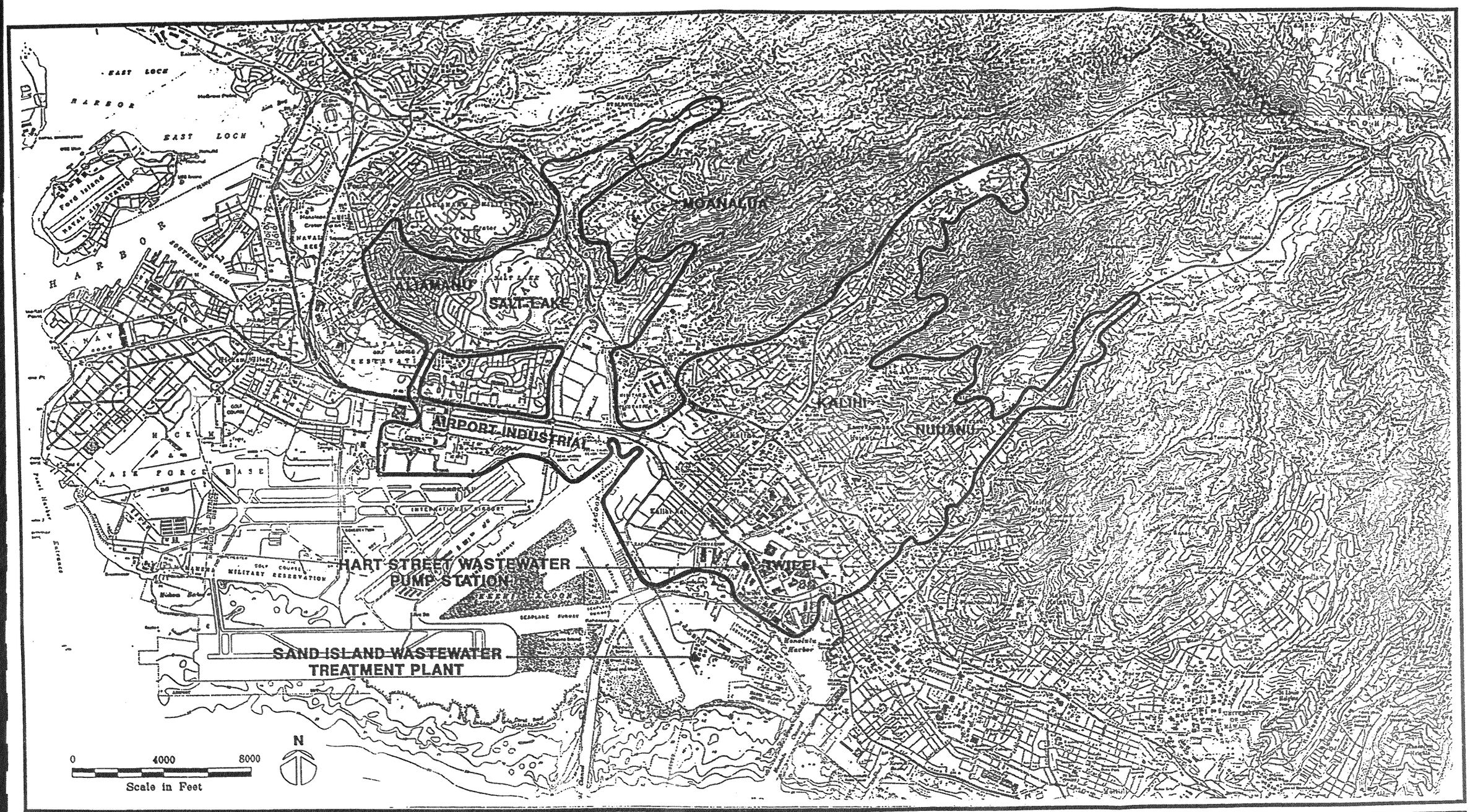


Fig. 1.3



HART STREET (NEW) WASTEWATER PUMP STATION Environmental Assessment	**HART ST. WWPS SERVICE AREA MAP**	Prepared for : City & County of Honolulu Dept. of Wastewater Management Prepared by: Wilson Okamoto & Associates, Inc.	Fig. 1.4 **SERVICE AREA MAP**

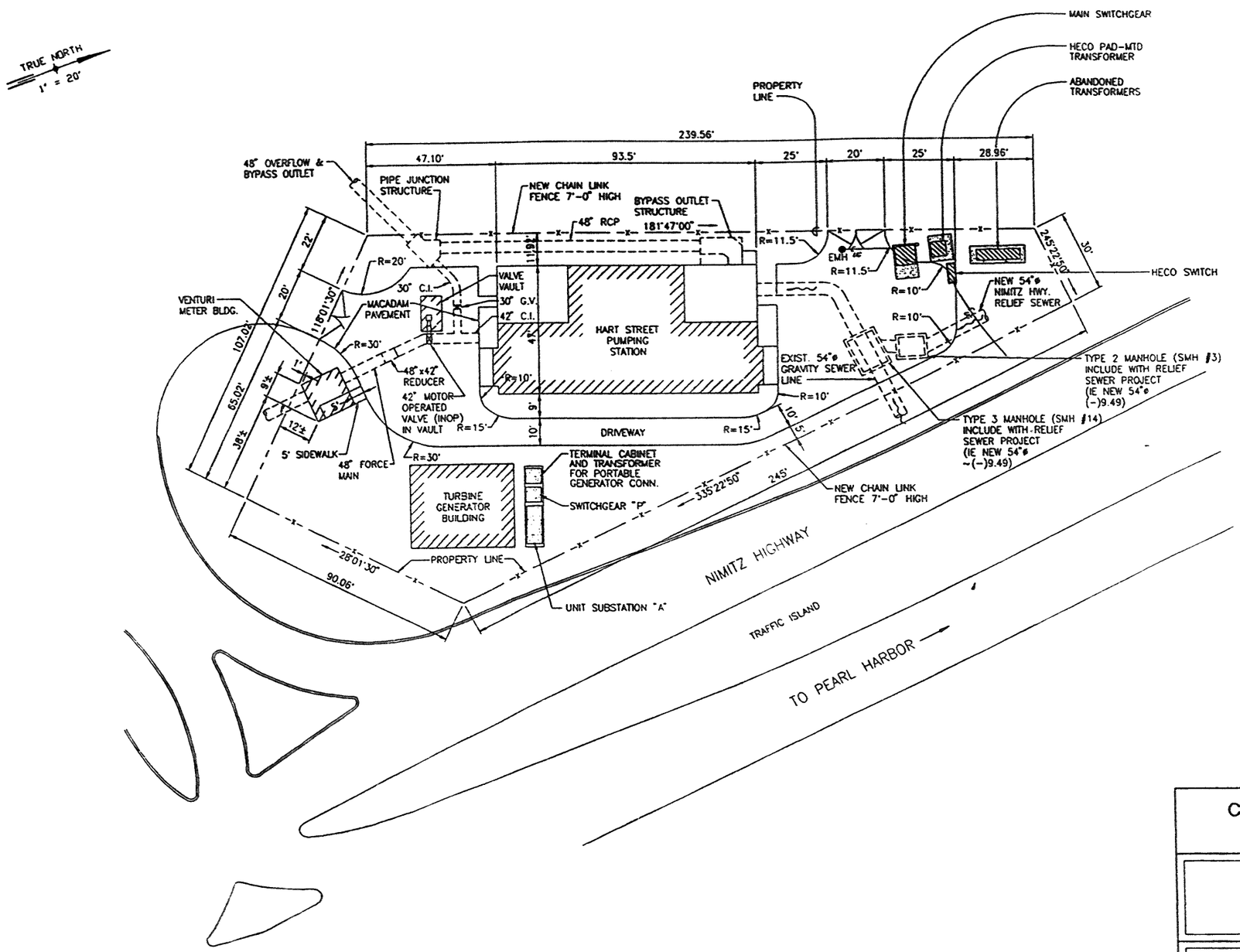
2. PROJECT DESCRIPTION

2.1 Existing Facilities and Operations

The Hart Street WWPS was erected in 1951, as noted on the pump station's plaque located at the base of the steps leading to the office. According to the design drawings, the Hart Street WWPS used the same design as the original Ala Moana WWPS which was constructed at about the same time. In 1979, the Hart Street WWPS was extensively modified, when new pumps, motors, controls, and a surge protection system were installed. In addition, at that time, the existing stand-by generator building was constructed and the two turbine emergency generators were installed.

The WWPS building is approximately 48 feet by 97 feet. The building substructure is concrete and the superstructure is steel frame with concrete block. The building has three floors. Two floors encompass the entire building and one mid-level floor occupies about one-half the building. The ground level or motor room floor (elevation +6.50 feet) houses five motors, electrical equipment room, motor control center (MCC), operator room, shower and toilet, and a small office. The mid-level floor (elevation -4.00 feet) contains the hydro-pneumatic tank and seal water tanks. The pump room floor (elevation -19.50 feet) houses five pumps, level control, and pump manifold. The wet well is on the same floor with a structural wall separating the wet well and pumps. Figure 2.1 shows the current site plan. Figure 2.2 shows the First Floor plan. Figure 2.3 shows the Pump Room floor plan. Figure 2.4 shows the elevation.

The stand-by generator building, located to the east of the WWPS building along Nimitz Highway, is a one-story concrete masonry unit structure measuring about 31 feet by 38 feet. The building houses two 800-kilowatt (KW) diesel-powered turbine generators used as an emergency source of power. A 5,000-gallon underground fuel tank (UST Facility ID 9-100137, according to the State of Hawaii Department of Health identification system) is located near the south side of the generator building. WWM has completed a project to upgrade the piping and to meet the corrosion protection and spill/overfill requirements for this existing UST at the WWPS.



1 CURRENT SITE PLAN-1 : AFTER NIMITZ HIGHWAY RELIEF SEWER PROJECT IS COMPLETED

SCALE: 1"=20'-0"

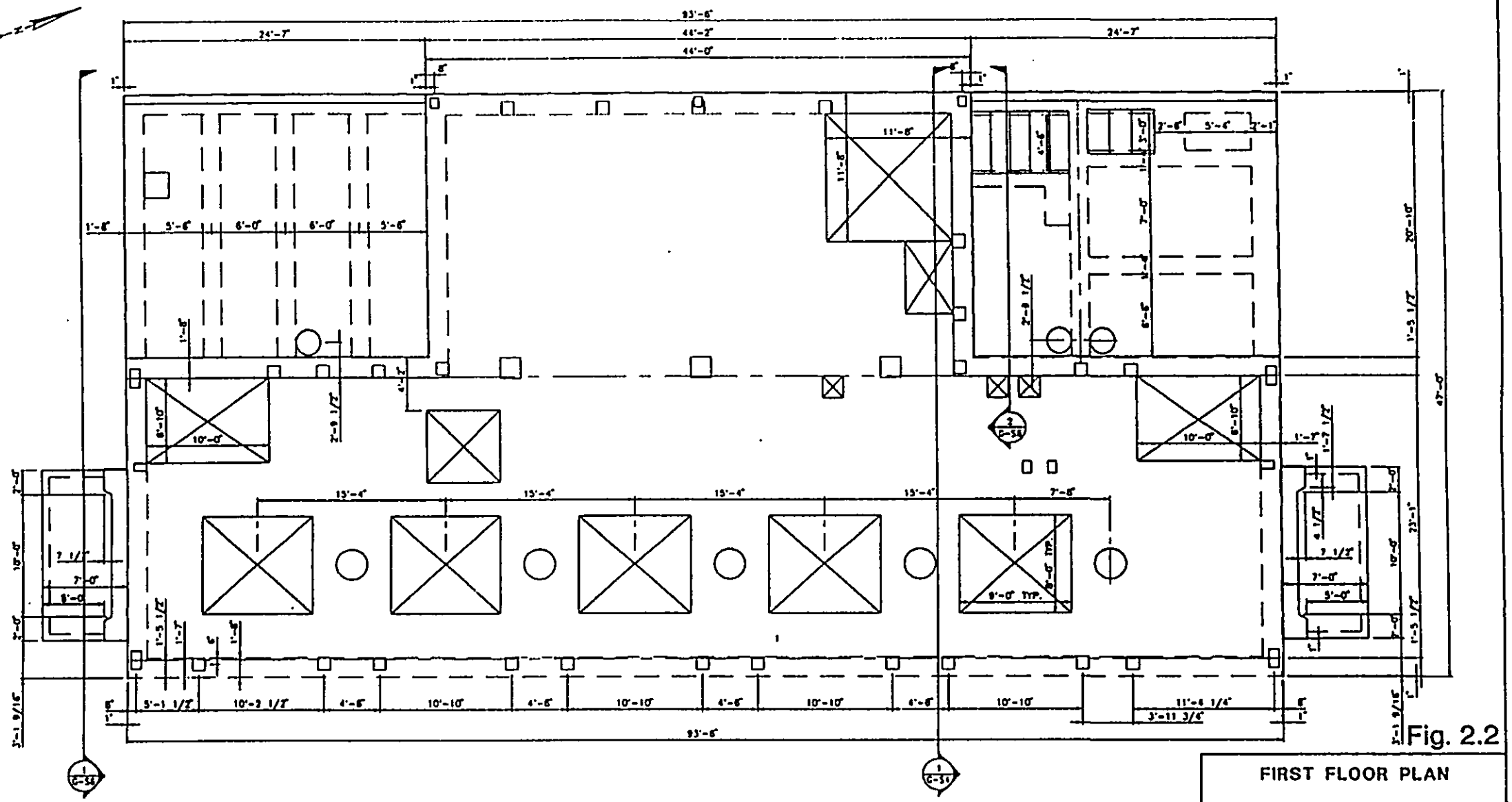
Fig. 2.1

CURRENT SITE PLAN-1

Prepared for:
City & County of Honolulu
Dept. of Wastewater Management

Prepared by:
Wilson Okamoto & Associates, Inc.

HART STREET (NEW)
WASTEWATER PUMP STATION
Environmental Assessment



1 FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0" (EL. = +6.5')

Fig. 2.2

FIRST FLOOR PLAN

Prepared for:
City & County of Honolulu
Dept. of Wastewater Management
Prepared by:
Wilson Okamoto & Associates, Inc.

HART STREET (NEW)
WASTEWATER PUMP STATION
Environmental Assessment

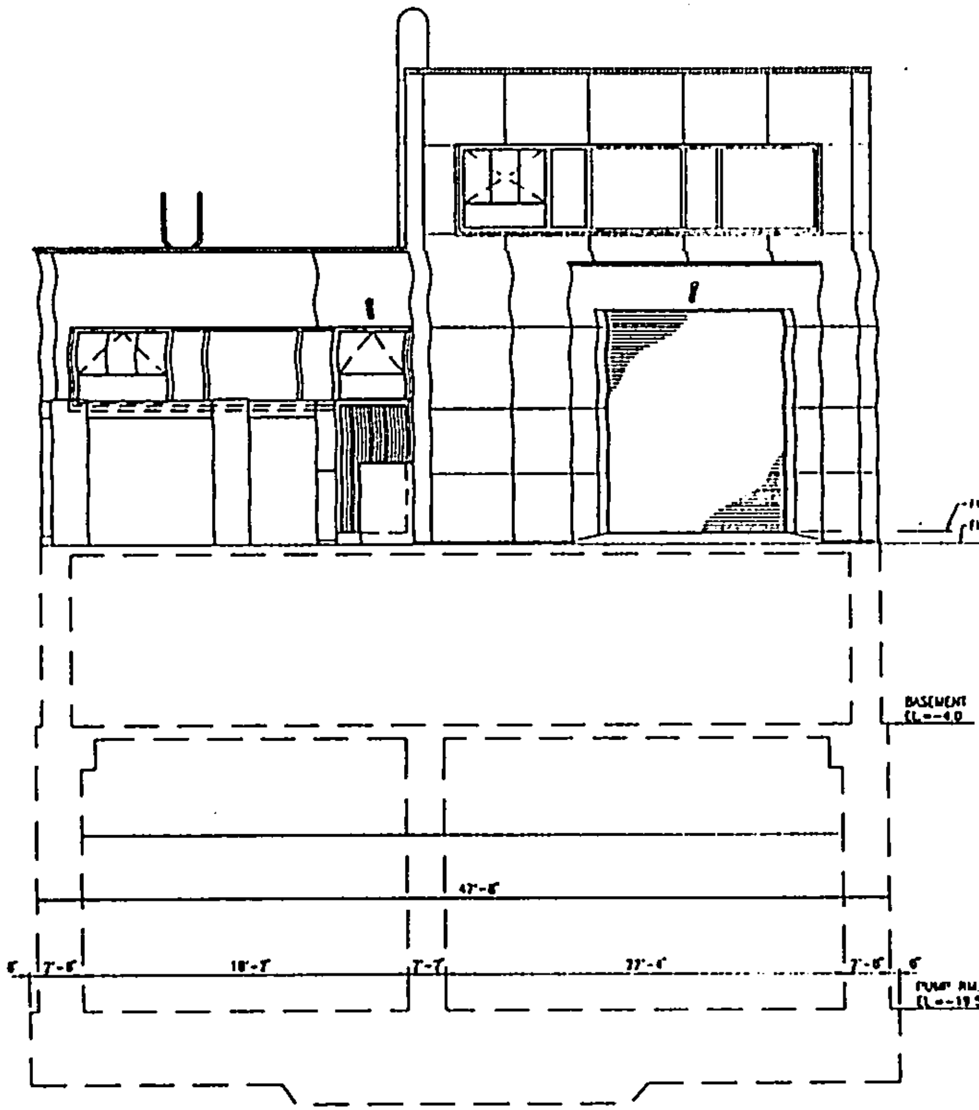
Fig. 2.3

PUMP ROOM FLOOR PLAN

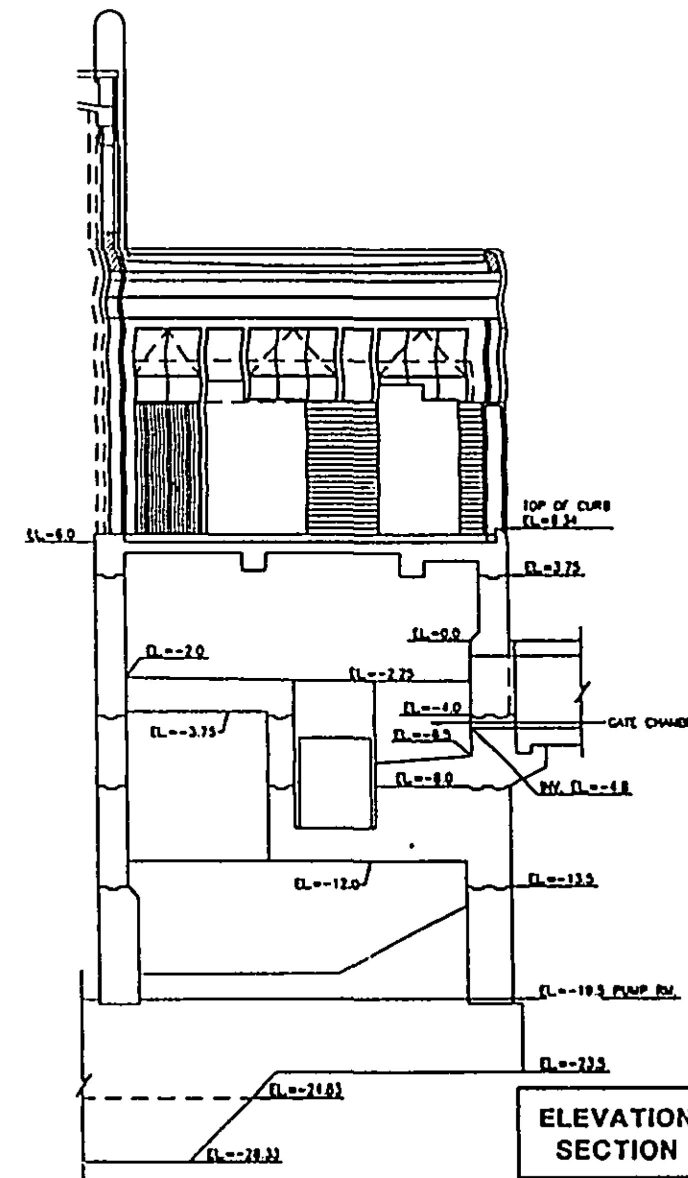
Prepared for :
City & County of Honolulu
Dept. of Wastewater Management
Prepared by :
Wilson Okamoto & Associates, Inc.

HART STREET (NEW)
WASTEWATER PUMP STATION
Environmental Assessment

1 PUMP ROOM FLOOR PLAN
SCALE: 1/8" (EL. = -18.3')



1 ELEVATION LOOKING NORTH
SCALE 1/8" = 1'-0"



2 SECTION LOOKING SOUTH
SCALE 1/8" = 1'-0"

Fig. 2.4

ELEVATION LOOKING NORTH
SECTION LOOKING SOUTH

Prepared for:
City & County of Honolulu
Dept. of Wastewater Management
Prepared by:
Wilson Okamoto & Associates, Inc.

HART STREET (NEW)
WASTEWATER PUMP STATION
Environmental Assessment

According to the Spill Reduction Action Plan, the WWPS contains five (5) variable speed pumps which have a total design capacity of about 95.76 million gallons per day (mgd) at a total dynamic head (TDH) of 95.8 feet. Each pump is rated at 14,583 gallons per minute (gpm) at 94 feet TDH as stated in the East Mamala Bay Facilities Plan, December 1993. The motors are rated at 400 horsepower (HP) each at 685 revolutions per minute (RPM). The existing system was based on the following design flows: average flow 33 mgd; maximum daily flow 53 mgd; and peak flow 77 mgd.

The WWPS normally operates with one pump at an average wastewater flow of about 19.6 mgd. Two or three pumps are used to handle high flows during storm conditions. The maximum recorded (totalizer) flow is 38.04 mgd on November 14, 1996. A peak hourly flow of 57.81 mgd was recorded on this day.

2.2 Proposed Project

The proposed rehabilitation and improvements include constructing new buildings on the existing WWPS site and constructing new facilities on the State-owned parcel. Construction on the existing site includes a new stand-by generator building with a 15,000-gallon underground fuel tank and a new electrical/office/meeting room/toilet shower building adjacent to the east, or Nimitz Highway, side of the existing WWPS building. Construction will also include a below-grade diversion pump station (DPS) consisting of three 20 mgd submersible pumps to be used during the construction period to divert flows around the wet well. Figure 2.5 shows the new site plan. Figure 2.6 shows the first floor plan. Figure 2.7 shows the cross section.

The existing stand-by generator building will be demolished and the underground fuel tank removed in accordance with applicable regulations. Construction of the new 15,000-gallon underground fuel tank will require a Department of Health permit. Subsurface investigations indicated the presence of petroleum contamination of the soil within the WWPS site and within the adjacent State-owned parcel. The subsurface contamination at the appears to be part of the area-wide contamination. WWM intends to comply with the December 1996 DOH Guidance Fact Sheet as the project is implemented.

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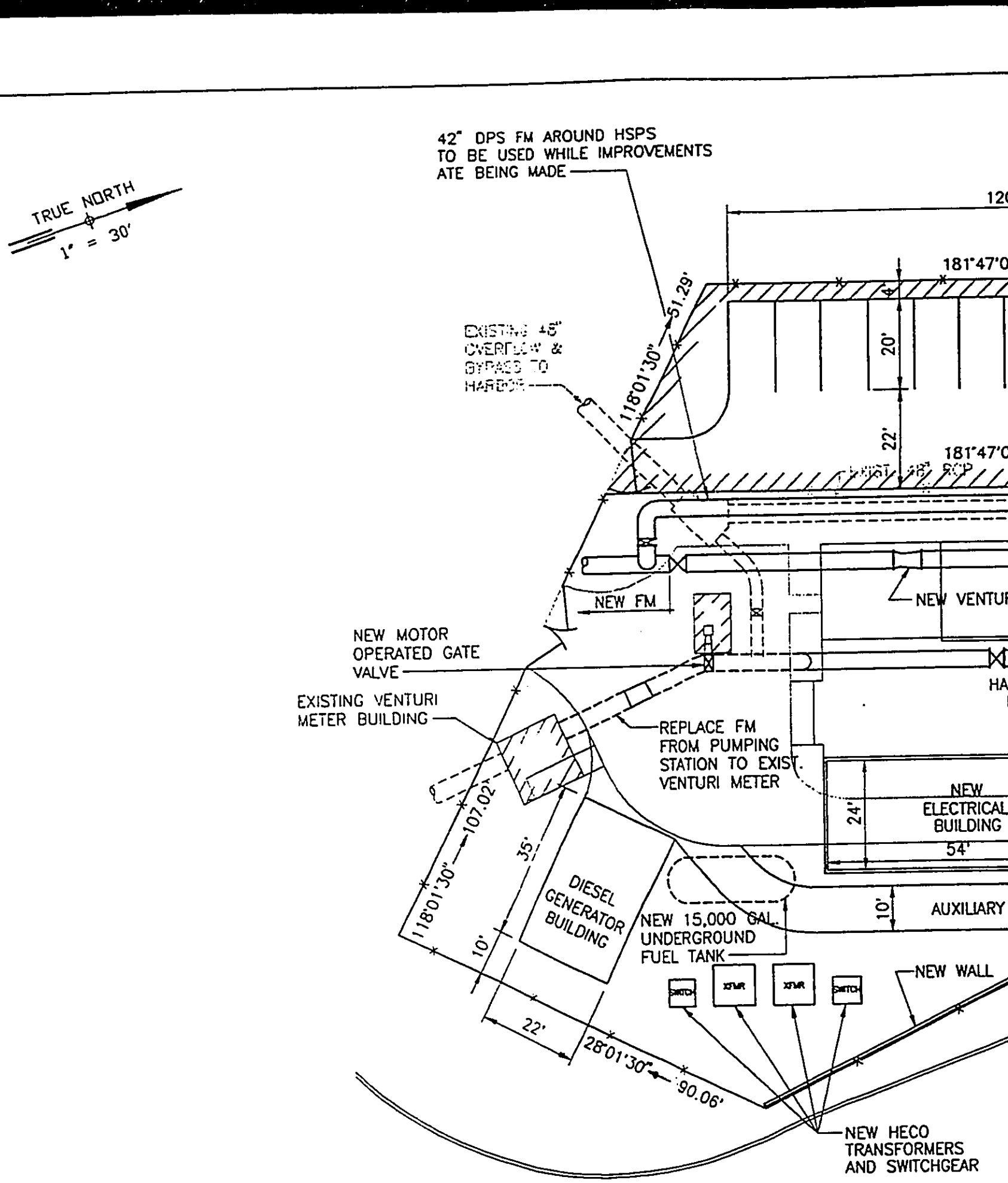

SITE PLAN: REPLACEMENT DISCHARG
FORCEMAIN, JUNCTION BOX, AND DI

SCALE: 1"=30'

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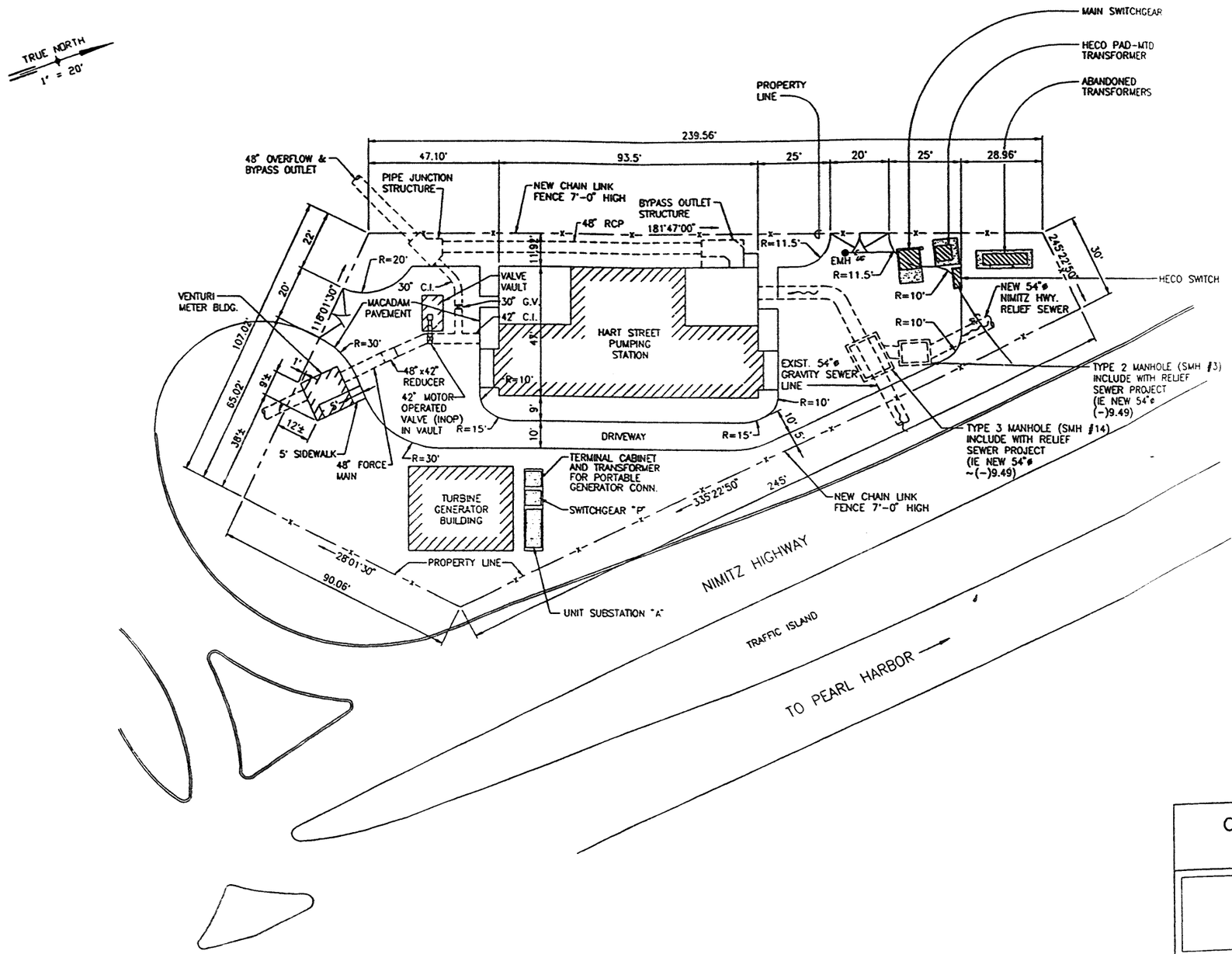
CORRECTION

THE PRECEDING DOCUMENT(S) HAS BEEN REPHOTOGRAPHED TO ASSURE LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING



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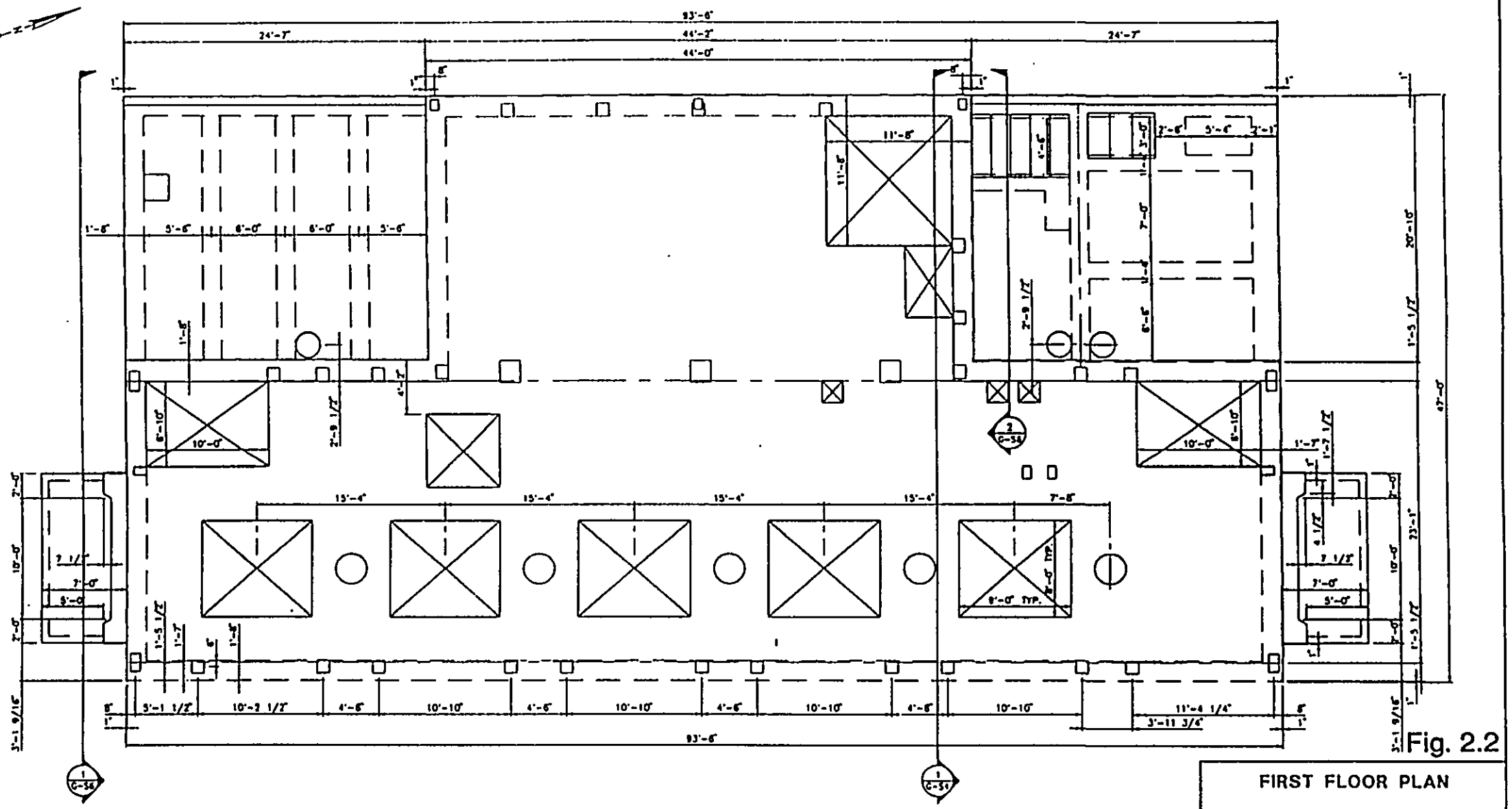
SCALE: 1"=20'-0"

Fig. 2.1

CURRENT SITE PLAN-1

Prepared for:
City & County of Honolulu
Dept. of Wastewater Management
Prepared by:
Wilson Okamoto & Associates, Inc.

HART STREET (NEW) WASTEWATER PUMP STATION
Environmental Assessment



1 FIRST FLOOR PLAN
SCALE: 1/8" = 1'-0" (EL. = +8.5')

Fig. 2.2

FIRST FLOOR PLAN

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City & County of Honolulu
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HART STREET (NEW)
WASTEWATER PUMP STATION
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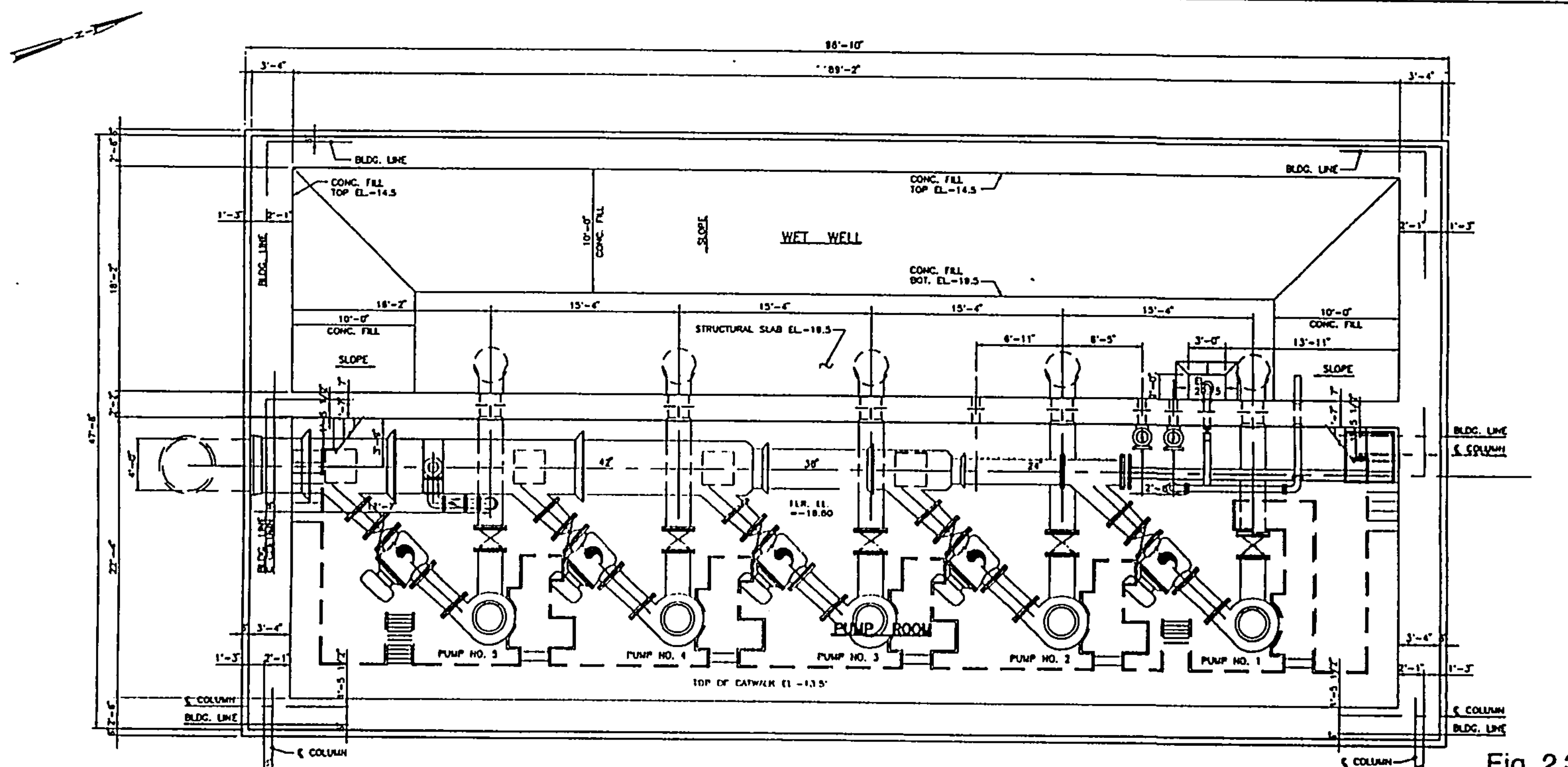

Fig. 2.3

① PUMP ROOM FLOOR PLAN
SCALE: 1/8" (EL = -18.5')

PUMP ROOM FLOOR PLAN

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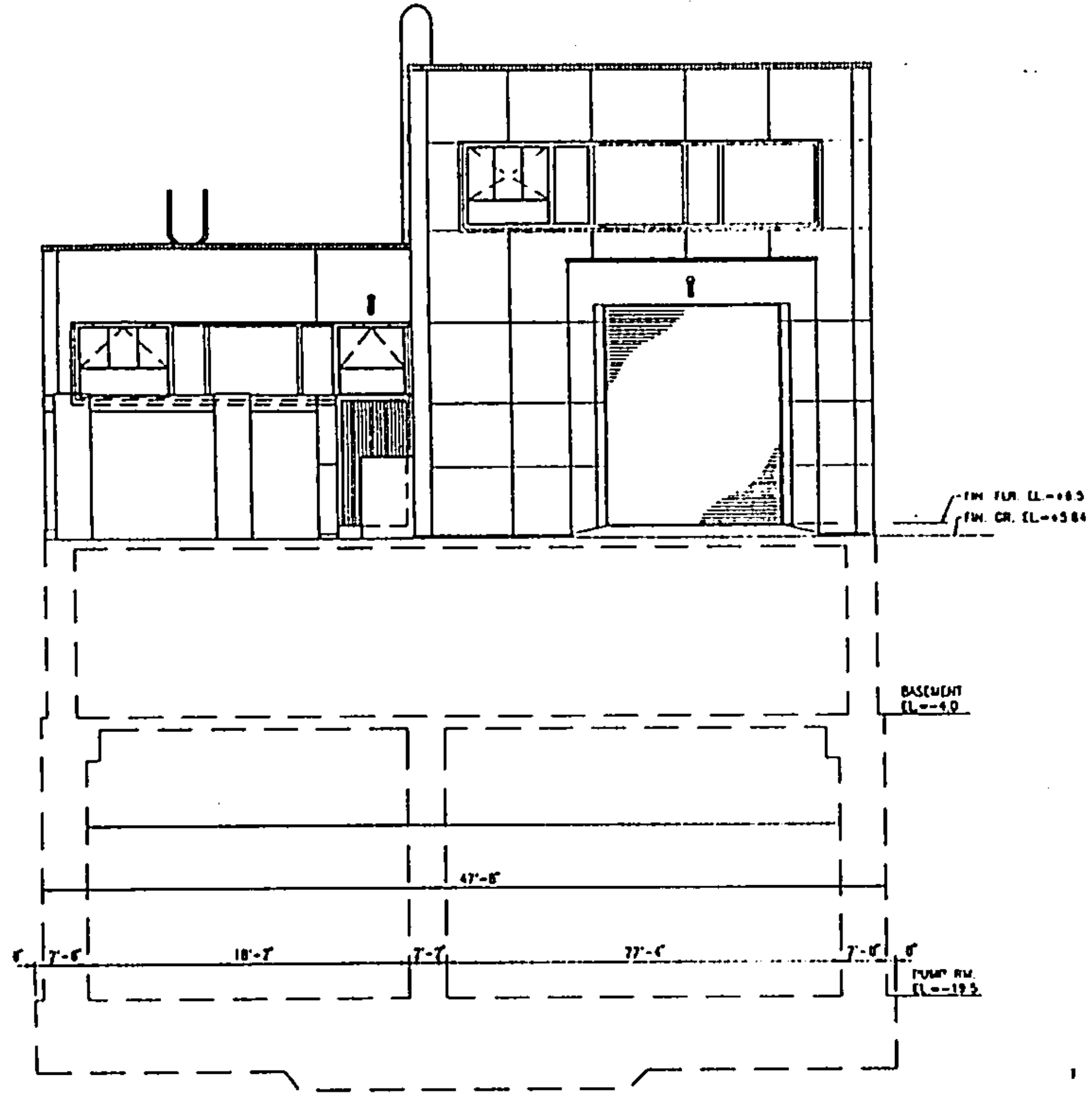
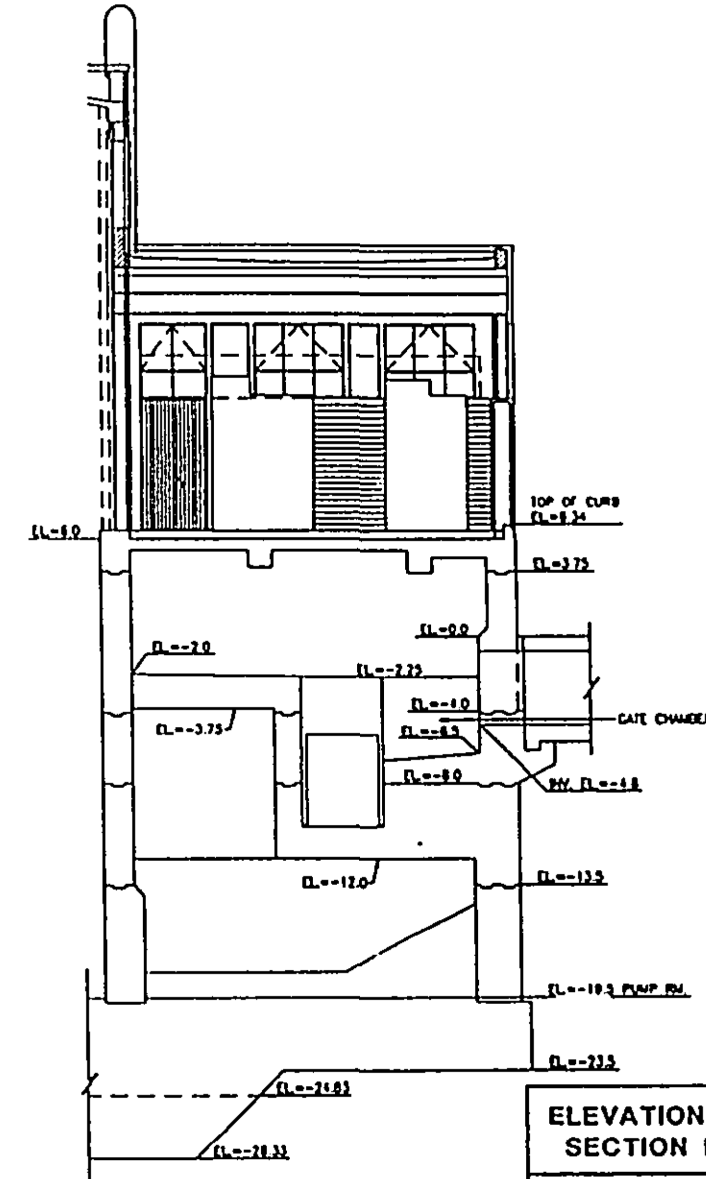
**HART STREET (NEW)
WASTEWATER PUMP STATION
Environmental Assessment**



1 ELEVATION LOOKING NORTH
SCALE 1/8" = 1'-0"



2 SECTION LOOKING SOUTH
SCALE: 1/8" = 1'-0"

Fig. 2.4

ELEVATION LOOKING NORTH
SECTION LOOKING SOUTH

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HART STREET (NEW)
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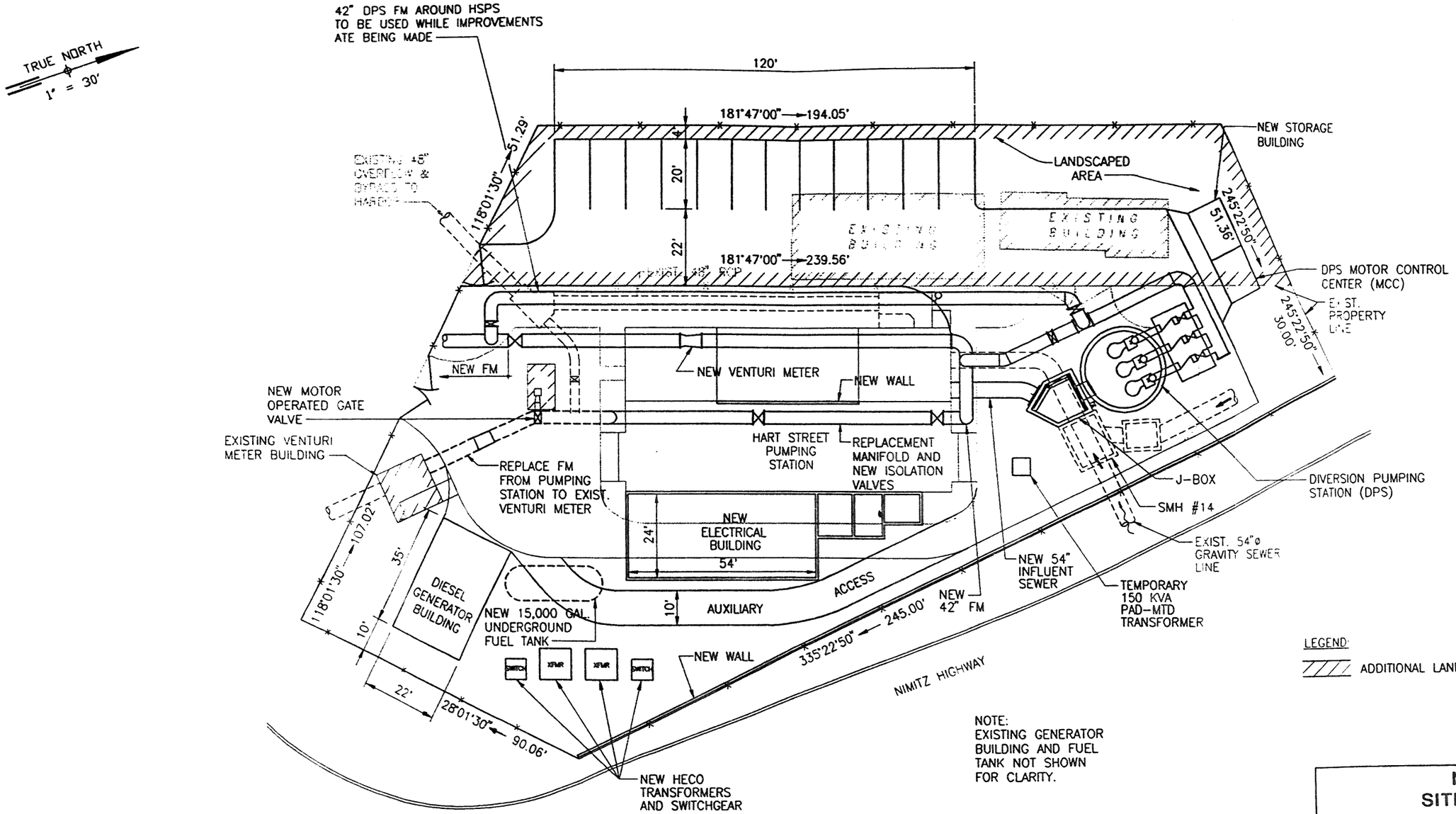

NOTE:
EXISTING GENERATOR BUILDING AND FUEL TANK NOT SHOWN FOR CLARITY.

12/8/97
Fig. 2.5

NEW SITE PLAN

Prepared for :
City & County of Honolulu
Dept. of Wastewater Management
Prepared by:
Wilson Okamoto & Associates, Inc.

HART STREET (NEW) WASTEWATER PUMP STATION
Environmental Assessment

SITE PLAN: REPLACEMENT DISCHARGE MANIFOLD AND NEW FORCEMAIN, JUNCTION BOX, AND DIVERSION PUMPING STATION

SCALE: 1"=30'

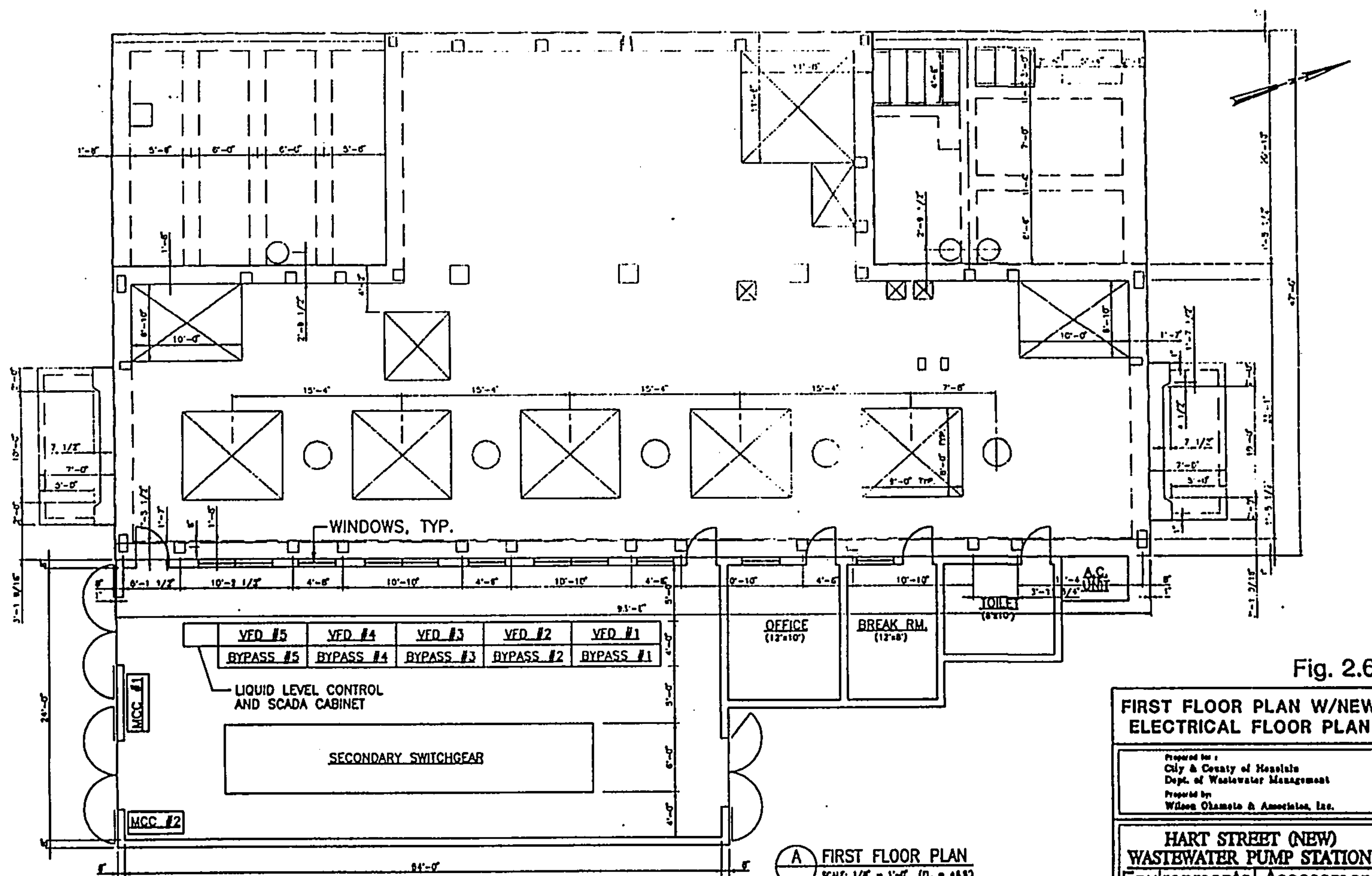

Fig. 2.6

FIRST FLOOR PLAN W/NEW ELECTRICAL FLOOR PLAN

Prepared for:
City & County of Honolulu
Dept. of Wastewater Management
Prepared by:
Wilson Okamoto & Associates, Inc.

HART STREET (NEW) WASTEWATER PUMP STATION
Environmental Assessment

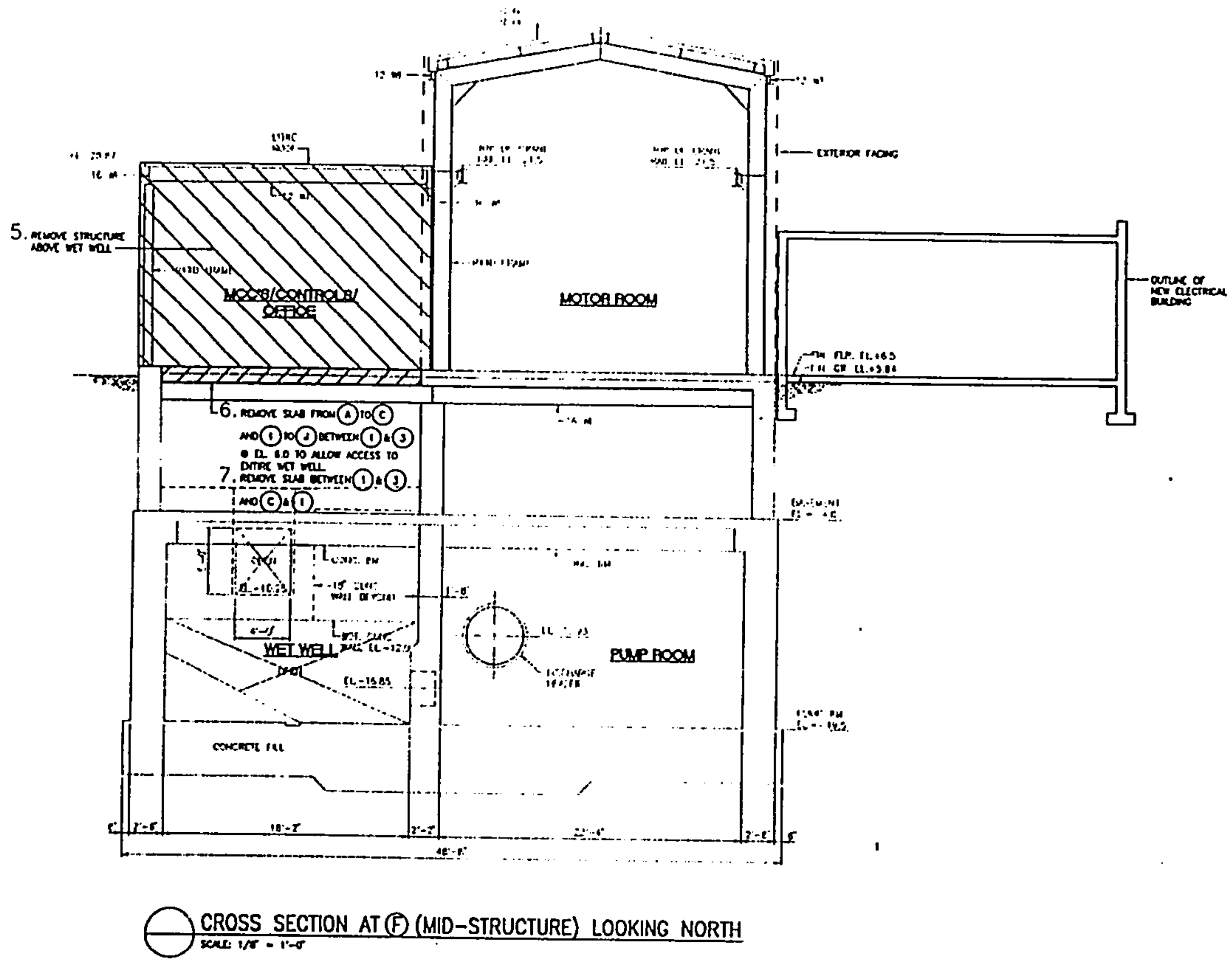

Fig. 2.7

CROSS SECTION AT (F) LOOKING NORTH

Prepared for:
City & County of Honolulu
Dept. of Wastewater Management
Prepared by:
Wilson Okamoto & Associates, Inc.

HART STREET (NEW) WASTEWATER PUMP STATION
Environmental Assessment

Rehabilitation of the existing pump station building will require demolition and removal of exterior and interior walls, flooring, and piping. In addition, the existing emergency generator building will be demolished to provide sufficient space for construction of the new generator building.

The portion of the existing superstructure above the wet well (the electrical and motor control center room) will be removed to provide access to the wet well for rehabilitation purposes. A new vertical wall from the ground level floor will be constructed to enclose the building.

Odor control will be accomplished by two means; prevention and treatment. The reconfigured wet well will reduce the effective width from 19 feet to 6 feet, 4 inches which will prevent turbulence and inhibit the formation of hydrogen sulfide gas, the primary source of odors. Fresh air will be circulated in the wet well and the exhaust air treated with a packed tower chemical scrubber, activated carbon absorber, or bio-filter to reduce odors before being released into the environment. The location of the odor control facility and the specific configuration of the treatment system will be further defined in the design phase.

Construction on the State-owned parcel includes a new building to provide space for a motor control center (MCC) for the DPS and to provide for storage of material and equipment. In the addition, the State-owned parcel will be used to provide space for operational and maintenance areas, for maneuvering heavy equipment, for removing and replacing pumps, for accessing the back, or north side, of the WWPS, for storing motors, rotating elements, pump impellers, emergency portable pumps, valves, and for parking City-owned and personnel vehicles. Once this access has been constructed, the existing access driveway would be used for auxiliary access purposes, when necessary.

The proposed rehabilitation involves installing new electrical switchgear and motor controls, installing new motors and drives, replacing the existing emergency generators, changing the operating voltage from 4160V to 480V, and dividing the wet well into three sections so that operations can continue during a variety of maintenance activities. WWM plans are for construction and rehabilitation activities

at the WWPS to occur after the Hart Street WWPS Replacement Force Main has been constructed and made operational.

While wet well rehabilitation and construction activities are ongoing, at least four duty pumps will remain available for service. The DPS will be constructed upstream of the existing pump station to allow for complete diversion of the existing WWPS during normal flow periods. Flows from the DPS will be diverted directly to the Replacement Force Main which will mitigate the need for shutdowns of the pump station during rehabilitation and construction. For a limited period, it will be necessary to have complete diversion of the existing wet well while the existing discharge manifold is replaced. The DPS will be used for this purpose.

Prior to construction of the DPS, a junction box (J-Box) will be constructed north of the pump station building immediately downstream from manhole #14. The J-Box will contain three gates that will be used to direct influent flows to the DPS or to the existing wet well. The J-Box will extend from an approximate elevation of (-)12.5 feet to grade and will provide a common connection for a new 54-inch influent line, the existing 54-inch influent line, and the DPS.

The DPS will be a circular caisson which will extend from an elevation of about (-)14 feet to grade. It will be accessible by a traffic rated-hatch. Three (3) 20 mgd submersible variable frequency drive (VFD) controlled pumps will be set in the DPS.

Surveys of the existing building indicated the presence of asbestos containing material in certain portions of the building. According to the National Emission Standards for Hazardous Air Pollutants (NESHAP) Title 40 CFR 61, Asbestos NESHAP Revision; Final Rule, November 20, 1990, materials which are known to contain asbestos and will become friable during demolition or renovation activities must be removed from the structure prior to these activities. To meet these requirements, all asbestos-containing material will be removed from areas affected by demolition or renovation, prior to the demolition or renovation. This removal should be done by a qualified asbestos abatement contractor. All asbestos, even non-friable asbestos-containing material, will be separated from construction debris, labeled, and double-bagged for disposal according to applicable regulations.

Demolition and renovation will also affect areas containing lead-based paint, including the emergency generator building. For Group III paint areas (high level lead-based paint), work should be conducted by a lead abatement contractor. Trained personnel could remove, collect, and dispose paint chips to minimize risk of contaminating the surrounding soil and other portions of the building.

2.3 Project Need

The Hart Street WWPS and the Ala Moana WWPS are the only facilities in the primary urban center to pump sewage flows to the Sand Island Wastewater Treatment Plant (SIWWTP). Any interruption of service at the Hart Street WWPS could result in bypass or discharge of flows directly into Honolulu Harbor. To avoid such an event, the WWPS must remain operating at all times without interruption to service.

The primary objective of the rehabilitation and improvements is to reconfigure the existing WWPS at the existing site and to replace equipment and systems which, after 46 years of operations, may be nearing the end of their design life and economic use. The rehabilitation and improvements are intended to provide reliability without the need for significant new construction. In addition, after completion of the rehabilitation and improvements, WWM will have the capability to operate the completed WWPS as multiple pumps stations, when necessary.

The rehabilitation and improvements will address the key limitations of the existing Hart Street WWPS including:

- Inability to isolate portions of the pump station for maintenance or for emergencies;
- Inadequate access to the wet well;
- Lack of flexibility in wet well operations;
- Corrosion of portions of the wet well;
- Integrity of the pump discharge manifold;
- Outdated electrical pump controls and electrical systems;
- Use of medium voltage electrical equipment;
- Unreliable emergency generator system; and

- Reliance on a single electrical circuit for WWPS operations.

The rehabilitation and improvements are necessary to ensure continued operation of the Hart Street WWPS.

2.4 Project Cost

The costs for the rehabilitation and improvements were set forth in the Preliminary Engineering Report. Based on that analysis, the total estimated costs, including contingencies of 25 percent, are estimated to be about $10.8 million.

2.5 Project Schedule

As set forth in the Preliminary Engineering Report, the rehabilitation and improvements would require about 22 months to complete. An implementation schedule for the these activities has not been established at this time.

3. DESCRIPTION OF THE EXISTING ENVIRONMENT, IMPACTS, AND MITIGATIVE MEASURES

3.1 Climate

The climate of the project site is typical of leeward coastal lowlands of Oahu, characterized by persistent trade winds, abundant sunshine, relatively constant temperatures and moderate humidities. The mean temperature in Honolulu ranges from 73 degrees Fahrenheit in the winter to 81 degrees Fahrenheit in the summer. The mean annual rainfall is approximately 23 inches with most of the rainfall occurring between the months of November and April. Relative humidity ranges between 56 and 72 percent. Tradewinds from the northeast prevail throughout most of the year.

Impacts

The rehabilitation and improvements to the WWPS will not adversely impact the climate of the project site and surrounding areas.

3.2 Geology and Topography

The project site is located within the narrow coastal plain of Oahu's south central coast, geologically identified as the Honolulu Plain, which with much of the rest of the southern edge of Oahu, is underlain by a broad elevated coral reef, covered by alluvium carried out from the mountains. The coral reef rocks were deposited during prehistoric periods when the sea level was higher. The Honolulu Plain ranges in elevation from 0 to 10 feet above sea level and is underlain by a zone of low permeability known as caprock which extends along the coastline about 800 to 900 feet below sea level. The caprock layer prevents the seaward movement of potable water from the basaltic aquifers which underlie it.

Prior to the development of Honolulu Harbor in the 1920's and 1930's, the area in the vicinity of the project site was open water or tidal reef, except for the western half of what is now Sand Island. Currently, the majority of the land in the vicinity of the

project site is reclaimed from the construction and expansion of Honolulu Harbor and consists of dredged fill overlying coral reef.

A topographic survey of the project site was undertaken as part of the Preliminary Engineering Report. The results indicate the project site is generally located at about 5.5 feet above mean sea level and shows almost no slope.

Impacts

The rehabilitation and improvements to the WWPS will not adversely impact the geology or topography of the project site and surrounding areas.

3.3 Soils

According to the U.S. Department of Agriculture, Soil Conservation Service (now Natural Resources Conservation Service), soils at the project site are classified as Fill Land, mixed (FL). Fill Land consists of areas filled with material dredged from the ocean or hauled from nearby areas, garbage, and general material from other sources. Land uses include urban development, housing areas, and industrial facilities.

A review of information related to subsurface soil conditions of the project site was also undertaken by GEOLABS-HAWAII as part of the Preliminary Engineering Report. This review did not include field sampling within the WWPS project site. According to the review, the WWPS project site is generally underlain by a surficial fill layer consisting of medium dense to dense sandy gravelly soils extending to a depth of about 5 feet below the existing ground surface. Below this near-surface fill layer, loose to very loose sandy gravels and gravelly sands interbedded with occasional layers of very soft clayey silts are anticipated to depths of about 25 feet below the existing ground surface. Alluvial deposits consisting of stiff to very stiff silty clays are anticipated at depths of about 25 feet or greater below the existing ground surface.

Impacts

The rehabilitation and improvements to the WWPS will not adversely impact the soils of the project site and surrounding areas.

3.4 Groundwater

A shallow groundwater table is anticipated at a depth of about 5 feet below the existing ground surface. This groundwater level corresponds to an elevation of about 1.5 feet Mean Sea Level. The proximity of the WWPS project site to Honolulu Harbor indicates the groundwater level will likely be affected by tidal fluctuations and other factors such as storm surges and seasonal rainfall.

Impacts

Construction of the diversion pump station (DPS) will require excavation to about elevation (-)14 feet and the J-Box will require excavation to approximately (-)12 feet. In addition, other excavation will be required for construction of the DPS force main, for connection to the Replacement Force Main, and for placement of the 15,000-gallon underground fuel tank for the emergency generator. Based on the anticipated depth of the groundwater, it is expected dewatering of the excavations will be required.

Note, although the exact method of dewatering has not yet been determined at this time, it is expected that on-site infiltration basins will be used to contain the dewatering. The on-site infiltration basin will be designed in accordance with applicable State and Federal requirements. The dewatering will be accomplished such that, the rehabilitation and improvements to the WWPS will not adversely impact groundwater on the project site and in the surrounding areas. (See also Water Quality 3.5)

3.5 Water Quality

Honolulu Harbor is an "artificial basin" which is defined as a dredged or quarried channel harbor, or harbor-associated submerged structure. The waters of Honolulu Harbor are designated Class "A" by the State Department of Health. Class "A" waters are to be protected "for recreational purposes and aesthetic enjoyment." According to the standards for this class, discharges are not permitted in Honolulu Harbor unless they have received the best degree of treatment or control compatible with the criteria established for this class of waters.

Impacts and Mitigative Measures

Prior to dewatering, if there is discharge to the City's storm drain system, a construction dewatering permit will be obtained from the City and County of Honolulu Department of Public Works and State Department of Health.

As part of the National Pollutant Discharge Elimination System (NPDES) permit, an effluent discharge control plan will also be prepared incorporating Best Management Practices and appropriate structural or non-structural mitigative methods such as containment berms and filtration/detention ponds. Although not determined at this time, since soils at the project site contain concentrations of ethylbenzene above the Tier 1 action level, it is expected that groundwater from excavations will be retained in an on-site infiltration basin. It should be noted, ethylbenzene is highly volatile and as such should dissipate once placed in the basin.

A site specific health and safety plan (SSHP) should be prepared by the contractor to address potential hazards associated with excavation activities on the project site. The SSHP should incorporate the information regarding subsurface conditions in the project site, including the risks due to inhalation and contact with petroleum products, and risks of explosion due to petroleum volatiles and methane.

In addition, on-site worker health and safety monitoring for the presence of organic vapors should be preformed in the worker breathing zones of all site personnel while excavation or work in trenches is in progress.

3.6 Hazardous Waste

In February 1995, a literature review and regulatory investigation was conducted for the surrounding area near the WWPS (Piers 34 through 38) as part of the Replacement Force Main Preliminary Engineering Report. This analysis did not include any site visits, sampling or testing for environmental contaminants. The regulatory information included review of U.S. Environmental Protection Agency (EPA) data bases and State of Hawaii Department of Health logs and data bases.

The analysis indicated the parcels west of the WWPS project site were used by Chevron for storage of jet fuel. These parcels, Chevron Kapalama South and Chevron Kapalama East, were cleaned of contamination to levels acceptable to the State of Hawaii Department of Health prior to return of the parcels to the State of Hawaii Department of Transportation.

In March 1996, Masa Fujioka & Associates conducted subsurface tests on the existing WWPS project site to determine the presence of subsurface hazardous waste. Three test borings were drilled all to depths of 10 feet below grade to collect soil samples for analysis. According to laboratory results, soil contamination was found in all three soil borings. Contaminants included total petroleum hydrocarbons (TPH) as gasoline, diesel and jet fuel, toluene, xylenes and ethylbenzene. Benzene, polychlorinated biphenyls (PCBs), polynuclear aromatic hydrocarbons (PAHs), and total lead were not detected above sample reporting limits in any of the soil samples analyzed. Appendix B contains the subsurface investigation report

Concentration levels of TPH-gasoline, TPH-jet fuel, TPH-diesel, toluene and xylenes were below Department of Health Tier 1 action levels. However, ethylbenzene was reported at concentrations (2.7, 1.0, and 2.1 mg/kg) greater than the Tier 1 action level of 0.50 mg/kg for the three samples obtained at the groundwater surface. See Appendix B.

In November 1997, additional subsurface investigations were performed by Masa Fujioka & Associates on the State-owned parcel portion of the project site and on State-owned land to be used for the Replacement Force Main pit. The three borings

were drilled to 5 feet below ground surface (bgs) in the adjacent State-owned parcel and to 10 feet bgs at the force main pit. Two soil samples were collected from each of the borings, one at 1 foot bgs and one at about 4 feet bgs near the groundwater surface. See Appendix C.

Laboratory analysis indicated motor oil and polychorinated byphenyls (PCBs) were present in two of the three shallow soil samples. The reported concentrations (motor oil, 56 mg/kg and 130 mg/kg and PCBs 0.031 mg/kg and 0.044 mg/kg) were well below Tier 1 action levels of 5,000 mg/kg for motor oil and 1 mg/kg for PCBs. TPH-gasoline, TPH-diesel, TPH-jet fuel, benzene, toluene, ethylbenzene, and xylene (BTEX), and polynuclear aromatic hydrocarbons (PAH) were reported as not detected above acceptable method reporting limits for the three shallow samples.

Petroleum hydrocarbon contamination was reported for the deeper soil samples from all three borings. However, the reported levels were below the Tier 1 action levels. Ethylbenzene was reported at concentrations of 0.67 mg/kg and 0.14 mg/kg for two of the deeper samples. The reported concentration of 0.67 mg/kg is slightly above the Tier 1 action level of 0.50 mg/kg for ethylbenzene.

In October 1990, a Prioritization Asbestos Abatement Study was completed by Professional Service Industries, Inc. for the WWPS. The study found the following materials tested positive for asbestos: materials from the ground floor electrical room; perforated and solid ceiling panels, and brown 12-inch by 12-inch floor tiles associated with mastic; cementitious partition panels in the ground floor restroom; stored gasket in the basement (pump room floor) storage; corrugated cementitious panels on the exterior storage shed; and counter tops under windows. All of the materials which are asbestos-containing were non-friable and cementitious. The study also stated removal of asbestos material should be performed by licensed professionals.

Asbestos-containing materials (ACM) was also found during a previous study conducted in October 1990 by Hall-Kimbrell. The areas identified were: the ceiling panels, the floor tiles, the restroom partitions, panels on the exterior storage shed, and the counter tops under the windows.

In June 1996, an Asbestos and Lead-Based Paint survey of the WWPS was completed by Masa Fujioka & Associates as part of the Preliminary Engineering Report. The survey consisted of inspections of areas proposed for rehabilitation to visually identify suspected asbestos-containing materials (ACM) and lead-based paint (LBP), to collect samples of suspected ACM and LBP for laboratory identification, and to quantify the amount and type of ACM and LBP present at the WWPS. See Appendix D.

Within the building, the June 1996 study found the following materials tested positive for asbestos: the tan linoleum sheet flooring along the entire window sill of the east wall; and the olive green linoleum sheet flooring along the window sill of the electrical room. Although the vibration dampening cloth on the air ducts in the pump room floor were not sampled to prevent damage to the equipment, they should be assumed to contain asbestos. Note, these items were in addition to those identified in the 1990 asbestos study. See Appendix D.

Within the emergency generator building, the June 1996 study found the following materials tested positive for asbestos: the gray caulk on the vertical shingles of the roof perimeter; and the silver paint on the interior and exterior exhaust stacks. Although the vibration dampening material in the floor under the turbine units was not tested, they should be assumed to contain asbestos. See Appendix D.

The venturi building was also surveyed. No ACM was found in the interior or on the exterior of the building. See Appendix D.

The LBP survey was also conducted in all three of the buildings. The findings of the survey and laboratory results were classified into three groups:

Group I	Paint which does not contain detectable levels of lead;
Group II	Low-level lead-based paint (detectable but <0.5% lead by weight); and,
Group III	High-level lead-based paint (greater than or equal to 0.5% lead by weight).

Within the pump station building, the following areas tested positive for Group III LBP: the white and gray painted air ducts; (although not tested, the white painted ceiling air ducts are assumed to be positive); the yellow support beams; and the gray painted bathroom stall doors. The following areas tested positive for Group II LBP: the red-orange painted floor, orange painted electrical conduits, and white painted walls in the pump room; the white painted walls in the control room; and the yellow painted pipes and the gray painted door frame in the bathroom. See Appendix D.

Within the stand-by generator building, the following area tested positive for Group III LBP: silver metallic paint on the exhaust stack (roof level). The following areas tested positive for Group II LBP: the silver metallic paint on the exhaust stack (inside the building); and the light gray paint on the exterior vent support over the door. Note, since the exhaust stack also tested positive for asbestos, it must be treated as ACM.

Within the venturi building, the green upper handrail and dark gray door frame tested positive for Group III LBP. The Group II LBP areas were: light tan and dark brown paint on the ceiling; and light gray paint on the exterior door frame and window frame.

Impacts and Mitigative Measures - Hazardous Waste

Construction of the Diversion Pump Station (DPS), the J-Box, the force mains and connections, and the underground fuel tanks will require excavation below grade. The State of Hawaii Department of Health allows contaminated soils to be redeposited into excavated areas only if it can be demonstrated that clean soils would be contaminated if used as fill. Since the contamination at the project site appears to be area-wide, contamination of newly placed clean fill is likely and, therefore, backfilling with the original material would appear appropriate.

The DOH has begun the scoping phase of a study to address the area-wide petroleum contamination issue. The final outcome and recommendations are not known at this time. However, in December 1996, the DOH issued a Guidance Fact

Sheet relating to completion of construction projects whenever petroleum contamination is encountered. WWM intends to comply with the December 1996 DOH Guidance Fact Sheet as the project is implemented.

Disposal of excavated contaminated soils that cannot be utilized during construction would be disposed of at a treatment facility, such as the Nanakuli Soil Reclamation Facility. Additional testing of the soil may be done during the excavation activities so that the clean soil can be segregated from contaminated soils. This testing and segregation will minimize the amount of soil placed in the treatment facility.

Impacts and Mitigative Measures - Asbestos and Lead-Based Paint

Rehabilitation of the existing pump station building will require demolition and removal of exterior and interior walls, flooring, and piping. In addition, the existing emergency generator building will be demolished to provide sufficient space for construction of the new generator building.

According to the National Emission Standards for Hazardous Air Pollutants (NESHAP) Title 40 CFR 61, Asbestos NESHAP Revision; Final Rule, November 20, 1990, materials which are known to contain asbestos and will become friable during demolition or renovation activities must be removed from the structure prior to these activities. Further, landfills require all asbestos, even non-friable asbestos-containing material, be separated from construction debris, labeled, and double-bagged. To meet these requirements, all asbestos-containing material will be removed from areas affected by demolition or renovation, prior to the demolition or renovation. This removal should be done by a qualified asbestos abatement contractor.

As required by NESHAP, at least 10 days prior to demolition activities, WWM will file an asbestos demolition/renovation notification with the DOH Noise Radiation and Indoor Air Quality Branch.

Demolition and renovation will also affect areas containing lead-based paint, including the emergency generator building. For Group III paint areas (high level lead-based paint), work should be conducted by a lead abatement contractor.

Trained personnel should remove, collect, and dispose paint chips to minimize risk of contaminating the surrounding soil and other portions of the building.

3.7 Flora and Fauna

The project site is fully developed with vegetation limited to landscaping which consists of introduced grasses, hedges and a few trees. None of these species is a listed or candidate endangered or threatened species by the U.S. Department of the Interior Fish and Wildlife Service or by the State of Hawaii Department of Land and Natural Resources.

Terrestrial animals such as birds, mice, cats and mongoose which have adapted to the urban environment may also be present at the project site. None of these species is a listed or candidate endangered or threatened species by the U.S. Department of the Interior Fish and Wildlife Service or by the State of Hawaii Department of Land and Natural Resources.

Impacts

Activities related to rehabilitation and improvements would displace some of the existing flora on the project site. However, the project site does not provide a habitat for any Federal or State listed or candidate endangered or threatened plant species. Rehabilitation and improvements will not create adverse impacts to plant species on the project site.

Activities related to rehabilitation and improvements could displace some of the faunal species on the project site. However, the project site does not provide habitat for any Federal or State listed or candidate endangered or threatened wildlife species. Rehabilitation and improvements will not create adverse impacts to wildlife species on the project site.

In April 1998, the U.S. Department of the Interior Fish and Wildlife Service (USFWS) concurred that there are no Federally endangered, threatened, or candidate species within the project site. The USFWS also concurred with the Finding of No

Significant Impact (FONSI) for the proposed rehabilitation and improvements project. See Chapter 7.0, Consulted Parties.

3.8 Traffic

Vehicle access to the project site is from Nimitz Highway and the driveway which provides access to the Pier 34 and Pier 35 area. Nimitz Highway is a six-lane major divided highway which provides a link between the airport area and Downtown Honolulu.

Impacts and Mitigative Measures

Part of the improvements to the WWPS include construction of a new access driveway to the back, or north side, of the WWPS site. Approximately 9,972 square feet within the adjacent State-owned parcel (TMK 1-5-34: 21) will need to be acquired for this purpose.

Rehabilitation and improvement activities will disrupt traffic in the vicinity of the project site, particularly at the driveway to Pier 35. A traffic control plan will be prepared to minimize disruptions to traffic flow during the period of rehabilitation and improvements activities.

Once operational, traffic related to the WWPS will consist of movements of City-owned and employee vehicles using the project site. This level of traffic should not have a significant adverse effect to traffic on Nimitz Highway in the vicinity of the project site.

3.9 Noise

The major sources of noise in the vicinity of the project site are vehicular traffic on Nimitz Highway and aircraft overflights from Honolulu International Airport. Nimitz Highway is a major roadway that carries traffic for the harbor area, for nearby industrial and commercial businesses, and for travelers to and from the downtown area of Honolulu.

Information regarding noise in the vicinity of the project site is set forth in the Draft Environmental Impact Statement for the Nimitz Highway Improvements from Keehi Interchange to Pier 16 (Awa Street). Results of existing noise measurements taken east of the WWPS project site near Sumner Street and Nimitz Highway show a 67 Leq for a 1-hour period. To the west of the WWPS project site near Libby Street and Nimitz Highway, the noise was measured at 76 Leq for a 1-hour period. These measurements compare to the Federal Highway Administration (FHWA) noise impact criteria of 72 Leq for exterior areas in developed lands. (Note, Leq is the constant sound level that, for a given situation and time period, conveys the same sound energy as the actual time varying sound.)

Impacts

Construction activities and the operation of construction equipment such as earth moving equipment, backhoes, and diesel trucks will temporarily raise the ambient noise level. The impact from the increase in noise levels is anticipated to be minimal due to the industrial nature of the surrounding properties and due to the absence of residences, schools, or noise-sensitive land uses in the vicinity of the project site. Since noise levels generated by construction activity are anticipated to exceed allowable limits, a noise variance permit will be obtained from the Department of Health.

Once the rehabilitation and improvements have been completed, noise levels from the WWPS should not change from existing conditions and should be compatible with the surrounding industrial land uses.

3.10 Air Quality

Air quality in the vicinity of the project site is affected primarily by emissions from vehicular traffic along Nimitz Highway. Generally, the northeast tradewinds, which are present for most of the year, blow pollutants toward the sea. Problems of poor air quality are more likely to occur when tradewinds diminish or when southerly "Kona" winds prevail.

The Department of Health operates a network of air quality monitoring stations located at various sites around the State. Based on data from stations in the vicinity of the project area, it appears that both Federal and the more stringent State air quality standards are currently being met, except for possible exceedance of State carbon monoxide (CO) ambient concentrations.

Air quality monitoring at selected sampling stations in Downtown Honolulu and Liliha showed measurements well within the State Ambient Air Quality Standards. In 1992, the average particulate matter concentration was approximately 16 micrograms per cubic meter at the Liliha Station, significantly below the 100 ug/m^3 State standard. Sulfur dioxide (SO_2) concentrations of 1 ug/m^3, measured at the Honolulu Station, also averaged well below the State standard of 80 ug/m^3.

Although the CO concentrations of 1.6 mg/m^3 measured at the Downtown Honolulu monitoring station are well within the State standard of 10 mg/m^3, the Honolulu Waterfront Master Plan states that State CO standards are probably being exceeded at major intersections along Ala Moana Boulevard and Nimitz Highway during peak-hour traffic and low windspeed conditions.

Impacts and Mitigative Measures

Fugitive dust and emissions from construction vehicles may have an adverse impact on air quality during construction. Under normal tradewind conditions, these pollutants should be disbursed toward the sea. Short-term effects on air quality during construction will be mitigated by compliance with the Department of Health rules on air pollution control. Control measures anticipated to reduce fugitive dust include frequent wetting down of loose soil areas with water, and covering of dirt-hauling trucks.

Once installation has been completed, the emergency generator will be tested to ensure it properly functions during emergency conditions. During these tests, the diesel fuel-powered generator will be started and tested according to the following, as recommended by the service department at Pacific Machinery, a local supplier of large-engine generators:

o	1 x week	no load	10 minutes maximum
o	Quarterly	station load (1 pump)	0.5 hour maximum
o	2 x year	full load*	2 hours maximum

* load bank required

The diesel fuel generator will create emissions during these tests. However, the short time period the generators are run will limit the level of emissions such that no significant adverse effects on air quality are anticipated.

Control of odors from the pump station will be accomplished by two means; prevention and treatment. Reconfiguration of the wet well will reduce the effective width from 19 feet to 6 feet, 4 inches which will prevent excessive turbulence and inhibit the formation of hydrogen sulfide gas, the primary source of odors. Fresh air will be circulated in the wet well and the exhaust air will be treated with a packed tower chemical scrubber, activated carbon absorber, or bio-filter to reduce odors before being released into the environment. The location of the odor control facility and the specific configuration of the treatment system will be further defined in the design phase.

See also Section 3.5 for the discussion of worker site specific health and safety plans and safety monitoring for the presence of organic vapors in the worker breathing zones.

3.11 Archaeological and Historic Resources

An archaeological assessment study was conducted by Cultural Surveys Hawaii in February 1996 to review traditional Hawaiian and historic land use in the vicinity of the Hart Street WWPS to determine the potential for archaeologically sensitive areas. Research was conducted to document the origins of the tidal flats of Honolulu on the southwest (Ewa) side of the mouth of Nuuanu Stream. The research found that the original shoreline at Iwilei was considerably inland of the present harborline. Off of the Iwilei shoreline was an extensive coral reef exposed at low tide upon which the only dry land was a small island called Ka-moku-akulikuli. Early maps indicate at least one Hawaiian structure on this island. In 1872, the island became the site of

the government's quarantine station. Throughout the Harbor's development, the island was made more stable with the addition of dredged fill. Eventually, it was engulfed by the development of Sand Island which was completely a product of reclamation formed by dredged material from dredging of the sea plane runways in Keehi Lagoon.

Prior to the development of Honolulu Harbor, the area in the vicinity of the WWPS was open water or tidal reef, except for the western half of what was then the quarantine island. Currently, the majority of the land is reclaimed from the construction and expansion of Honolulu Harbor and consists of dredged fill overlying coral reef.

Based on its 1951 construction date, in the year 2000 the WWPS will be 50 years old. In general, the 50 year criterion is one factor used to evaluate the historic significance of buildings and their possible eligibility for nomination to the National Register of Historic Places.

Impacts and Mitigative Measures

Construction of the Diversion Pump Station (DPS), the J-Box, and the force mains and connections, and the underground fuel tanks will require excavation below grade. However, due to the developed nature of the project site and the fact that the underlying soil is composed of fill material, it is highly unlikely that archaeological resources are present. Thus, the rehabilitation and improvements should not have an adverse effect on archaeological resources.

In March 1998, the State of Hawaii Department of Land Natural Resources Historic Preservation Division stated that there are no known historic sites on the project site. The Historic Preservation Division also stated the Hart Street (New) Wastewater Pump Station project will have "no effect" on historic sites and by letter concurred under Chapter 6E-8, Hawaii Revised Statutes. See Chapter 7.0, Consulted Parties.

In the event that archaeological materials are encountered during construction, work shall cease in the immediate area and the State Historic Preservation Division will be notified.

3.12 Utilities

3.12.1 Water

The Board of Water (BWS) supply maintains several water lines in the vicinity of the project site, including a 16-inch line along Nimitz Highway and an 8-inch line servicing the project site. An existing 3-inch compound meter serves the WWPS.

Impacts

Rehabilitation and improvements to the WWPS would not increase the demand for potable water or require major additions to the water distribution system. Demand for water should not increase over current levels used for operation of the WWPS. Thus, rehabilitation and improvements should not have significant adverse impact to water demand or to the water system in the vicinity of the project site.

In April 1998, the BWS indicated the existing water system is presently adequate to accommodate the proposed project and that the availability of water will be determined when the Building Permit Application is submitted to the BWS. During the design phase, the need for a water meter larger than the existing 3-inch compound meter will be determined as will the design of the pressure backflow assembly. See Chapter 7.0, Consulted Parties.

Similarly, during the design phase, the on-site fire protection requirements will be coordinated with the Honolulu Fire Department Fire Prevention Bureau.

3.12.2 Electrical Distribution System

The existing electrical distribution system serving the area of the Hart Street WWPS consists of a continuous grid that is fed by Hawaiian Electric Company's (HECO)

Iwilei Substation. A 11.5KV overhead line runs along Nimitz Highway adjacent to the Hart Street WWPS. According to HECO, although a second circuit is available at Waikamilo Road, the WWPS is not connected to this circuit. As a result, the second source of power for the pump station is the emergency generator system.

HECO plans to install the two 25KV circuits during the first half of 1999 to replace the existing 11.5KV circuits serving the project site and surrounding areas.

To achieve greater operational reliability in the event of a power outage, improvements to the electrical system include connecting the WWPS to two HECO pad-mounted transformers (at the City's request), rather than the existing one transformer. Each transformer will be served by two underground HECO 25KV circuits which will run from two separate riser poles. The two circuits will come from from HECO's Iwilei Substation. The emergency generator will provide power in the event both HECO power sources are not operational.

Impact

The rehabilitation and improvements will increase reliability by replacing outdated electrical equipment and by providing a second source of power to the WWPS. Potentially, the second source of power should reduce the reliance on the emergency generator. The rehabilitation and improvements should not change the overall demand for electrical power.

3.12.3 Drainage

The primary drainage feature near the WWPS is the Kapalama Canal located between Piers 38 and 39 which collects surface flows from a system of drainlines and culverts.

There are two major drainage systems in the vicinity of the project area. The first is a 24-inch drain line which extends from Nimitz Highway through the roadway entrance to the WWPS to Pier 35. The outlet structure is the same location as the bypass line for the WWPS. The second drainage system starts on Nimitz Highway

at the roadway entrance to Piers 32 and 33, traverses leased property through a City drainage easement, and discharges into Honolulu Harbor near the boundary of Piers 34 and 35. The drain system includes an 8-foot box culvert which outlets into two 48-inch drain lines near the boundary of Piers 34 and 35. One segment of this 8-foot culvert runs parallel with the existing force main.

Impacts and Mitigative Measures

During construction, stormwater runoff and sedimentation will be minimized by utilizing Best Management Practices which may include the construction of berms, detention basins, or silt fences. Drainage conditions at the WWPS site after improvements are completed will be similar to current conditions.

3.12.4 Fuel and Gas Lines

Various fuel and natural gas lines operated by Chevron U.S.A., BHP, Union Oil Company, Standard Oil, and Hawaiian Independent Refinery, Inc. are located near the WWPS project site. During preparation of the Preliminary Engineering Report, plans, drawings, and information were requested from oil and gas companies regarding the presence of fuel and gas lines. Note, no fuel or gas lines were identified on the project site during preparation of the Preliminary Engineering Report.

Impacts and Mitigation Measures

Prior to construction, the contractor should again contact oil and gas companies and request information regarding existing oil and gas lines and their depths and locations. The contractor should also request that the companies locate any lines in the project site so that they can be avoided during construction activities. Lastly, if an abandoned or unidentified line is found during construction, the contractor should conduct a search to identify and locate the owner prior to proceeding.

3.12.5 Telephone Service

The WWPS project site is served by a GTE Hawaiian Telephone Company overhead telephone cable drop that is tapped to an overhead telephone cable that runs along Nimitz Highway.

Impacts

The rehabilitation and improvements will not significantly increase the demand for telephone services. The telephone service needs after rehabilitation and improvements should be approximately equal to current levels. Thus, rehabilitation and improvements to the WWPS will not have adverse impact on telephone services near the project site.

3.13 Socio-Economic

According to the City and County of Honolulu Planning Department, the population of the Hart Street WWPS service area is projected to be 215,520 persons in 2020, a 22.0 percent increase from the 1995 population of 177,274.

Businesses adjacent to the WWPS include the Hawaii Stevedores Building located at Pier 35 which houses the Hawaii Stevedores and Castle and Cooke Federal Credit Union, Pacific Ocean Producers, Navatech, KEMS Kewalo and Harbor Ice. Other business include harbor-related industrial activities including general cargo operations at Pier 33, fueling and storage at Pier 34 and a water taxi service at Pier 36.

In addition, the Harbors Division has announced plans to construct a Fishing Village on lands adjacent to the WWPS project site and extending to Pier 38. The Fishing Village would replace the fish auction currently located at Kewalo Basin. In addition, the Fishing Village would include a fresh fish wholesale and distribution center, restaurant and visitor attractions. Figure 3.1 shows the most recent site plan.

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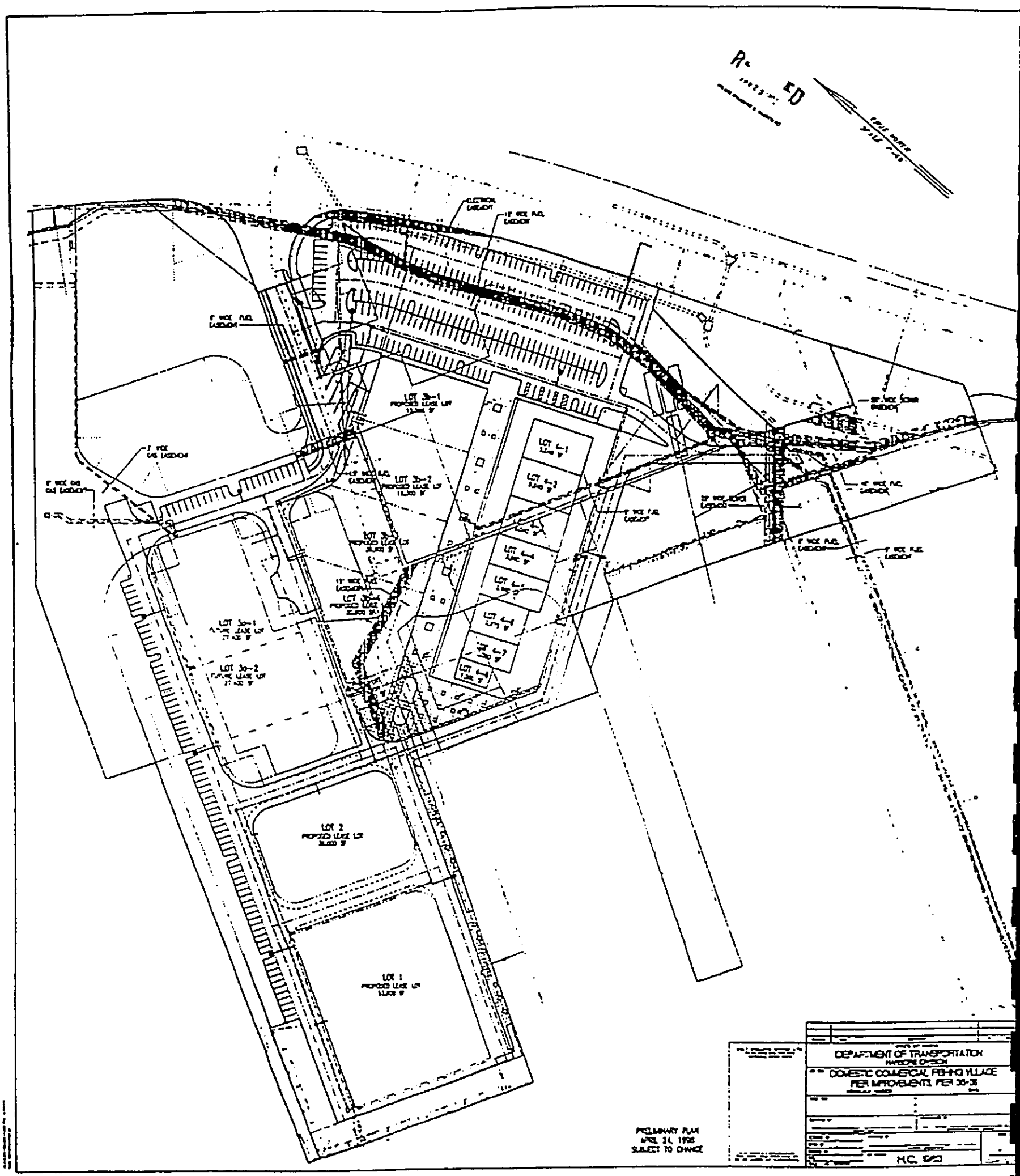


As previously discussed, since April 1996, use of the State-owned land for WWPS purposes has been the subject of discussions and planning between the WWM and the Harbors Division. To date, these discussions are still being pursued by WWM and the Harbors Division. However, in April 1998, the Harbors Division has indicated by letter a willingness to lease the area to the City and County of Honolulu. See Figure 1.2. Appendix A contains documentation between WWM and the State.

Impacts and Mitigative Measures

With the exception of the 9,972 square-foot area of State-owned land used to provide space for operational and maintenance areas, for maneuvering heavy equipment, for removing and replacing WWPS equipment, for accessing the back of the WWPS, and for parking City-owned and personnel vehicles, all of the rehabilitation and improvements will occur within the existing WWPS site. Thus, no businesses will be displaced by the rehabilitation and improvements to the WWPS.

In addition to permanent use of the 9,972 square-foot area, temporary access will be necessary for staging construction equipment and material during the approximately 22 months necessary to complete the rehabilitation and improvements. Use of this area has also been the subject of discussions and planning between the WWM and the Harbors Division. To date, these discussions are also still being pursued by WWM and the Harbors Division.

This temporary access could affect the Harbors Division's proposed Fishing Village depending upon that project's implementation schedule, construction phasing, and occupancy plans. As currently planned, the Fishing Village includes a roadway west of the 9,972 square-foot area and a parking lot extending along Nimitz Highway northwest of the project site. Potentially, these areas could be used for temporary access.

During the rehabilitation and improvements, businesses at Pier 35 may be inconvenienced due to the increase in construction-related traffic entering the area. However, most of the equipment and material staging is expected to occur on the

west side of the WWPS project site. A traffic control plan will be prepared to mitigate adverse impacts.

4. RELATIONSHIP TO PLANS, POLICIES and CONTROLS

4.1 State Land Use District

The Hawaii Land Use Law, Chapter 205, Hawaii Revised Statutes (HRS), classifies all land in the State into four land use districts: *Urban, Rural, Agricultural* and *Conservation.* The project site is classified as *Urban* district. The *Urban* designation is defined as: "*lands characterized by 'city-like concentrations of people, structures, streets, urban level of services and other related land uses.*"

4.2 Hawaii State Plan

The Hawaii State Plan, Chapter 226 HRS, outlines broad goals, policies and objectives to serve as guidelines for the future growth and development of the State. The proposed project is consistent with the following objectives, policies and priority guidelines:

§ 226-11, HRS Objectives and policies for the physical environment - land-based, shoreline, and marine resources. The planning shall be directed to the following objective:

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

To achieve the objective, it shall be the policy to:

(b)(2) Ensure compatibility between land-based and water-based activities and natural resources and ecological systems.

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

(b)(8) Pursue compatible relationships among activities, facilities, and natural resources.

§ 226-13, HRS Objectives and policies for the physical environment - land, air, and water quality. The planning shall be directed to the following objective:

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

To achieve the objective, the policy shall be to:

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

§ 226-14, HRS Objectives and policies for facility systems - in general.
To achieve the objective for facility systems, the policy shall be to:

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

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

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

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

§ 226-15, HRS Objectives and policies for facility systems - solid and liquid wastes.
Planning shall be directed towards achievement of the following objectives:

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

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

To achieve the objective, the policy shall be to:

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

§ 226-20, HRS Objectives and policies for socio-cultural advancement - health.
Planning shall be directed toward achievement of the following objectives:

(a)(2) Maintenance of sanitary and environmentally healthful conditions in Hawaii's communities.

To achieve the objective, the policy shall be to:

(b)(5) Provide programs, services, and activities that ensure environmentally healthful and sanitary conditions.

§ 226-104, HRS Population growth and land resources priority guidelines.

(a)(3) Ensure that adequate support services and facilities are provided to accommodate the desire distribution of future growth throughout the State.

(b)(13) Protect and enhance Hawaii's shoreline, open spaces, and scenic resources.

Rehabilitation and improvements to the WWPS are necessary to ensure adequate facilities to accommodate flows to the Sand Island Wastewater Treatment Plant. Adequate facilities are also necessary to maintain sanitary and environmentally healthful conditions in the WWPS service area.

4.3 Coastal Zone Management

Section 307 of the National Coastal Zone Management (CZM) Act of 1972 provides for state review of federal actions or permits affecting the coastal zone of states with approved CZM programs. Hawaii's CZM Program, established pursuant to Chapter 205A, HRS, is administered by the State of Hawaii Office of Planning and provides for the beneficial use, protection and development of the State's coastal zone.

Chapter 205A, Hawaii Revised Statutes, as amended, Coastal Zone Management, defines the coastal zone management area as all lands of the State and the area extending seaward from the shoreline to the limit of the State's police power and management authority.

Chapter 205A-2, Coastal Zone Management Program; Objectives and Policies, sets forth nine objectives as discussed below.

(1) Recreational resources;
(A) Provide coastal recreational opportunities accessible to the public.

Rehabilitation and improvements to the WWPS will not affect recreational resources.

(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.

The State of Hawaii Department of Land and Natural Resources Historic Preservation Division (HPD) has stated that there are no known historic sites on the project site. The State HPD has determined the Hart Street (New) Wastewater Pump Station project will have "no effect" on historic sites and has concurred by letter under Chapter 6E-8, Hawaii Revised Statutes.

(3) Scenic and open space resources;

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

The project site is located within the Honolulu Harbor waterfront area on lands zoned I-3, Waterfront Industrial. As such, much of the area is fully developed, or scheduled for development. Rehabilitation and improvements to the WWPS will not affect 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.

One of the objectives of the rehabilitation and improvements is to provide reliability for the WWPS without the need for significant new construction. The proposed project is to avoid interruption of service which could result in bypass or discharge of flows directly into Honolulu Harbor.

(5) Economic uses;

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

The Hart Street WWPS is one of two facilities in the primary urban center which pumps sewage flows to the Sand Island Wastewater Treatment Plant. The rehabilitation and improvements are to provide reliability for the WWPS without the need for significant new construction at its existing location.

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

Rehabilitation and improvements to the WWPS will not affect coastal hazards.

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

Rehabilitation and improvements to the WWPS will not affect managing development.

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

In April 1996, WWM began discussions with the State of Hawaii Department of Transportation (DOT) Harbors Division regarding the rehabilitation and improvements to the WWPS and use of adjacent the State-owned parcel. At this time, the State DOT is proposing the City and County of Honolulu lease the State-owned land.

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

Rehabilitation and improvements to the WWPS will not affect beaches for public use and recreation.

4.4 State Functional Plans

State Functional Plans outline policies, programs and projects for specific fields of activities when such a project or program is administered, funded or proposed by any State agency. The development of these plans has been guided by the Hawaii State Plan, Chapter 226, HRS. The following are pertinent to the proposed project:

State Health Functional Plan (1989)

The goals of the State Health Functional Plan include environmental protection issues. Objectives and policies that relate to the proposed activity include:

Objective: *To prevent degradation and enhance the quality of Hawaii's air, land and water.*

Policy (A1): *Prevent and control the pollution of air, water and land through long-range planning, environmental impact assessment, interagency coordination, programs, regulation, and financial assistance to local governments.*

Objective: *Minimize the threat to public health from unsanitary conditions by ensuring that facilities are built and maintained so that products and services are provided in a healthful manner.*

Rehabilitation and improvements to the WWPS are necessary to decrease the risk of failures to major systems of the WWPS which, if occurred, could pose a risk to land, surface water, and groundwater resources in the vicinity of the project site and in the Hart Street WWPS service area. A failure would create the potential need to bypass flows directly into Honolulu Harbor which poses a threat to public health.

State Historic Preservation Functional Plan (1991)

The goals of the Historic Preservation Functional Plan is to preserve and protect the sites, structures, cultural skills, arts and artifacts and records of historical significance for future generations.

A historic literature review within the area of the project site was conducted to identify the presence of historic resources which should be avoided to prevent adverse impacts to historic resources. In addition, due to the developed nature of the project site and the fact that the underlying soil is composed of fill material, it is highly unlikely that historic resources are present. Thus, the rehabilitation and improvements would be consistent with the preservation and protection of historic resources.

In March 1998, the State of Hawaii Department of Land Natural Resources Historic Preservation Division stated that there are no known historic sites on the project site. The Historic Preservation Division also stated the Hart Street (New) Wastewater Pump Station project will have "no effect" on historic sites and by letter concurred under Chapter 6E-8, Hawaii Revised Statutes. See Chapter 7.0, Consulted Parties.

State Recreation Functional Plan (1991)

The following objectives and policies are applicable to the proposed project:

Objective IV-B: *Prevent degradation of the marine environment*

Policy B-2: *Protect, preserve, restore and enhance recreational fishery resources.*

Rehabilitation and improvements to the WWPS are necessary to decrease the risk of failures to major systems of the WWPS which, if occurred, could create the potential need to bypass flows directly into Honolulu Harbor which will degrade the marine environment and adversely affect recreational fishing.

4.5 City and County of Honolulu General Plan

The General Plan sets forth long-term objectives, goals and strategies for the City and County of Honolulu. Objectives and policies relevant to the WWPS project are as follows:

Objectives and Policies for Population

Objective B: *To plan for future population growth.*

Policy 1: *Allocate efficiently the money and resources of the City and County in order to meet the needs of Oahu's anticipated future population.*

Objective C: *To establish a pattern of population distribution that will allow the people of Oahu to live and work in harmony.*

Policy 1: *Facilitate the full development of the primary urban center.*

Objectives and Policies for the Natural Environment

Objective A: To protect and preserve the natural environment

Objective B: To preserve and enhance the natural monuments and scenic views of Oahu for the benefit of both residents and visitors.

Policy 1: Protect the Island's well known resources: its mountains and craters; forests and watershed areas; marshes, rivers, and streams; shoreline, fishponds, and bays; and reefs and offshore islands.

Objectives and Policies for Transportation and Utilities

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

Policy 5: Provide safe, efficient, and environmentally sensitive waste collection and waste disposal services.

The Hart Street WWPS is an integral part of the City's wastewater collection system as it provides the only system to direct flows to the Sand Island Wastewater Treatment Plant. Rehabilitation and improvements would ensure that the WWPS continues to serve as a safe, efficient, and environmentally sensitive system.

4.6 City and County of Honolulu Development Plan

The City and County of Honolulu Development Plans (DP) guide the desired sequence, patterns and characteristics of future development. They were established by the City and County of Honolulu to provide detailed schemes for "implementing and accomplishing the objectives and policies of the General Plan." The DPs are composed of the Common Provisions and Special Provisions. There are no applicable policies in the Special Provisions which relate to the project.

4.6.1 Development Plan Common Provisions

The DP Common Provisions establish general design principles and controls applicable to all DP amendments and proposed developments. In § 24-1.9(b) of the Common Provisions, priority is given to those projects that:

(1)(A) will improve or replace existing public facilities in unsound condition.

(2)(A) are consistent with the general plan pattern of population distribution for each development plan area.

(2)(D) will not encourage growth in urban fringe or rural areas.

Rehabilitation and improvements are needed to correct operating limitations such that the WWPS can operate at a high level of reliability. Thus, rehabilitation and improvements will improve an existing public facility which decrease the risk of a failure.

4.6.2 Development Plan Land Use Map Designation

The WWPS project site is designated as a *Public Facility* on the Development Plan Land Use Map for the Primary Urban Center (PUC).

4.6.3 DP Public Facilities Map Designation

The DP Public Facilities (DPPF) map for the PUC depicts existing and proposed major public facilities and proposed major improvements to existing facilities. In 1993, the City and County of Honolulu Planning Department processed a DPPF amendment to add a "Sewage Pump Station/Modification (SPS/M) symbol, publicly funded, site determined, within six years to the PUC DPPF for the PUC. This amendment was approved by the City Council in 1993 and adopted by Ordinance 93-37.

In addition, in May 1997, the City and County of Honolulu Planning Department determined the proposed acquisition of the 9,972 square-foot portion of the State-owned parcel is considered "minor" and will not require a DP Public Facilities Map amendment. Appendix E contains the Planning Department determination.

4.7 City and County of Honolulu Zoning

The Land Use Ordinance establishes zoning of all land areas on Oahu. The WWPS project site is zoned *I-3, Waterfront Industrial.*

Public facilities are permitted in this zoning designation.

4.8 Special Management Area

The Hawaii CZM Law (Chapter 205A, HRS) charged the counties with designating and administering Special Management Areas (SMA) along the State's coasts. Any "development" within the SMA boundary requires an SMA Use Permit administered by the City and County of Honolulu Department of Land Utilization pursuant to Ordinance No. 84-4, 85-105. Approval of an SMA permit is granted by the Honolulu City Council.

The WWPS project site is not within the SMA.

4.9 Flood Hazards

According to the Flood Insurance Rate Map (FIRM) published by the Federal Emergency Management Agency, the WWPS project site lies within Zone X - areas determined to be outside the 500-year floodplain.

4.10 Honolulu Waterfront Plan

The Honolulu Waterfront Plan was prepared by the State of Hawaii, Office of State Planning in 1989 to identify and articulate long-range vision for the Honolulu Waterfront, assure a logical and achievable phasing of improvements with minimal impacts to the environment and economy, and maximize public benefits associated with the State-owned lands in the waterfront area. Relevant goals of the Waterfront Master Plan include:

Utilities: Provide adequate water, sewer, drainage, power and communication systems to meet the needs of existing and future waterfront activities in a timely fashion.

The rehabilitated WWPS will accommodate projected wastewater flows up to the year 2015. The project will address current operating limitations to provide a high level of reliability.

4.11 Permits and Approvals Required

The following is a summary of the major permits and approvals which may be required for construction:

State of Hawaii

Department of Health

- o Air Quality Authority to Construct Permit and Permit to Operate
- o National Pollutant Discharge Elimination System (NPDES) Permit
- o Variance from Pollution Control

City and County of Honolulu

Building Department

- o Building Permit for Building, Electrical, Plumbing, Sidewalk/Driveway and Demolition Work

Fire Department

- o Flammable and Combustible Liquids - Tank Installation

Department of Public Works

- o Construction Dewatering Permit (Temporary)
- o Effluent Permit to Discharge (Temporary)
- o Grubbing, Grading, and Stockpiling Permit

Note, the actual permit approvals that must be obtained will depend upon the final design of the facilities and the contractor construction methods and procedures. The above listed permits may potentially be required.

5. ALTERNATIVES

5.1 No Action

The no action alternative will retain the Hart Street WWPS in its existing condition and operating limitations and without rehabilitation or improvements. The construction date of 1951 means that major portions of the pump station, including the wet well, are approaching 50 years of continuous operation. Further, since the last renovations occurred in 1979, these features are approaching 20 years of continuous service without major maintenance or replacement. The current configuration of the wet well, header, and electrical system does not permit shutdown of the pump station for replacement or repair.

Implementation of the no action alternative would mean continuing the WWPS in its current state which increases the potential for failure of critical systems. If such an event were to occur and since there is no system to pump flows to the Sand Island Wastewater Treatment Plant, it would be necessary to bypass incoming flows directly to Honolulu Harbor. This bypass of flows would have to continue until the failure was repaired.

Direct bypass of flows to Honolulu Harbor would result in significant adverse impacts to the Class "A" waters of Honolulu Harbor, including adverse impacts to human health and to a variety of marine species. These adverse impacts would occur until the failed system had been repaired. Moreover, since bypass flows would affect the food chain of various marine species, the adverse impacts could continue after the flows had been stopped.

Since the no action alternative could result in significant adverse affects from a system failure, the no action alternative is not considered a reasonable or feasible alternative compared to the proposed rehabilitation and improvements.

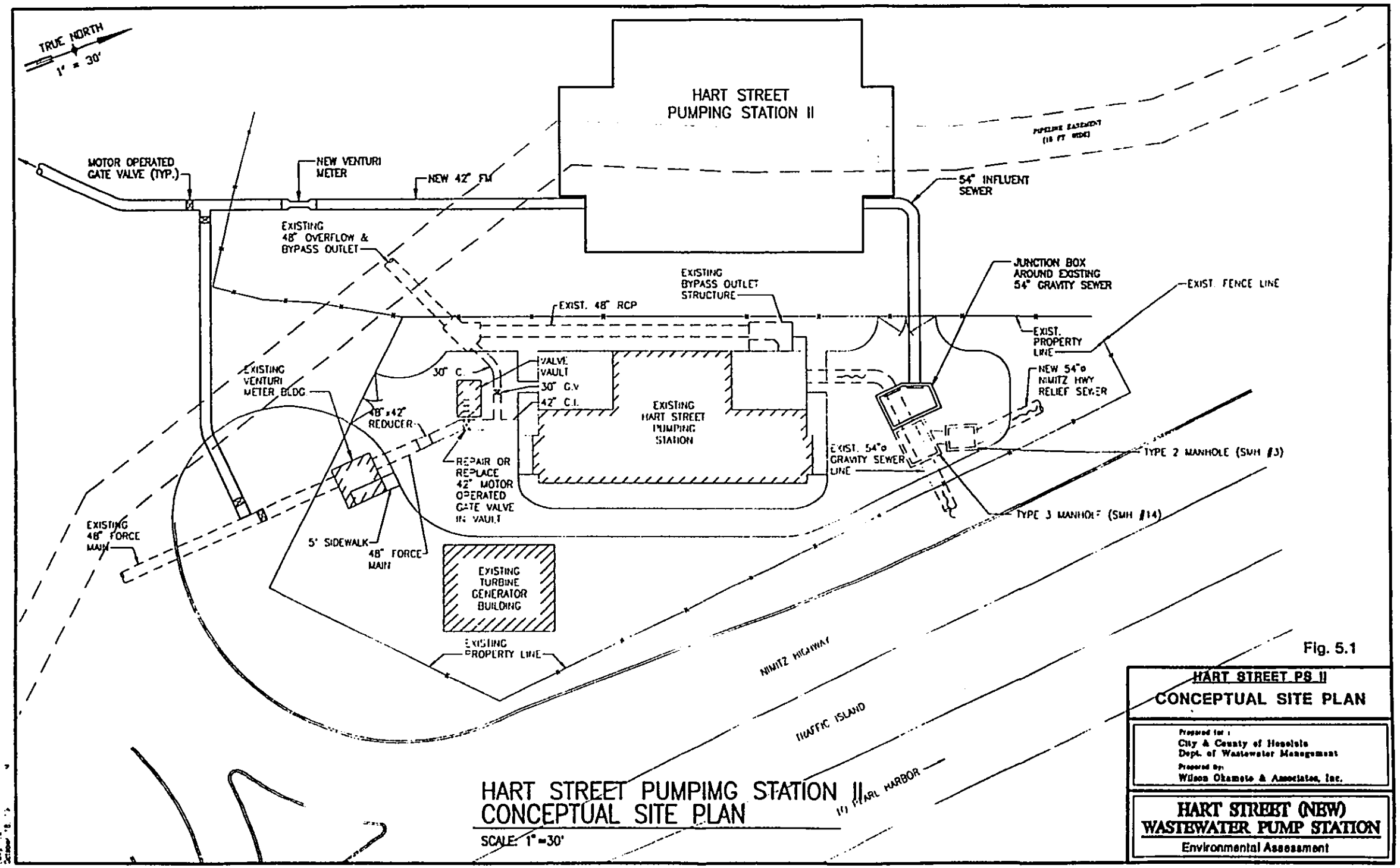
5.2 Companion WWPS

The concept of a companion WWPS was considered in the Preliminary Engineering Report as an alternative to the rehabilitation and improvements. Under this concept, a new WWPS located to the west would serve as a companion station to the existing WWPS. The companion WWPS would have a capacity of approximately 65 million gallons per day (mgd) and would have the capability to pump flows to the Sand Island Wastewater Treatment Plant via either the existing or replacement force main or both force mains. The existing WWPS would remain on-line and would be available for continued service in its present configuration without rehabilitation or improvements.

The companion WWPS would consist of four vertical non-clog pumps similar to the existing pumps used in the WWPS. Three of the pumps would serve duty pumps and one would serve as a stand-by pump. All of the pumps would be configured to provide variable speed operation.

A junction box (J-box) located north of the existing WWPS would be used to control incoming flows to either the companion station or to the existing station. The companion station wet well would include a drain sump which could be used to clean or drain the wet well. The J-box would be used to isolate the companion station wet well by diverting incoming flows to the existing station. This would permit cleaning or maintenance of the companion station wet well without interruption of service. The wet well would be located at elevation (-)19.5 feet and the drain sump would extend to about elevation (-)25.5 feet. Figure 5.1 shows the conceptual site plan.

The Preliminary Engineering Report included conceptual site plan, floor plans, and a cross section. The conceptual site plan shows the companion station sited within the adjacent State-owned parcel (TMK: 1-5-42:21). An area of about 31,300 square feet (0.719 acres) of State-owned land would be required to accommodate the companion station and to ensure access. This area is about 6,558 square feet larger than the existing site of 24,742 square feet (0.568 acres). Based on the proposed plan for the Fishing Village, the companion station would intrude into the planned



HART STREET PUMPIMG STATION II
CONCEPTUAL SITE PLAN

SCALE: 1"=30'

Fig. 5.1

HART STREET PS II
CONCEPTUAL SITE PLAN

Prepared for:
City & County of Honolulu
Dept. of Wastewater Management
Prepared by:
Wilson Okamoto & Associates, Inc.

HART STREET (NEW)
WASTEWATER PUMP STATION
Environmental Assessment

roadway. Thus, the companion station would decrease access and circulation to the proposed uses in the Fishing Village. In addition, the companion station would require subsurface excavation to elevation (-)19.5 feet and to elevation (-)25.5 feet to construct the wet well and pump room areas. This subsurface excavation would extend for an area of about 115 feet by 57 feet, or about 6,555 square feet.

In addition, to be operationally feasible, the conceptual site plan shows the companion station would have to be sited over the existing fuel lines located on the State-owned parcel. These lines would require relocation to accommodate the subsurface requirements of the companion station.

The companion station alternative would result in adverse effects to the proposed Fishing Village as it would require use of more State-owned land than the rehabilitation and improvements. The companion station would also decrease access and circulation plans for the Fishing Village.

The subsurface excavation requirements are greater for the companion station pump room and wet well than for the proposed DPS. Further, the companion station would require subsurface excavation to relocate the fuel lines.

Based on the requirements for additional land area and subsurface excavation, the companion station alternative is not considered a reasonable or feasible alternative compared to the proposed rehabilitation and improvements.

6. DETERMINATION

Short-term construction impacts include disruption of traffic near the project site, decline in air quality from construction activities, and increase in noise levels. In addition, there will be a short-term need to use State-owned land adjacent to the existing WWPS for staging of equipment and material. Once construction has been completed, the short-term adverse impacts, including the need for land for staging equipment and material, will no longer occur.

In the long-term, there will be the need for continued use of State-owned land to provide space for operational and maintenance areas, for maneuvering heavy equipment, for removing and replacing WWPS equipment, for accessing the back of the WWPS, and for parking City-owned and personnel vehicles.

Based on analysis of the anticipated impacts and the comments to the Draft EA, a Finding of No Significant Impact (FONSI) is made for the proposed project. The significance criteria to make this determination are set forth below and in Chapter 200 of Title 11, State of Hawaii Department of Health Administrative Rules, Environmental Impact Statement, (11-200-12).

1) *Involve a irrevocable commitment to loss or destruction of any natural or cultural resources;*

The US Department of the Interior Fish and Wildlife Service (USFWS) has concurred that there are no Federally endangered, threatened, or candidate species within the project site. The USFWS also concurred with the Finding of No Significant Impact (FONSI).

The State of Hawaii Department of Land Natural Resources Historic Preservation Division has stated that there are no known historic sites on the project site. The Historic Preservation Division also stated the Hart Street (New) Wastewater Pump Station project will have "no effect" on historic sites and by letter concurred under Chapter 6E-8, Hawaii Revised Statutes.

2) Curtail the range of beneficial uses of the environment;

The Hart Street WWPS was erected in 1951 and has been in continuous use since then. It is one of two facilities in the primary urban center that pump flows to the Sand Island Wastewater Treatment Plant. Continued use of the WWPS is a beneficial use of the land.

Since 1996, WWM and the State of Hawaii Department of Transportation (DOT) Harbors Division have been discussing use of the 9,972 SF area of State-owned land. These discussions are currently still continuing. However, at this time, the State DOT has indicated by letter a willingness to lease the area to the City and County of Honolulu.

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

One of the objectives of the rehabilitation and improvements is to provide reliability for the WWPS without the need for significant new construction. The rehabilitation and improvements are to avoid interruption of service which could result in bypass or discharge of flows directly into Honolulu Harbor. Thus, the proposed project would be consistent with the State's long-term environmental policies and goals.

4) Substantially affect the economic or social welfare of the community or state;

As previously stated, the Hart Street WWPS is one of two facilities in the primary urban center that pump flows to the Sand Island Wastewater Treatment Plant. The rehabilitation and improvements are to avoid interruption of service. The proposed project will not adversely affect the economic or social welfare of the community or state.

5) Substantially affect public health;

The rehabilitation and improvements are to avoid interruption of service of the WWPS, which, if occurred, would create adverse impacts to public health. Thus, the proposed project would not adversely affect public health.

6) Involve substantial secondary impacts, such as population changes or effects on public facilities;

The Hart Street WWPS serves a service area of 29 square miles. The rehabilitation and improvements are to avoid interruption of service to this area and will not create secondary impacts to population or affect the other WWM facilities upstream of the Hart Street WWPS.

7) Involve a substantial degradation of environmental quality;

The proposed project will rehabilitate and improve the WWPS on its existing site and use a 9,972 SF area of State-owned for other improvements. The State-owned parcel contains two buildings. The State DOT will be remove all existing improvements from the area, including, if necessary, abatement of hazardous materials from the buildings. Site investigations determined the presence of subsurface petroleum and asbestos-containing material in portions of the existing WWPS facilities. Removal, disposal or treatment of the materials will be accomplished in accordance with applicable Federal and State requirements. As a result, the proposed project will not result in a substantial degradation of environmental quality.

8) Have a cumulative effect upon the environment or involves a commitment for larger actions;

Although the Hart Street WWPS is part of the East Mamala Bay subdistrict which includes three other pump stations, the proposed project will not involve a commitment to further action on any of the City's other pump stations nor will it have a cumulative effect upon the environment.

9) Affect a rare, threatened or endangered species;

The US Department of the Interior Fish and Wildlife Service (USFWS) has concurred that there are no Federally endangered, threatened, or candidate species within the project site. The USFWS also concurred with the Finding of No Significant Impact (FONSI).

10) Detrimentally affect air or water quality or ambient noise levels;

The rehabilitation and improvements would involve short-term air quality and noise impacts. The existing 1-hour ambient noise levels near the project site were 67 Leq to 76 Leq. The project site and surrounding areas are zoned I-3, Waterfront Industrial which means residential areas are not located nearby. Also, the need for a noise variance during construction were also noted in the Draft EA.

Odor control measures will be included in the design of the WWPS facilities. These include reconfiguration of the wet well to prevent excessive turbulence and inhibit the formation of hydrogen sulfide gas. Air will also be withdrawn from the wet well and then treated with either a packed tower chemical scrubber or activitated carbon absorber to control odor. These odor control facilities will be further defined in the design phase.

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

The project site lies within Zone X - areas determined to be outside the 500-year floodplain - as determined by the Federal Emergency Management Agency (FEMA). The project site is not within the City's Special Management Area, or outside of the coastal shoreline area. Thus, the project site is not located in an environmentally sensitive area.

12) Substantially affect scenic vistas and viewplanes identified in county or state plans or studies;

Views along the waterfront were discussed in the October 1989 Honolulu Waterfront Master Plan. As noted in the Master Plan, visual mauka-makai linkages are a method to link the city/waterfront relationships. The project site is not included as one of these mauka-makai linkages. Thus, proposed project will not affect scenic vistas or viewplanes.

13) Require substantial energy consumption.

The proposed project will rehabilitate the existing WWPS and includes upgrade of the electrical systems. Flows to the WWPS are not anticipated to increase over current levels.

Based on these findings and the assessment of potential impacts from the rehabilitation and improvements, a Finding of No Significant Impact (FONSI) has been determined.

7. CONSULTED PARTIES

7.1 Pre-Assessment Consultation

Pre-assessment consultation comments were solicited from government organizations as listed below. The comments are included in Appendix F.

State Agencies

State of Hawaii, Department of Transportation Harbors Division

City and County of Honolulu

Planning Department

7.2 Draft Environmental Assessment

Draft Environmental Assessment comments are solicited from governmental agencies and other organizations shown below. Of those who formally replied, no comments and substantive comments are indicated by ✓ and ✓✓, respectively as shown in the following pages.

Federal Agencies

✓ U.S. Department of Agriculture, Natural Resources Conservation Service
✓✓ U.S. Department of the Army, Corps of Engineers Honolulu District
✓✓ U.S. Department of the Interior, Fish and Wildlife Service

State Agencies

✓✓ State of Hawaii, Department of Business, Economic Development & Tourism
✓✓ State of Hawaii, Department of Health
✓✓ State of Hawaii, Department of Land and Natural Resources

State Agencies (cont'd)

✓✓ State of Hawaii, Department of Land and Natural Resources Historic Preservation Office
✓✓ State of Hawaii, Department of Transportation
State of Hawaii, Department of Transportation Harbors Division
University of Hawaii, Environmental Center
Kalihi Palama Library

City and County of Honolulu Agencies

✓✓ Board of Water Supply
✓✓ Planning Department
✓✓ Department of Public Works
Department of Transportation Services
Municipal Reference & Records Center

Other Organizations

Chevron USA Inc.
Clean Island Council
✓✓ Hawaii Stevedores, Inc.
✓✓ Hawaiian Electric Co.

3441-02
JS
RH
5/21/98.

USDA

United States Department of Agriculture

Natural Resources Conservation Service

P.O. Box 50004
Honolulu, HI
96850

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

March 26, 1998

Mr. John L. Sakaguchi
Wilson Okamoto & Associates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

RECEIVED
MAR 30 1998
WILSON OKAMOTO & ASSOC., INC.

Dear Mr. Sakaguchi:

Subject: Draft Environmental Assessment/Finding of No Significant Impact (DEA/FONSI) - Hart Street (New) Wastewater Pump Station, Honolulu,HI

We have reviewed the following items and have no comments at this time.

Thank you for the opportunity to review this document.

Sincerely,

KENNETH M. KANESHIRO
State Conservationist

cc: WWM, VIA FAX 3/31/98

The Natural Resources Conservation Service works hand-in-hand with the American people to conserve natural resources on private lands.

AN EQUAL OPPORTUNITY EMPLOYER

WILSON
OKAMOTO
& ASSOCIATES, INC.

ENGINEERS
PLANNERS

1907 S. BERETANIA STREET
HONOLULU, HAWAII 96826
PH: (808) 946-2277
FAX: (808) 946-2253

Mailing address
P.O. Box

3441-02
April 8, 1998

Mr. Kenneth M. Kaneshiro
State Conservationist
Natural Resources Conservation Service
U.S. Department of Agriculture
P.O. Box 50004
Honolulu, Hawaii 96850

Subject: Hart Street (New) Wastewater Pump Station
Draft Environmental Assessment/Finding
of No Significant Impact (FONSI)
Tax Map Keys: 1-5-34: 6 and 1-5-42: 5
Honolulu, Oahu, Hawaii;
Comment Letter

Dear Mr. Kaneshiro:

Thank you for your letter of March 26, 1998 indicating you had no comments on the Hart Street (New) Wastewater Pump Station Draft Environmental Assessment (EA).

Your letter and this response will be included in the Final Environmental Assessment.

We appreciate your interest and participation in the review of the Draft EA.

Sincerely,

John L. Sakaguchi, Senior Planner

cc: Mr. Kumar Bhagavan, WWM
State Office of Environmental Quality Control

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

REPLY TO ATTENTION OF

March 26, 1998

Civil Works Branch

3441-02
3/31/98
RH
FWS

RECEIVED
MAR 27 1998
WILSON OKAMOTO & ASSOC., INC.

Mr. John L. Sakaguchi
Wilson Okamoto and Associates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Sakaguchi:

Thank you for the opportunity to review and comment on the Draft Environmental Assessment (DEA) for the Hart Street Wastewater Pump Station Project, Honolulu, Oahu (Tax Map Keys 1-5-34: 6 and 1-5-42: 5). The following comments are provided in accordance with Corps of Engineers authorities to provide flood hazard information and to issue Department of the Army (DA) permits.

a. Utility lines in, under, or over navigable waters of the U.S. will require authorization under Section 10 of the Rivers and Harbors Act. Please contact Mr. Alan Everson of our Regulatory Section at 438-9258 for further information and refer to file number 96000236.

b. The flood hazard information provided on page 4-8 of the DEA is correct.

Sincerely,

Paul Mizue, P.E.
Chief, Civil Works Branch

cc: WWM, via Fax 3/30/98

WILSON OKAMOTO & ASSOCIATES, INC.
ENGINEERS
PLANNERS
1907 SOUTH BERETANIA STREET
HONOLULU, HAWAII 96826
PH: (808) 946-2277
FAX: (808) 946-2253

3441-02
April 8, 1998

Mr. Paul Mizue, P.E.
Chief, Civil Works Branch
Department of the Army
U.S. Army Engineer District, Honolulu
Fort Shafter, Hawaii 96858-5440

Subject: Hart Street (New) Wastewater Pump Station
Draft Environmental Assessment/Finding
of No Significant Impact (FONSI)
Tax Map Keys: 1-5-34: 6 and 1-5-42: 5
Honolulu, Oahu, Hawaii;
Comment Letter

Dear Mr. Mizue:

Thank you for your letter of March 26, 1998 regarding Hart Street (New) Wastewater Pump Station Draft Environmental Assessment (EA). The project will not involve utility lines in, under, or over navigable waters of the U.S.

Your letter and this response will be included in the Final Environmental Assessment.

We appreciate your interest and participation in the review of the Draft EA.

Sincerely,

John L. Sakaguchi, Senior Planner

cc: Mr. Kumar Bhagavan, WWM
State Office of Environmental Quality Control

United States Department of the Interior

FISH AND WILDLIFE SERVICE
PACIFIC ISLANDS ECOREGION
300 ALA MOANA BOULEVARD, ROOM 3-122
BOX 50088
HONOLULU, HAWAII 96850
PHONE: (808) 541-3441 FAX: (808) 541-3470

3441-62

JS
file
cc: WWM VIA FAX
4/20/98

In Reply Refer To: LTG

APR 14 1998

John L. Sakaguchi
Wilson Okamoto & Associates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Re: Draft Environmental Assessment for the Hart Street Wastewater Pump Station, Honolulu, Hawaii (Tax Map Key: 1-5-34:6 and 1-5-42:21).

Dear Mr. Sakaguchi:

The U.S. Fish and Wildlife Service (Service) has reviewed the Draft Environmental Assessment (EA) for the Hart Street Wastewater Pump Station (HSWWPS), Honolulu, Hawaii. The applicant is the City and County of Honolulu, *Department of Wastewater Management (DWWM). The purpose of the proposed project* is to replace and upgrade the existing equipment and systems in order to provide reliable wastewater services. The Service offers the following comments for your consideration.

The proposed project involves the removal of the existing stand-by generator building, construction of a new stand-by generator building with a 15,000 gallon underground fuel tank and a multi-purpose (*i.e.*, office, restroom, and meeting room) building at the existing HSWWPS site. A new building will also be constructed upon the adjacent State owned parcel to provide a motor control center and storage space for materials and equipment. The State owned parcel will also provide space for operation and maintenance areas, maneuvering heavy equipment, access to the HSWWPS, and parking for personnel.

The Service believes that the Draft EA adequately describes the existing resources and habitats at the proposed project site. There are no federally endangered, threatened or candidate species directly within the HSWWPS project site. Therefore, no significant adverse impacts to fish and wildlife and their habitats are expected to result from construction of the HSWWPS. The Service concurs with the Finding of No Significant Impact (FONSI) determination for the proposed project.

The Service appreciates the opportunity to comment on the Draft EA, and we look forward to receiving a copy of the Final EA when it becomes available. If you have any questions regarding our comments, please contact Fish and Wildlife Biologist Leila Gibson at 808/541-3441.

Sincerely,

for Brooks Harper
Field Supervisor
Ecological Services

WILSON
OKAMOTO
& ASSOCIATES, INC.

ENGINEERS
PLANNERS

1907 S. BERETANIA STREET
HONOLULU, HAWAII 96826
PH: (808) 946-2277
FAX: (808) 946-2253

3441-02
April 29, 1998

Mr. Brooks Harper, Field Supervisor
Ecological Services
United States Department of the Interior
Fish and Wildlife Services
300 Ala Moana Boulevard Room 3 122
Honolulu, Hawaii 96850

Subject: Hart Street (New) Wastewater Pump Station
Draft Environmental Assessment/Finding
of No Significant Impact (FONSI)
Tax Map Keys: 1-5-34: 6 and 1-5-42: 5
Honolulu, Oahu, Hawaii;
Comment Letter

Dear Mr. Harper:

Thank you for your letter of April 14, 1998 (LIG) regarding the Hart Street (New) Wastewater Pump Station Draft Environmental Assessment (EA). The Final EA will note the US Fish and Wildlife Service has concurred that there are no Federally endangered, threatened, or candidate species within the project site. We will also note the Service concurrence with the Finding of No Significant Impact (FONSI).

Your letter and this response will be included in the Final Environmental Assessment.

We appreciate your interest and participation in the review of the Draft EA.

Sincerely,

John L. Sakaguchi, Senior Planner

cc: Mr. Kumar Bhagavan, WWM
State Office of Environmental Quality Control

3441-02 JS

DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM

OFFICE OF PLANNING
235 South Beretania Street, 6th Flr., Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

BENJAMIN J. CAYETANO
GOVERNOR
SELJI F. HAYA
DIRECTOR
BRADLEY J. MOSSMAN
RH DEPUTY DIRECTOR
RICK EGGED
DIRECTOR, OFFICE OF PLANNING

Tel.: (808) 587-2846
Fax: (808) 587-2824

Ref. No. P-7384

April 21, 1998

cc: WWM via Fax 4/28/98

RECEIVED
APR 27 1998
WILSON OKAMOTO & ASSOC. INC.

Wilson Okamoto & Associates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Attn: John L. Sakaguchi, Senior Planner

Gentlemen:

Subject: Draft Environmental Assessment (DEA) for Hart Street (New) Wastewater Pump Station, Iwilei, Honolulu

On pages 4-7 and 4-8, the document indicates that the project is not situated within a Special Management Area. However, it is situated within the Coastal Zone Management (CZM) area which encompasses the entire State. Given its proximity to coastal waters, there is the potential for water quality degradation from polluted runoff. Therefore, we recommend that the DEA be modified to provide a discussion of the project's conformance with the State's CZM law, Chapter 205A, HRS. It should recommend mitigation measures as appropriate to alleviate adverse impacts.

If there are any questions, please contact Charles Carole of our CZM Program at 587-2804.

Sincerely,

Rick Egged
Director
Office of Planning

WILSON OKAMOTO & ASSOCIATES, INC.
ENGINEERS
PLANNERS
1907 S. BERETANIA STREET
HONOLULU, HAWAII 96826
PH (808) 946-2277
FAX (808) 946-2253

3441-02
May 8, 1998

Mr. Rick Egged, Director
Office of State Planning
Department of Business, Economic Development & Tourism
State of Hawaii
235 South Beretania Street, 6th Floor
Honolulu, Hawaii 96813

Subject: Hart Street (New) Wastewater Pump Station
Draft Environmental Assessment/Finding of No Significant Impact (FONSI)
Tax Map Keys: 1-5-34: 6 and 1-5-34: 21
Honolulu, Oahu, Hawaii;
Comment Letter

Dear Mr. Egged:

Thank you for your letter of April 21, 1998 regarding the Hart Street (New) Wastewater Pump Station (WWPS) Draft Environmental Assessment (EA). The Final EA will note the project site is located within the Coastal Zone Management (CZM) area, which encompasses the entire State. As noted in the Draft EA (page 2-14), one of the objectives of the rehabilitation and improvements is to provide reliability for the WWPS without the need for significant new construction. As discussed in the Draft EA, any interruption of service could result in bypass or discharge of flows directly into Honolulu Harbor. The proposed project is to avoid such a situation. Thus, if the proposed project is not implemented, there is a potential for water quality degradation.

The attachment, which will be incorporated into Chapter 4 of the Final EA, discusses the proposed project's conformance with the State's CZM law.

Your letter and this response will be included in the Final Environmental Assessment.

We appreciate your interest and participation in the review of the Draft EA.

Sincerely,

John L. Sakaguchi, Senior Planner

Attachment

cc: Mr. Kumar Bhagavan, WWM
State Office of Environmental Quality Control

Chapter 205A, Hawaii Revised Statutes, as amended, Coastal Zone Management, defines the coastal zone management area as all lands of the State and the area extending seaward from the shoreline to the limit of the State's police power and management authority.

Chapter 205A-2, Coastal Zone Management Program; Objectives and Policies, sets forth nine objectives as discussed below.

(1) Recreational resources;

(A) Provide coastal recreational opportunities accessible to the public.

Rehabilitation and improvements to the WWPS will not affect recreational resources

(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.

The State of Hawaii Department of Land and Natural Resources Historic Preservation Division (HPD) has stated that there are no known historic sites on the project site. The State HPD has determined the Hart Street (New) Wastewater Pump Station project will have "no effect" on historic sites and has concurred by letter under Chapter 6E-8, Hawaii Revised Statutes.

(3) Scenic and open space resources;

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

The project site is located within the Honolulu Harbor waterfront area on lands zoned I-3, Waterfront Industrial. As such, much of the area is fully developed, or scheduled for development. Rehabilitation and improvements to the WWPS will not affect 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.

One of the objectives of the rehabilitation and improvements is to provide reliability for the WWPS without the need for significant new construction. The proposed project is to avoid interruption of service which could result in bypass or discharge of flows directly into Honolulu Harbor.

(5) Economic uses;

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

The Hart Street WWPS is one of two facilities in the primary urban center which pumps sewage flows to the Sand Island Wastewater Treatment Plant. The rehabilitation and improvements are to provide reliability for the WWPS without the need for significant new construction at its existing location.

(6) Coastal hazard,

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

Rehabilitation and improvements to the WWPS will not affect coastal hazards.

(7) Managing development;

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

Rehabilitation and improvements to the WWPS will not affect managing development

(8) Public participation;

(A) Stimulate public awareness, education, and participation in coastal management.

In April 1996, WWM began discussions with the State of Hawaii Department of Transportation (DOT) Harbors Division regarding the rehabilitation and improvements to the WWPS and use of adjacent the State-owned parcel. At this time, the State DOT is proposing the City and County of Honolulu lease the State-owned land.

(9) Beach protection;

(A) Protect beaches for public use and recreation.

Rehabilitation and improvements to the WWPS will not affect beaches for public use and recreation.

0000 0016 1764

BENJAMIN J. CAYETANO

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

(3441-02) 1.5

RH
FILE
CC: WWM VIA FAX
5/1/98

April 22, 1998

93-036A/epo

RECEIVED
APR 30 1998
WILSON OKAMOTO & ASSOC., INC

Mr. John L. Sakaguchi
Senior Planner
Wilson Okamoto & Associates, Inc.
1907 S. Beretania Street
Honolulu, Hawaii 96826

Dear Mr. Sakaguchi:

Subject: Draft Environmental Assessment (DEA)
Hart Street (New) Wastewater Pump Station
Honolulu, Hawaii
TMK: 1-5-34: 6

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

Solid and Hazardous Waste Branch (SHWB)

1. The DEA states that the applicant plans to close the existing 5,000-gallon diesel underground storage tank (UST) at the existing site and install a 15,000-gallon diesel UST in its place. Please note that the existing UST is listed in our records as UST Facility ID 9-100137, Tank M-1.

2. The applicant should note that there is an upcoming federal deadline for upgrading UST systems. By December 22, 1998, all UST systems must comply with new corrosion protection and spill/overfill prevention standards. Our records indicate that the piping associated with the existing 5,000-gallon UST is made of galvanized steel. This piping must be upgraded or replaced to meet corrosion protection standards. In addition, spill and overfill prevention standards must be met.

3. The subsurface petroleum contamination at the site identified by Masa Fujioka & Associates must be addressed. Since the facility is within the area of the Honolulu Harbor cleanup project, the applicant should coordinate any release response actions with the project's coordinator, Mr. Charley Langer of the Department of Health's Office of Hazard Evaluation and Emergency Response. Please contact Mr. Langer at (808) 586-4249 for more details.

4. We are in the process of drafting State UST rules and anticipate that these rules will be in effect by late 1998 or early 1999. Among other things, the new rules will require that permits be obtained for the installation of new USTs. In addition, permits must be obtained from the applicable county building and fire safety authorities before installation of any USTs. Please plan accordingly.

Should you have any questions regarding these comments, please contact Eric Sadoyama of the Underground Storage Tank Section of the Solid and Hazardous Waste Branch at (808) 586-4226.

Asbestos Concerns

The Federal Register, 40 CFR Part 61, National Emission Standards for Hazardous Air Pollutants, Asbestos NESHAP Revision; Final Rule, November 20, 1990, requires an owner/operator to inspect affected areas to determine whether asbestos is present prior to a demolition or renovation activity.

Under the NESHAP regulation, the owner/operator would be required to file with the Department of Health's Noise, Radiation, and Indoor Air Quality Branch, an asbestos Demolition/Renovation notification at least ten (10) working days prior to the demolition of each building or the disturbance of regulated asbestos-containing material. All regulated quantities and types of asbestos-containing materials would be subject to emission controls, proper collection, containerization, and disposal at a permitted landfill.

During a renovation project, if the amount of friable or non-friable material rendered friable is less than 160 square feet, the project would not be subject to the NESHAP requirements. However, the persons who conduct activities related to the abatement of or disturbances to friable material greater than three square feet or three linear feet, must have an active AHERA certificate of training from an accredited provider for that specific discipline.

Should there be any questions on this matter, please contact Mr. Jerry Haruno, Environmental Health Program Manager, Noise, Radiation and Indoor Air Quality Branch at 586-4701.

Noise

By facility design, sound levels emanating from the operation of the facility must comply with the provisions of Chapter 11-46, Hawaii Administrative Rules, "Community Noise Control."

Air Pollution

Proposed actions affecting air quality include removing vegetation, grading, excavation, and other construction activities. Based on the information provided, the Clean Air Branch has the following comments:

1. The assessment should address the mitigative measures to control nuisance odors from the wastewater pump station.

2. Control of Fugitive Dust:

   Due to the nature of the project, there is a significant potential for fugitive dust to be generated during the construction and operation activities that would impact residences, business establishments, and nearby thoroughfares. It is suggested that a dust control management plan be developed that identifies and addresses activities that have a significant potential for generating fugitive dust. Implementation of adequate dust control measures during all phases of the project is warranted. Construction activities must comply with provisions of Chapter 11-60.1, Hawaii Administrative Rules, section 11-60.1-33 on Fugitive Dust.

If you have any questions regarding fugitive dust, please contact Mr. Ronald Ho of the Clean Air Branch at 586-4200.

Sincerely,

BRUCE S. ANDERSON, Ph.D.
Deputy Director for
Environmental Health

c: SHWB
NR&IAQB
CAB

WILSON
OKAMOTO
& ASSOCIATES, INC.
ENGINEERS
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1907 S. BERETANIA STREET
HONOLULU, HAWAII 96826
PH. (808) 946-2277
FAX (808) 946-2253

3441-02
May 12, 1998

Mr. Bruce S. Anderson, PhD
Deputy Director for Environmental Health
Department of Health
State of Hawaii
P.O. Box 3378
Honolulu, Hawaii 96801

Subject: Hart Street (New) Wastewater Pump Station
Draft Environmental Assessment/Finding
of No Significant Impact (FONSI)
Tax Map Keys: 1-5-34: 6 and 1-5-34: 21
Honolulu, Oahu, Hawaii;
Comment Letter

Dear Dr. Anderson:

Thank you for your letter of April 22, 1998 (93-036A/epo) regarding the Hart Street (New) Wastewater Pump Station (WWPS) Draft Environmental Assessment (EA). Our responses are set forth below.

Solid and Hazardous Waste

The Final EA will note the existing 5,000-gallon diesel underground storage tank (UST) is listed as UST facility ID 9 100137, Tank M-1. The City and County of Honolulu Department of Wastewater Management (WWM) has completed a project to upgrade the piping and to meet the corrosion protection and spill/overfill requirements for the existing UST at the WWPS. We will work with WWM during the design phase to ensure the new UST complies with applicable Federal, State and County rules.

As documented in the Draft EA (pages 3-5, 3-6, Appendix B and C), subsurface petroleum contamination was located within the WWPS site and within the adjacent State-owned parcel. Further, the Draft EA indicates the subsurface contamination at the project site appears to be part of the area-wide contamination and placement of clean fill in excavated areas will likely result in contamination of the clean fill. At this time, we understand the Department of Health (DOH) has begun the scoping phase to address the area-wide contamination issue. WWM intends to comply with the December 1996 DOH Guidance Fact Sheet as the project is implemented.

Asbestos Concerns

The Draft EA (pages 3-6, 3-7, 3-8, and Appendix D) identifies asbestos-containing material (ACM) found during the October 1990 survey and the June 1996 survey of the WWPS facilities. The Draft

EA (page 3-9) discussed the impacts and mitigation measures related to the ACM. As stated in the Draft EA, removal and disposal of ACM will comply with the applicable rules and standards. We will work with WWM during the design phase to ensure that the necessary work related to ACM is included in the appropriate construction documents.

Noise

The Draft EA (page 3-11) discussed the existing ambient noise conditions near the project site and indicated measured 1-hour noise levels were 67 Leq to 76 Leq at locations near the project site. Further, the project site and surrounding areas are zoned I-3, Waterfront Industrial which means residential areas are not located nearby. Also, the need for a noise variance during construction was also noted in the Draft EA.

Lastly, the design phase will include appropriate noise mitigation measures for the facilities.

Air Pollution

The Draft EA (page 3-13) included a discussion of odor control measures that will be included in the design of the WWPS facilities. These include reconfiguration of the wet well to prevent excessive turbulence and inhibit the formation of hydrogen sulfide gas. Also, as stated in the Draft EA, air will also be withdrawn from the wet well and then treated with either a packed tower chemical scrubber or activitated carbon absorber to control odor. These odor control facilities will be further defined in the design phase.

The Draft EA (page 3-13) discussed air quality impacts during construction. As discussed, construction activities will comply with DOH rules on air pollution control.

Your letter and this response will be included in the Final Environmental Assessment.

We appreciate your interest and participation in the review of the Draft EA.

Sincerely,

John L. Sakaguchi, Senior Planner

cc: Mr. Kumar Bhagavan, WWM
State Office of Environmental Quality Control

3441-02 GF RH FILE 4/3/98 cc: WWM, VIA FAX 4/3/98 JS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
P O BOX 621
HONOLULU HAWAII 96809

AQUACULTURE DEVELOPMENT PROGRAM
AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND DIVISION
STATE PARKS
WATER RESOURCE MANAGEMENT

April 2, 1998

LD-NAV
REF.:HARTWWPS.RCM

Mr. John L. Sakaguchi
Senior Planner
Wilson Okamoto & Associates, Inc.
1907 S Beretania Street
Honolulu, Hawaii 96826

Dear Mr. Sakaguchi:

SUBJECT: Review : Draft Environmental Assessment
Project : Hart Street (New) Wastewater Pump Station
Applicant: City and County of Honolulu,
Department of Wastewater Management
Location : Honolulu, Island of Oahu, Hawaii
TMKS : 1st/ 1-5-4: 06 and 1-5-42: 21

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

Our Land Division Engineering Branch confirms that the proposed project is located in Zone X, an area located outside the 500-year flood plain.

The Department of Land and Natural Resources has no other comments to offer on the subject matter at this time.

Should you have any questions, please contact Nicholas Vaccaro of our Land Division's Support Services Branch at 587-0438.

Very truly yours,

DEAN Y. UCHIDA
Administrator

c: Oahu Land Board Member
Oahu District Land Office

WILSON OKAMOTO & ASSOCIATES, INC.
ENGINEERS PLANNERS
1907 S. BERETANIA STREET
HONOLULU, HAWAII 96826
PH: (808) 946-2277
FAX: (808) 946-2253

3441-02
April 9, 1998

Mr. Dean Y. Uchida, Administrator
Land Division
Department of Land and Natural Resources
State of Hawaii
P.O. Box 521
Honolulu, Hawaii 96809

Subject: Hart Street (New) Wastewater Pump Station
Draft Environmental Assessment/Finding
of No Significant Impact (FONSI)
Tax Map Keys: 1-5-34: 6 and 1-5-42: 5
Honolulu, Oahu, Hawaii;
Comment Letter

Dear Mr. Uchida:

Thank you for your letter of April 2, 1998 (HARTWWPS.RCM) regarding the Hart Street (New) Wastewater Pump Station Draft Environmental Assessment (EA). The Final EA will note the project site is located in Zone X, an area located outside the 500-year flood plain.

Your letter and this response will be included in the Final Environmental Assessment.

We appreciate your interest and participation in the review of the Draft EA.

Sincerely,

John L. Sakaguchi, Senior Planner

cc: Mr. Kumar Bhagavan, WWM
State Office of Environmental Quality Control

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
33 SOUTH KING STREET, 6TH FLOOR
HONOLULU, HAWAII 96813

March 31, 1998

Mr. John K. Sakaguchi, Senior Planner
Wilson Okamoto & Associates, Inc.
1907 S. Beretania Street, Suite 400
Honolulu, Hawaii 96826

LOG NO: 21252
DOC NO: 9803EJ15

Dear Mr. Sakaguchi:

SUBJECT: Chapter 6E-8 Historic Preservation Review -- Draft Environmental Assessment for the Hart Street (NEW) Wastewater Pump Station
Honolulu, Kona, O'ahu
TMK: 1-5-34:6 and 1-5-42:5

Thank you for the opportunity to review the DEA for this project. We previously commented to the City & County of Honolulu, Department of Wastewater Management in July 1996 that the DEA for the Force Main Replacement would have "no effect" on historic sites (Log. 17268). The current DEA proposes rehabilitation and improvements to the Hart Street (New) Wastewater Pump station. A review of our records shows that there are no known historic sites at the project location. This area was part of Keehi lagoon during traditional Hawaiian times, so there are no historic sites here. Therefore, we believe replacement of the Hart Street (New) pump station will have "no effect" on historic sites.

Should you have any questions, please feel free to call Elaine Jourdane at 587-0014.

This is our concurrence letter under Chapter 6E-8, Hawaii Revised Statutes.

Aloha,

Don Hibbard, Administrator
Historic Preservation Division

EJ:jk

c: K. Bhagavan, Department of Wastewater Management, City & County of Honolulu, 650 S. King Street, Honolulu, HI 96813

(3441-02)

MICHAEL D. WILSON, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES

GEORGE COLOMA AGRAAR

AQUACULTURE DEVELOPMENT PROGRAM
AQUATIC RESOURCES
CONSERVATION AND RESOURCES ENFORCEMENT
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FORESTRY AND WILDLIFE
HISTORIC PRESERVATION DIVISION
LAND DIVISION
STATE PARKS
WATER AND LAND DEVELOPMENT

WILSON OKAMOTO & ASSOCIATES, INC.

ENGINEERS
PLANNERS

1907 S. BERETANIA STREET
HONOLULU, HAWAII 96826
PH: (808) 946-2277
FAX: (808) 946-2253

3441-02
April 29, 1998

Mr. Don Hibbard, Administrator
Historic Preservation Division
Department of Land and Natural Resources
State of Hawaii
33 South King Street, 6th Floor
Honolulu, Hawaii 96813

Subject: Hart Street (New) Wastewater Pump Station
Draft Environmental Assessment/Finding of No Significant Impact (FONSI)
Tax Map Keys: 1-5-34: 6 and 1-5-42: 5
Honolulu, Oahu, Hawaii;
Comment Letter

Dear Mr. Hibbard:

Thank you for your letter of March 31, 1998 (LOG NO: 21252) regarding the Hart Street (New) Wastewater Pump Station Draft Environmental Assessment (EA). The Final EA will note that there are no known historic sites on the project site. The Final EA will also note the Hart Street (New) Wastewater Pump Station project will have "no effect" on historic sites and that your letter is concurrence under Chapter 6E-8, Hawaii Revised Statutes.

Your letter and this response will be included in the Final Environmental Assessment.

We appreciate your interest and participation in the review of the Draft EA.

Sincerely,

John L. Sakaguchi, Senior Planner

cc: Mr. Kumar Bhagavan, WWM
State Office of Environmental Quality Control

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

March 17, 1998

3MI-02
3/24/98
File

STP 8.8486

cc: WWM, via FAX

Mr. John Sakaguchi
Wilson Okamoto & Associates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Sakaguchi:

Subject: Hart Street (New) Wastewater Pump Station
Draft Environmental Assessment/Finding of
No Significant Impact (FONSI)
TMK: 1-5-34: 6 and 1-5-42: 5

Thank you for your transmittal of March 5, 1998.

Our comments are as follows:

1. On Page 1-1: Appendix A is referenced, but is not included in the Draft Assessment.

2. On Page 3-17: Our plans show that Chevron has an existing easement through part of the expansion area (see attached). There will need to be coordination with Chevron to resolve this issue.

3. On Page 3-18: Figure 3.1 shows a rendering of the preliminary site plan, not the actual site plan. There will be changes to the preliminary plan.

4. On Page 3-20: Temporary access for staging construction equipment and material during the 22 months will affect the Fishing Village, which should be in operation by the year 2000. We are currently reviewing the Department of Wastewater Management (WWM) construction staging area plan to determine the impacts and will continue to work with WWM to resolve concerns.

5. In Appendix F: The letter from WWM to Harbors (HAR) dated January 26, 1998, stated that WWM will try to incorporate high buffer landscaping around the pump station. Follow-up discussions are needed to reach an agreement.

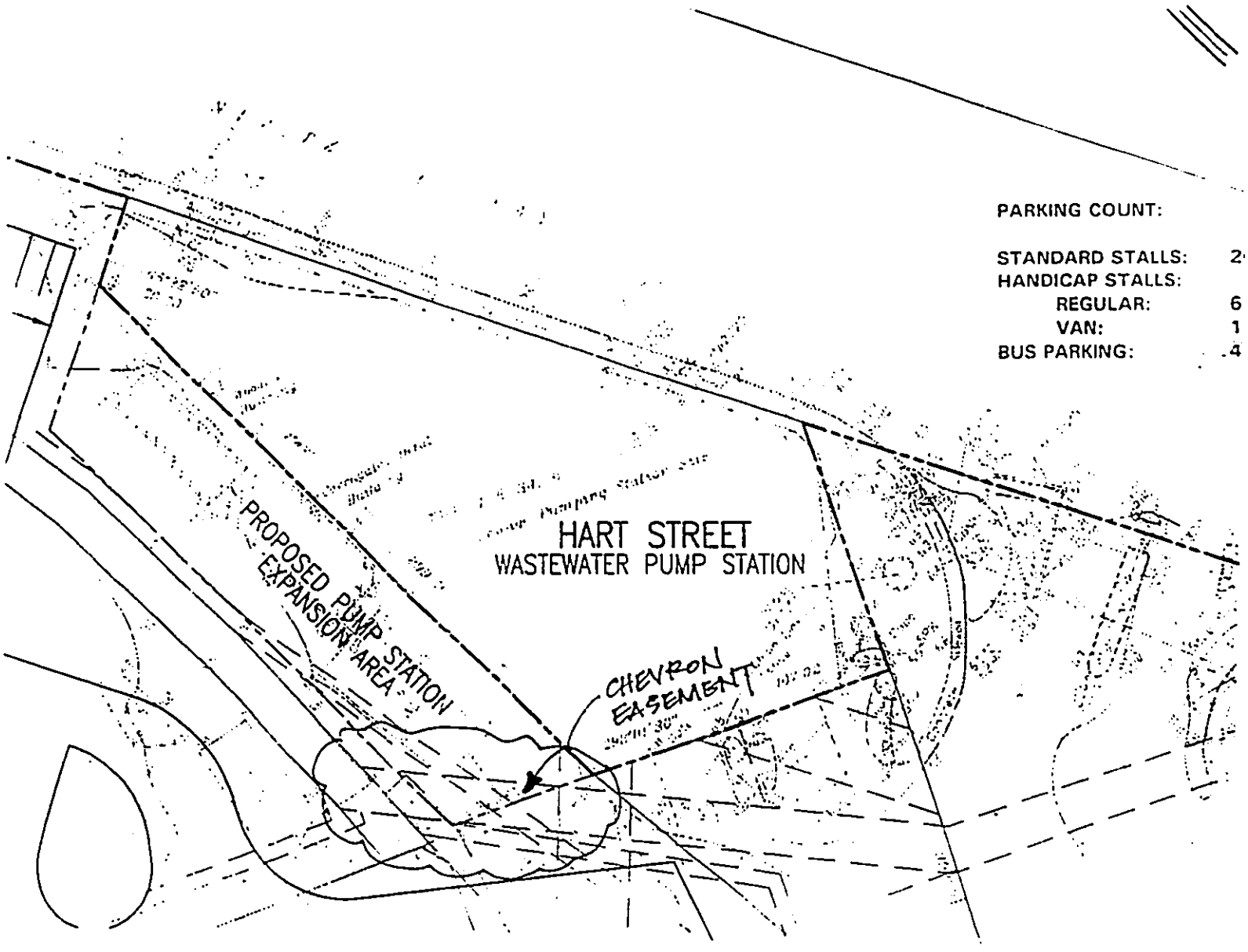
6. Construction plans for work within our highways right-of-way must be submitted for our review and approval.

We appreciate the opportunity to provide comments.

Very truly yours,

KAZU HAYASHIDA
Director of Transportation

Attach.


PARKING COUNT:
STANDARD STALLS: 2
HANDICAP STALLS:
REGULAR: 6
VAN: 1
BUS PARKING: 4
HART STREET
WASTEWATER PUMP STATION
PROPOSED PUMP STATION EXPANSION AREA
CHEVRON EASEMENT

WILSON
OKAMOTO
& ASSOCIATES, INC.

ENGINEERS
PLANNERS

1907 S. BERETANIA STREET
HONOLULU, HAWAII 96826
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FAX: (808) 946-2253

3441-02
April 29, 1998

Mr. Kazu Hayashida
Director of Transportation
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813-5097

Subject: Hart Street (New) Wastewater Pump Station
Draft Environmental Assessment/Finding
of No Significant Impact (FONSI)
Tax Map Keys: 1-5-34: 6 and 1-5-42: 5
Honolulu, Oahu, Hawaii;
Comment Letter

Dear Mr. Hayashida:

Thank you for your letter of March 17, 1998 regarding the Hart Street (New) Wastewater Pump Station (WWPS) Draft Environmental Assessment (EA). Our responses follow:

1. Appendix A may have been omitted during the reproduction process. We will ensure the documents are included in the Final EA. The Appendix A documents are attached for your use at this time.

2. Thank you for the information regarding the existing Chevron easement through the State's parcel. We will work with the City and County of Honolulu Department of Wastewater Management (WWM) to ensure coordination with Chevron during the design phase.

3. We understand the rendering previously provided by the State of Hawaii Department of Transportation Harbors Division is still preliminary and subject to change. The Final EA will be revised to include this information.

4. We will continue to work with the WWM and Harbors Division during the design project to minimize the effects of construction staging on the operation of the Fishing Village.

5. The use of a high buffer of landscaping around the WWPS will be included in the design phase, as appropriate.

Your letter and this response will be included in the Final Environmental Assessment.

We appreciate your interest and participation in the review of the Draft EA.

Sincerely,

John L. Sakaguchi, Senior Planner

cc: Mr. Kumar Bhagavan, WWM
State Office of Environmental Quality Control

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA STREET
HONOLULU, HAWAII 96843
PHONE (808) 527-6180
FAX (808) 533-2714

3441-02

4/28/98

April 17, 1998

Wilson Okamoto & Associates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Attention: John L. Sakaguchi

Gentlemen:

Subject: Your Transmittal of March 5, 1998 of the Draft Environmental Assessment for the Hart Street (New) Wastewater Pump Station, Honolulu, Oahu, TMK: 1-5-34: 06 and 1-5-34: 21

Thank you for the opportunity to review the Draft Environmental Assessment for the proposed wastewater pump station renovations.

We have the following comments to offer:

1. The existing water system is presently adequate to accommodate the proposed project.
2. The availability of water will be determined when the Building Permit Application is submitted for our review and approval. If water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission and daily storage.
3. There is an existing 3-inch compound water meter serving the existing pump station.
4. If an additional three-inch or larger water meter is required, the construction drawings showing the installation of the meter should be submitted for our review and approval.
5. The on-site fire protection requirements should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.
6. A Board of Water Supply approved reduced pressure principle backflow prevention assembly is required to be installed immediately after each water meter serving the project site.
7. The TMK for the adjacent property proposed for the pump station expansion should be verified. Our records indicate the property is listed as TMK: 1-5-34: 21.

If you have any questions, please contact Barry Usagawa at 527-5235.

Very truly yours,

BROOKS H. M. YUEN
Acting Manager and Chief Engineer

cc: Department of Wastewater Management

WILSON OKAMOTO & ASSOCIATES, INC.
ENGINEERS PLANNERS
1907 S. BERETANIA STREET
HONOLULU, HAWAII 96826
PH: (808) 946-2277
FAX: (808) 946-2253

3441-02
May 8, 1998

Mr. Brooks H.M. Yuen
Acting Manager and Chief Engineer
Board of Water Supply
City and County of Honolulu
630 South Beretania Street
Honolulu, Hawaii 96843

Subject: Hart Street (New) Wastewater Pump Station
Draft Environmental Assessment/Finding of No Significant Impact (FONSI)
Tax Map Keys: 1-5-34: 6 and 1-5-34: 21
Honolulu, Oahu, Hawaii;
Comment Letter

Dear Mr. Yuen:

Thank you for your letter of April 17, 1998 regarding the Hart Street (New) Wastewater Pump Station Draft Environmental Assessment (EA). The Final EA will note the existing water system is presently adequate to accommodate the proposed project and that the availability of water will be determined when the Building Permit Application is submitted to the Board of Water Supply. During the design phase, the need for a water meter larger than the existing 3-inch compound meter will be determined as will the design of the pressure backflow assembly.

Similarly, during the design phase, the on-site fire protection requirements will be coordinated with the Honolulu Fire Department Fire Prevention Bureau.

The TMK for the adjacent State-owned parcel will be revised to TMK: 1-5-34: 21.

Your letter and this response will be included in the Final Environmental Assessment.

We appreciate your interest and participation in the review of the Draft EA.

Sincerely,

John L. Sakaguchi, Senior Planner

JLS/ry

cc: Mr. Kumar Bhagavan, WWM
State Office of Environmental Quality Control

PLANNING DEPARTMENT
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 8TH FLOOR • HONOLULU, HAWAII 96813 3017
PHONE (808) 523-4533 • FAX (808) 523-4950

JEREMY HARRIS
MAYOR

PATRICK T. ONISHI
CHIEF PLANNING OFFICER

DONA L. HANAIKE
DEPUTY CHIEF PLANNING OFFICER

3441-02
3/30/98
KH
File

GW 3/98-0550

March 23, 1998

RECEIVED
MAR 27 1998
WILSON OKAMOTO & ASSOC., INC.

Mr. John L. Sakaguchi, Senior Planner
Wilson Okamoto & Associates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Sakaguchi:

Hart Street (New) Wastewater Pump Station
Draft Environmental Assessment/Finding of No Significant Impact (FONSI),
Tax Map Keys: 1-5-34:6 and 1-5-42:5, Honolulu, Oahu, Hawaii: Review and Comment

We have reviewed the above-referenced Draft Environmental Assessment. As discussed in Sections 4.4 and 4.5 of the document, the proposed project is consistent with the General Plan of the City and County of Honolulu and the Development Plan provisions related to the Primary Urban Center. We have no comments to offer at this time.

Should you have any questions, please call Gordon Wood of the Planning Department staff at extension 6073.

Yours very truly,

PATRICK T. ONISHI
Chief Planning Officer

PTO:lh

c: Kenneth E. Sprague, Director, Department of Wastewater Management

WILSON OKAMOTO & ASSOCIATES, INC.
ENGINEERS PLANNERS
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HONOLULU, HAWAII 96826
PH: (808) 946-2277
FAX: (808) 946-2253

3441-02
April 8, 1998

Mr. Patrick T. Onishi
Chief Planning Officer
Planning Department
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96826

Subject: Hart Street (New) Wastewater Pump Station
Draft Environmental Assessment/Finding
of No Significant Impact (FONSI)
Tax Map Keys: 1-5-34: 6 and 1-5-42: 5
Honolulu, Oahu, Hawaii;
Comment Letter

Dear Mr. Onishi:

Thank you for your letter of March 23, 1998 (GW3/98-0550) regarding Hart Street (New) Wastewater Pump Station Draft Environmental Assessment (EA) and indicating the proposed project is consistent with the General Plan of the City and County of Honolulu and the Development Plan provisions related to the Primary Urban Center.

Your letter and this response will be included in the Final Environmental Assessment.

We appreciate your interest and participation in the review of the Draft EA.

Sincerely,

John L. Sakaguchi, Senior Planner

cc: Mr. Kumar Bhagavan, WWM
State Office of Environmental Quality Control

0000 0016 1773

0000 0016 1774

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

JEREMY HARRIS
MAYOR

JONATHAN K. SHIMADA, PhD
DIRECTOR AND CHIEF ENGINEER
ROLAND D. LIBBY JR
DEPUTY DIRECTOR

3441-02

3/20/98 File

cc: WWM VIA FAX

ENV 98-068

March 17, 1998

Mr. John L. Sakaguchi, Senior Planner
Wilson Okamoto & Associates, Inc.
1907 South King Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Sakaguchi:

Subject: Draft Environmental Assessment (DEA)
Hart Street (New) Wastewater Pump Station
TMK: 1-5-34: 6 and 1-5-42: 5

We have reviewed the subject DEA and have the following comment:

Section 3.5 Water Quality: A construction dewatering permit from the Department of Public Works is not required if there is no discharge to the City's storm drain system.

If you have any questions, please contact Alex Ho, Environmental Engineer, at 523-4150.

Very truly yours,

For JONATHAN K. SHIMADA, PhD
Director and Chief Engineer

WILSON
OKAMOTO
& ASSOCIATES, INC.

ENGINEERS
PLANNERS
1907 S. BERETANIA STREET
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3441-02
April 29, 1998

Mr. Jonathan K. Shimada, PhD
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Subject: Hart Street (New) Wastewater Pump Station
Draft Environmental Assessment/Finding of No Significant Impact (FONSI)
Tax Map Keys: 1-5-34: 6 and 1-5-42: 5
Honolulu, Oahu, Hawaii;
Comment Letter

Dear Dr. Shimada:

Thank you for your letter of March 17, 1998 (ENV 98-068) regarding the Hart Street (New) Wastewater Pump Station Draft Environmental Assessment (EA). The Final EA will note a construction dewatering permit from the City and County of Honolulu Department of Public Works is not required, if there is no discharge to the City's storm drain system.

Your letter and this response will be included in the Final Environmental Assessment.

We appreciate your interest and participation in the review of the Draft EA.

Sincerely,

John L. Sakaguchi, Senior Planner

cc: Mr. Kumar Bhagavan, WWM
State Office of Environmental Quality Control

BENJAMIN J. CAYETANO
GOVERNOR

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

GARY GILL
DIRECTOR

March 7, 1998

Mr. Kenneth E. Sprague, Director
Honolulu Department of Wastewater Management
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Sprague:

Subject: Draft Environmental Assessment for the Hart Street New Wastewater Pump Station

Thank you for the opportunity review the subject document. We have the following comments and questions.

1. The Deparment of Wastewater Management proposes to use (purchase fee or lease) 9,972 square feet of state lands to improve the Hart Street Pump Station. Please clarify who would be responsible for cleaning up any contamination (existing and future) found on the parcel.

2. According to the environmental assessment, the Deparment of Wastewater Management proposes to backfill excavated areas with the original "contaminated" material. Please discuss how this proposal is consistent with the recently announced plan to clean up contaminated soils within the Honolulu waterfront area.

3. Please discuss the findings and reasons for supporting the FONSI determination based on the significant criteria listed in §11-200-12 of the EIS rules. Please see the enclosed example.

Should you have any questions please call Jeyan Thirugnanam at 586-4185.

Sincerely,

Gary Gill
Director

c: Wilson Oakamoto

Enclosure

8.0 DETERMINATION, FINDINGS AND REASONS FOR SUPPORTING DETERMINATION

8.1 SIGNIFICANCE CRITERIA

According to the Department of Health Rules (11-200-12), an applicant or agency must determine whether an action may have a significant impact on the environment, including all phases of the project, its expected consequences both primary and secondary, its cumulative impact with other projects, and its short and long-term effects. In making the determination, the Rules establish "Significance Criteria" to be used as a basis for identifying whether significant environmental impact will occur. According to the Rules, an action shall be determined to have a significant impact on the environment if it meets any one of the following criteria:

(1) Involves an irrevocable commitment to loss or destruction of any natural or cultural resources;

The proposed project will not impact scenic views of the ocean or any ridge lines in the area. The visual character of the area will change from the current agricultural land to an improved 4-lane highway which is compatible with the surrounding land use plans and programs being implemented for the region. The highway corridor is comprised of "Prime" agricultural land which is an important resource. Development of drainage systems will follow established design standards to ensure the safe conveyance and discharge of storm runoff. In addition, the subject property is located outside of the Count's Special Management Area (SMA).

As previously noted, no significant archaeological or historical sites are known to exist within the corridor. Should any archaeologically significant artifacts, bones, or other indicators of previous on-site activity be uncovered during the construction phases of development, their treatment will be conducted in strict compliance with the requirements of the Department of Land and Natural Resources.

(2) Curtails the range of beneficial uses of the environment;

Although the subject property is suitable for agricultural uses, the land area adjoining the Mokulele Highway is naturally suited for transportation purposes due to its location proximate to an existing highway system. To return the site to a natural environmental condition is not practical from both an environmental and economic perspective.

(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;

(8) **Is individually limited but cumulatively has considerable effect on the environment, or involves a commitment for larger actions;**

By planning now to address the future needs of the community and the State, improvement of the transportation system is consistent with the long term plans for Maui. No views will be obstructed or be visually incompatible with the surrounding area.

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

No endangered plant or animal species are located within the highway corridor.

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

Any possible impact to near-shore ecosystems resulting from surface runoff, will be mitigated by the establishment of on-site retention basins during the construction phases of development. After development, retention areas within the highway right-of-way will serve the same function to encourage recharge of the groundwater.

(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, freshwater, or coastal waters.**

Development of the property is compatible with the above criteria since there are not environmentally sensitive areas associated with the project and the physical character of the corridor has been previously disturbed by agricultural uses. As such, the property no longer reflects a "natural environment". Shoreline, valleys, or ridges will not be impacted by the development.

(12) **Substantially affects scenic vistas and view planes identified in county or state plans or studies;**

Due to topographical characteristics of the property, views of the area to be developed are generally not significant although they are visible. The majority of the proposed project will not be visible, except from higher elevations by the general public or from persons traveling along the highway.

(13) **Requires substantial energy consumption.**

The location of the proposed project is between Maui's major growth areas. This relationship will reduce travel times and energy consumption after project build out through efficiencies gained by the increased capacity of the highway. Construction of the proposed project will not require substantial energy consumption relative to other similar projects.

WILSON
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ENGINEERS
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1907 S. BERETANIA STREET
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FAX (808) 946-2253

3441-02
May 12, 1998

Mr. Gary Gill, Director
Office of Environmental Quality Control
State of Hawaii
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

Subject: Hart Street (New) Wastewater Pump Station
Draft Environmental Assessment/Finding
of No Significant Impact (FONSI)
Tax Map Keys: 1-5-34: 6 and 1-5-34: 21
Honolulu, Oahu, Hawaii;
Comment Letter

Dear Mr. Gill:

Thank you for your letter of March 7, 1998 regarding the Hart Street (New) Wastewater Pump Station Draft Environmental Assessment (EA). Our responses follow below.

1. As stated in the Draft EA (page 1-1), since 1996, the City and County of Honolulu Department of Wastewater Management (WWM) and the State of Hawaii Department of Transportation (DOT) Harbors Division have been discussing use of the 9,972 SF area of State-owned land. These discussions are currently still continuing. However, at this time, the State DOT has indicated by letter a willingness to lease the State-owned area and that the State DOT will remove all existing improvements from the area, including, if necessary, abatement of hazardous materials from the buildings on their land. Once that has been completed, WWM would be responsible for proceeding with the necessary improvements to this adjacent area.

2. As documented in the Draft EA (pages 3-5, 3-6, Appendix B and C), subsurface petroleum contamination was located within the WWPS site and within the adjacent State-owned parcel. Further, the Draft EA indicates the subsurface contamination at the project site appears to be part of the area-wide contamination and placement of clean fill in excavated areas will likely result in contamination of the clean fill. At this time, we understand the Department of Health (DOH) has begun the scoping phase to address the area-wide contamination issue. The DOH has issued a Guidance Fact Sheet (December 1996) relating to completion of construction projects whenever petroleum contamination is encountered. WWM intends to comply with the December 1996 DOH Guidance Fact Sheet as the project is implemented.

The attachment, which will be incorporated into Chapter 6 of the Final EA, discusses the Determination, Findings, and Reasons Supporting the Determination.

Your letter and this response will be included in the Final Environmental Assessment.

We appreciate your interest and participation in the review of the Draft EA.

Sincerely,

John L. Sakaguchi, Senior Planner

Attachment

cc: Mr. Kumar Bhagavan, WWM
State Office of Environmental Quality Control

DETERMINATION

Based on analysis of the anticipated impacts and the comments to the Draft EA, a Finding of No Significant Impact (FONSI) is made for the proposed project. The significance criteria to make this determination are set forth below and in Chapter 200 of Title 11, State of Hawaii Department of Health Administrative Rules, Environmental Impact Statement, (11-200-12).

1) *Involve a irrevocable commitment to loss or destruction of any natural or cultural resources;*

The US Department of the Interior Fish and Wildlife Service (USFWS) has concurred that there are no Federally endangered, threatened, or candidate species within the project site. The USFWS also concurred with the Finding of No Significant Impact (FONSI).

The State of Hawaii Department of Land Natural Resources Historic Preservation Division has stated that there are no known historic sites on the project site. The Historic Preservation Division also stated the Hart Street (New) Wastewater Pump Station project will have "no effect" on historic sites and by letter concurred under Chapter 6E-8, Hawaii Revised Statutes.

2) *Curtail the range of beneficial uses of the environment;*

The Hart Street WWPS was erected in 1951 and has been in continuous use since then. It is one of two facilities in the primary urban center that pump flows to the Sand Island Wastewater Treatment Plant. Continued use of the WWPS is a beneficial use of the land.

Since 1996, WWM and the State of Hawaii Department of Transportation (DOT) Harbors Division have been discussing use of the 9,972 SF area of State-owned land. These discussions are currently still continuing. However, at this time, the State DOT has indicated by letter a willingness to lease the area to the City and County of Honolulu.

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

One of the objectives of the rehabilitation and improvements is to provide reliability for the WWPS without the need for significant new construction. The rehabilitation and improvements are to avoid interruption of service which could result in bypass or discharge of flows directly into Honolulu Harbor. Thus, the proposed project would be consistent with the State's long-term environmental policies and goals

4) *Substantially affect the economic or social welfare of the community or state;*

As previously stated, the Hart Street WWPS is one of two facilities in the primary urban center that pump flows to the Sand Island Wastewater Treatment Plant. The rehabilitation and improvements are to avoid interruption of service. The proposed project will not adversely affect the economic or social welfare of the community or state.

5) *Substantially affect public health;*

The rehabilitation and improvements are to avoid interruption of service of the WWPS, which, if occurred, would create adverse impacts to public health. Thus, the proposed project would not adversely affect public health.

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

The Hart Street WWPS serves a service area of 29 square miles. The rehabilitation and improvements are to avoid interruption of service to this area and will not create secondary impacts to population or affect the other WWM facilities upstream of the Hart Street WWPS.

7) *Involve a substantial degradation of environmental quality;*

The proposed project will rehabilitate and improve the WWPS on its existing site and use a 9,972 SF area of State-owned for other improvements. The State-owned parcel contains two buildings. The State DOT will be remove all existing improvements from the area, including, if necessary, abatement of hazardous materials from the buildings. Site investigations determined the presence of subsurface petroleum and asbestos-containing material in portions of the existing WWPS facilities. Removal, disposal or treatment of the materials will be accomplished in accordance with applicable Federal and State requirements. As a result, the proposed project will not result in a substantial degradation of environmental quality.

8) *Have a cumulative effect upon the environment or involves a commitment for larger actions;*

Although the Hart Street WWPS is part of the East Mamala Bay subdistrict which includes three other pump stations, the proposed project will not involve a commitment to further action on any of the City's other pump stations nor will it have a cumulative effect upon the environment.

9) *Affect a rare, threatened or endangered species;*

The US Department of the Interior Fish and Wildlife Service (USFWS) has concurred that there are no Federally endangered, threatened, or candidate species within the project site. The USFWS also concurred with the Finding of No Significant Impact (FONSI).

10) *Detrimentally affect air or water quality or ambient noise levels;*

The rehabilitation and improvements would involve short-term air quality and noise impacts. The existing 1-hour ambient noise levels near the project site were 67 Leq to 76 Leq. The project site and surrounding areas are zoned I-3, Waterfront Industrial which means residential areas are not located nearby. Also, the need for a noise variance during construction were also noted in the Draft EA

Odor control measures will be included in the design of the WWPS facilities. These include reconfiguration of the wet well to prevent excessive turbulence and inhibit the formation of hydrogen sulfide gas. Air will also be withdrawn from the wet well and then treated with either a packed tower chemical scrubber or activitated carbon absorber to control odor. These odor control facilities will be further defined in the design phase.

11) *Affects or likely to suffer damage by being located in an environmentally sensitive area such as a floodplain, tsunami zone, beach, erosion-prone area, geographically hazardous land, estuary, fresh water or coastal water;*

The project site lies within Zone X - areas determined to be outside the 500-year floodplain - as determined by the Federal Emergency Management Agency (FEMA). The project site is not within the City's Special Management Area, or outside of the coastal shoreline area. Thus, the project site is not located in an environmentally sensitive area.

12) *Substantially affect scenic vistas and viewplanes identified in county or state plans or studies;*

Views along the waterfront were discussed in the October 1989 Honolulu Waterfront Master Plan. As noted in the Master Plan, visual mauka-makai linkages are a method to link the city/waterfront relationships. The project site is not included as one of these mauka-makai linkages. Thus, proposed project will not affect scenic vistas or viewplanes.

13) *Require substantial energy consumption.*

The proposed project will rehabilitate the existing WWPS and includes upgrade of the electrical systems. Flows to the WWPS are not anticipated to increase over current levels.

Based on these findings and the assessment of potential impacts from the rehabilitation and improvements, a Finding of No Significant Impact (FONSI) has been determined.

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

3141-02
RH

April 6, 1998

CC: R/H via FAX 4/6

Wilson Okamoto & Associates, Inc.
1907 S. Beretania St., Suite 400
Honolulu, HI 96826
Attention: John L. Sakaguchi

Dear: Mr. Sakaguchi

Subject: **Hart Street Wastewater Pump Station**

Thank you for the opportunity to comment on your February 1998 Draft Environmental Assessment for the Hart Street Wastewater Pump Station, as proposed the City and County of Honolulu Department of Wastewater Management. We have reviewed the subject document and have the following comments.

- The Hart Street area is presently serviced by HECO's Iwilei Substation, not the Honolulu Power Plant.
- The cost to extend the second 11.5KV circuit from Waiakamilo Road to the WWPS and to install the second pad-mounted transformer will be borne by the customer
- Extending the second 11.5KV circuit from Waiakamilo Road to the WWPS will involve crossing the Kapalama Canal. We have no existing ducts in the bridge structure and would have to hang any new ducts under the bridge. This will be subject to DOT approval. If the bridge is not able to support the new ducts, the canal must be dredged to install submarine cables. This will be subject to Corps of Engineers approval. An alternative would be to microtunnel under the canal at additional cost.
- The existing 11.5KV circuits are reaching their capacity and may not be able to support the additional load of the WWPS. HECO Plans to install two 25KV circuits from its Iwilei Substation in the near future to service the area of the WWPS. The electrical design of the new WWPS should accommodate this higher voltage.
- As pad-mounted transformer failures are extremely rare, HECO recommends that the two 25KV circuits be brought to a pad-mounted automatic switchgear which would be connected to a single transformer. The WWPS would retain reliability by having two 25KV circuits available, and in the event of a transformer failure or failure of both 25KV circuits, the WWPS would then be switched to its emergency generator.

Our point of contact for this project, and the originator of these comments, is Francis Hirakami (543-7530) Principal Engineer. I suggest your staff and consultants deal directly with Francis to coordinate HECO's continuing input on this project.

Sincerely,

Donn T. Fukuda
Principal Environmental Scientist

cc: Department of Wastewater Management
City and County of Honolulu
650 South King Street
Honolulu, HI 96813

F. Hirakami

WILSON
OKAMOTO
& ASSOCIATES, INC.

ENGINEERS
PLANNERS
1907 S. BERETANIA STREET
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PH (808) 946-2277
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3441-02
May 8, 1998

Mr. Donn I. Fukuda
Principal Environmental Scientist
Hawaiian Electric Company, Inc.
P.O. Box 2750
Honolulu, Hawaii 96840-0001

Subject: Hart Street (New) Wastewater Pump Station
Draft Environmental Assessment/Finding
of No Significant Impact (FONSI)
Tax Map Keys: 1-5-34: 6 and 1-5-34: 21
Honolulu, Oahu, Hawaii;
Comment Letter

Dear Mr. Fukuda:

Thank you for your letter of April 6, 1998 regarding the Hart Street (New) Wastewater Pump Station Draft Environmental Assessment (EA). The Final EA will note the area near the project site is presently serviced by HECO's Iwilei Substation.

At this time, the Department of Wastewater Management (WWM) has not yet established a schedule for the rehabilitation and construction of improvements at the Hart Street Wastewater Pump Station (WWPS). We understand HECO plans to install the two 25KV circuits during the first half of 1999, which would, most likely, be before the WWPS rehabilitation and construction work are undertaken. During the design phase, we will work with WWM to ensure the WWPS electrical systems will be compatible with HECO's planned improvements.

Your letter and this response will be included in the final Environmental Assessment.

We appreciate your interest and participation in the review of the Draft EA.

Sincerely,

John L. Sakaguchi, Senior Planner

JLS/ry

cc: Mr. Kumar Bhagavan, WWM
State Office of Environmental Quality Control

HAWAII STEVEDORES, INC.

P.O. Box 2160 • Honolulu, Hawaii 96805-2160 • Phone (808) 527-3400

3141-02 RH 3/31/98

March 26, 1998

RECEIVED
MAR 30 1998
WILSON OKAMOTO & ASSOC., INC.

Mr. John L. Sakaguchi
Senior Planner
WILSON OKAMOTO & ASSOCIATES, INC.
1907 S. Beretania Street
Honolulu, Hawaii 96826

SUBJECT: Hart Street (New) Waste-water Pump Station
Draft Environmental Assessment

Dear John:

As we discussed by phone, we do not have any significant concerns regarding the New Waste-water Pump Station, but we do have very real concerns about the new alignment of the force main.

Although the New Pump Station's Environmental Assessment document does not pertain to the force main, the force main's easement is shown in an alignment which we are opposed to. We previously expressed concerns about replacement of the force main within the existing easement in a February 16, 1995 letter to your firm. A copy of that letter is enclosed again for the public record.

We trust that our comments about the force main's alignment will be seriously considered for that project.

Thank you for the opportunity to express our concerns.

If you have any questions, please call me at 527-3425.

Sincerely,

HAWAII STEVEDORES, INC.

Randy Grune
President & CEO

enclosure

cc: WWM, VIA FAX 3/31/98

HAWAII STEVEDORES, INC.

P.O. Box 2160 • Honolulu, Hawaii 96805-2160 • Phone (808) 527-3400

February 16, 1995

Mr. Barry Toyota
Project Manager
WILSON OKAMOTO & ASSOCIATES, INC.
P.O. Box 3530
Honolulu, Hawaii 96811

SUBJECT: Hart Street WWPS Force Main Replacement
Comments Regarding Alternative Routes

Dear Barry:

Reference your February 1st letter regarding the subject matter.

Hawaii Stevedores, Inc. is opposed to Alternative 1. We base our opposition on the fact that Alternative 1A and/or 1B will;

1) severely impact the ingress & egress to our premises for our 230 employees plus visitors as well as the employees and visitors of our four (4) tenants (Hawaii Stevedores/Castle & Cooke Federal Credit Union, Pacific Ocean Producers, KEMS Kewalo, All Ship & Cargo Surveys and each of their subtenants),

2) negatively impact parking facilities at our premises which are used by and serving those mentioned above,

3) potentially decrease soil stability around the footings and foundations of our building (especially with Alternative 1A),

4) cross numerous sewer lines, drain lines and a water line servicing our premises and,

5) potentially draw/pull contaminants existing beyond our premises toward our premises, due to the dewatering/trenching that would be required during the construction process.

In addition to the significant impacts upon our premises that are mentioned above, Alternative 1's route presents some negative impacts to the general public/others as well;

A) it crosses numerous underground fuel lines,

B) right in the middle of the stacking/deceleration lanes of the busy intersection at Nimitz Highway (a lot of traffic from City Wide Trucking and Chevron (our neighbors on the town-side) and Pier 32-37 users, as well as that generated by our own premises, moves through this feeder roadway area that connects to Nimitz Highway),

C) parking at City Wide Trucking, the full length of their premises, would be severely impacted by construction ingress & egress requirements for Alternative 1A.

Although not an engineer by trade, I believe Alternative 1 would present procedural difficulties for the contractor working alongside the existing line within the narrow easement and could increase the potential for failure of the old line as a result of construction impacts.

In our lay opinion, we believe Alternative 2 to be the most desirable route for the new line because it the most direct route which leaves the pier and roadway surfaces quickly and gets into the harbor to avoid the surface impacts/concerns mentioned above.

Thank you for providing this opportunity to express our opinion regarding the various alignment alternatives for the new force main.

Please call me at 527-3425 if you have any questions or require further information.

Sincerely,

HAWAII STEVEDORES, INC.

Randy Grune
Vice President - Administration

copy: George Y. Serikaku (HSI)
bc: POP w/ Feb1 WOA letter + attachments

WILSON
OKAMOTO
& ASSOCIATES, INC.

ENGINEERS
PLANNERS
1907 S. BERETANIA STREET
HONOLULU, HAWAII 96826
PH: (808) 946-2277
FAX: (808) 946-2253

3441-02
April 8, 1998

Mr. Randy Grune
President & CEO
Hawaii Stevedores, Inc.
P.O. Box 2160
Honolulu, Hawaii 96805-2160

Subject: Hart Street (New) Wastewater Pump Station
Draft Environmental Assessment/Finding
of No Significant Impact (FONSI)
Tax Map Keys: 1-5-34: 6 and 1-5-42: 5
Honolulu, Oahu, Hawaii;
Comment Letter

Dear Mr. Grune:

Thank you for your letter of March 26, 1998 indicating you had no comments on the Hart Street (New) Wastewater Pump Station Draft Environmental Assessment (EA).

Regarding your comment on the alignment of the force main, Figure 1.2 (see attached) shows the alignment of the existing force main. For the proposed Force Main Replacement, the City and County of Honolulu has selected Alternative Route 2, as set forth in the Final EA for the Force Main Replacement. (See attached)

Your letter and this response will be included in the Final Environmental Assessment.

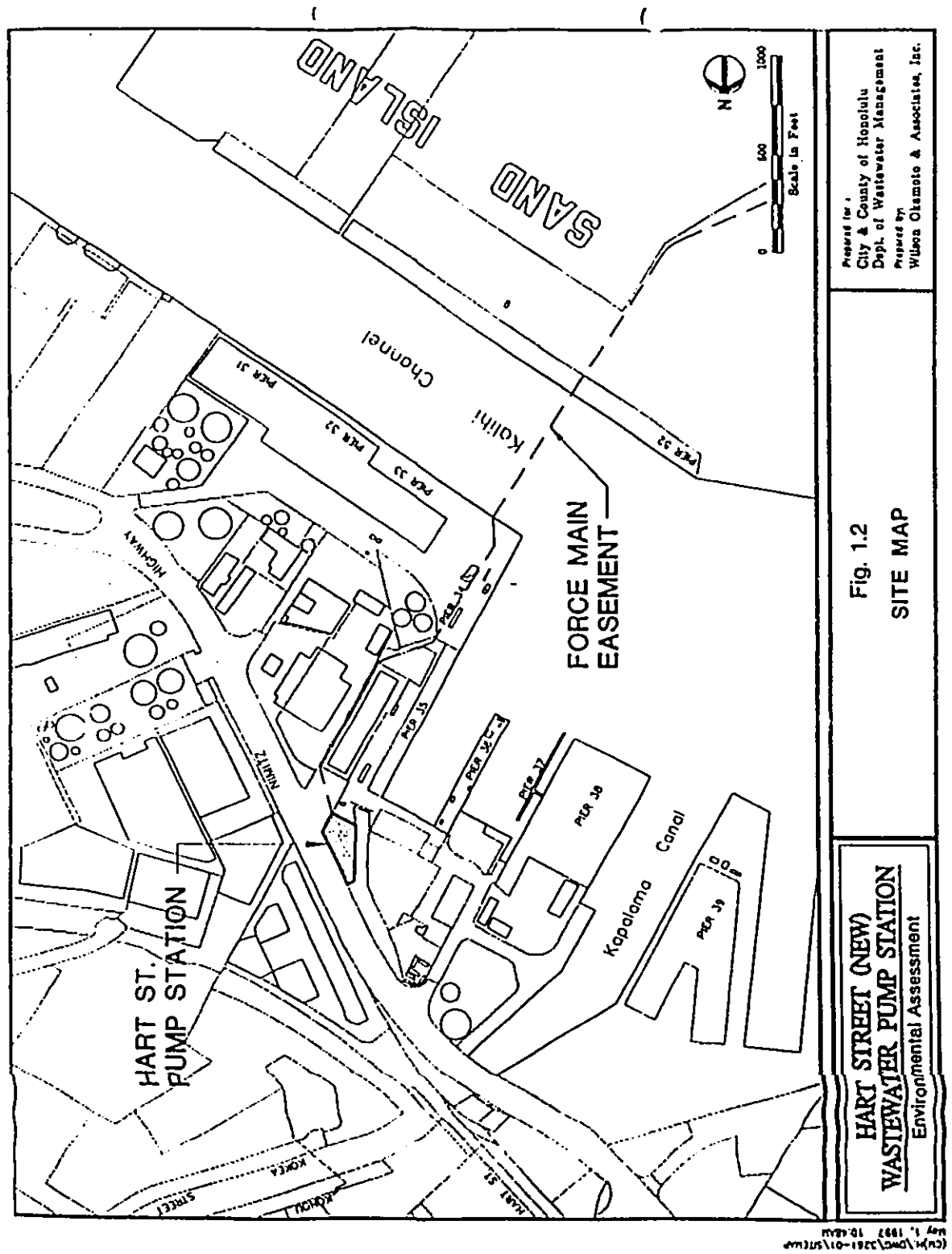
We appreciate your interest and participation in the review of the Draft EA.

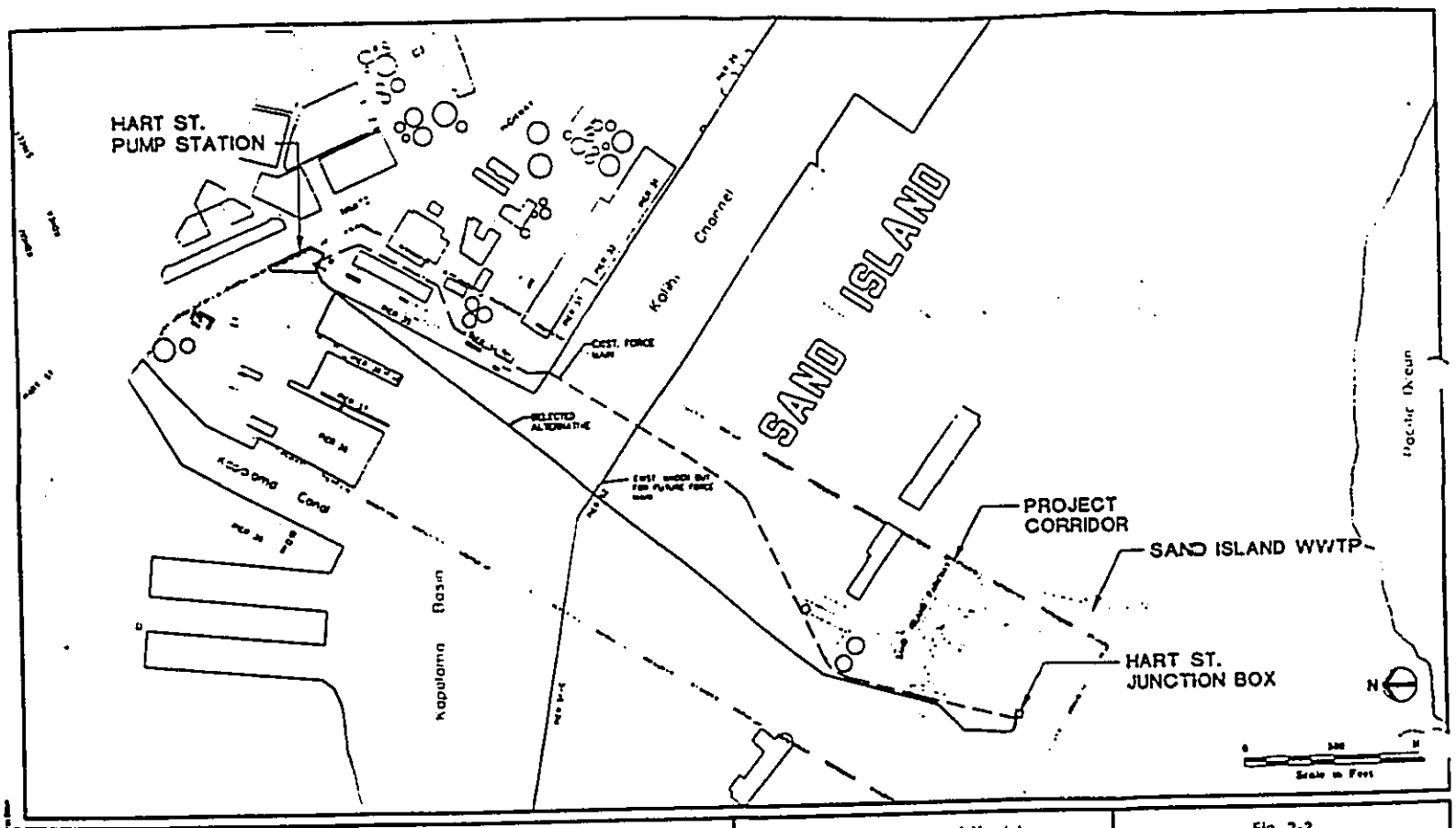
Sincerely,

John L. Sakaguchi, Senior Planner

Attachments

cc: Mr. Kumar Bhagavan, WWM
State Office of Environmental Quality Control





HART ST. WWPS FORCE MAIN REPLACEMENT	SELECTED ALTERNATIVE ALIGNMENT	Prepared for: City & County of Honolulu Dept. of Wastewater Management Prepared by: Wilson Okamoto & Associates, Inc.	Fig. 2-2 SELECTED ALTERNATIVE ALIGNMENT

8. REFERENCES

Belt Collins & Associates. East Mamala Bay Wastewater Facilities Plan. Prepared for City and County of Honolulu Department of Wastewater Management. 1994.

Belt Collins & Associates. East Mamala Bay Wastewater Facilities Plan FEIS. Prepared for City and County of Honolulu Department of Wastewater Management. 1994.

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City and County of Honolulu, Department of Land Utilization. Land Use Ordinance. 1993.

Helber, Hastert & Kimura, Planners and R.M. Towill Corporation. Honolulu Waterfront Master Plan. 1989

Kim, Calvin. Environmental Assessment. Nimitz Highway Relief Sewer. Prepared for: City and County of Honolulu Department of Public Works. February 1990.

Lacayo Planning, Inc. Pier 38 Master Plan. Prepared for State of Hawaii Department of Business Economic Development and Tourism. September 1993.

State of Hawaii. The State Conservation Functional Plan. 1991.

State of Hawaii. The State Health Functional Plan. 1989.

State of Hawaii. The State Historic Preservation Functional Plan. 1991.

State of Hawaii. The State Recreation Functional Plan. 1991.

U.S. Department of Transportation Federal Highway Administration. Draft Supplemental Environmental Impact Statement Nimitz Highway Improvements from Keehi Interchange to Pier 16 (Awa Street). October 1996.

Wilson Okamoto & Associates, Inc. Final Environmental Assessment, Hart Street Wastewater Pump Station Force Main Replacement. Prepared for the City and County of Honolulu, Department of Wastewater Management. October 1996.

Wilson Okamoto & Associates, Inc. Preliminary Engineering Report, Hart Street (New) Wastewater Pump Station. Prepared for the City and County of Honolulu, Department of Wastewater Management. August 1997.

0000 0016 1787

APPENDIX A

0000 0016 1788

JAMIN J. CAYETANO
GOVERNOR

97-725

RECEIVED BY

'97 APR 28 A11 :18

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
JERRY M. MATSUDA
GLENN M. OKIMOTO

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HARBORS DIVISION
79 SO. NIMITZ HWY • HONOLULU, HAWAII 96813-4898

IN REPLY REFER TO:

HAR-PM
8741.97

April 23, 1997

Mr. Stephen T.C. Ching
Chief
Division of Planning and Service Control
Department of Wastewater Management
City and County of Honolulu
650 S. King Street
Honolulu, Hawaii 96813

Dear Mr. Ching:

Subject: Hart Street (New) Wastewater Pump Station (WWPS) Permanent Access/Staging /Storage Area, Near Pier 35, Honolulu Harbor, Oahu
Tax Map Key No. 1-5-34:21P

Thank you for your letter dated March 20, 1997 informing our office that the Department of Public Works, Division of Land Survey & Acquisition will be contacting us to initiate the process of acquiring our property consisting of approximately 14,370 square feet of land for the purpose of expanding the New Hart Street Wastewater Pump Station situated near Pier 35, Honolulu Harbor, Oahu.

In reviewing your proposal, we have determined that the issuance of a sixty-five (65) year lease to the City rather than to sell our property is in our best interest. The issuance of a sixty-five (65) year lease is subject to the prior approvals of the Board of Land and Natural Resources and the Department of Attorney General.

Should you have any questions, please contact Mr. Derrick Lining, Property Manager, at 587-1942.

Very truly yours,

Thomas T. Fujikawa
Chief

0000 00 16 1789

EPARTMENT OF WASTEWATER MANAG ENT
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

JEREMY HARRIS
MAYOR

KENNETH E. SPRAGUE
DIRECTOR
CHERYL K. OKUMA-SEP
DEPUTY DIRECTOR

WPP 97-126

March 21, 1997

MEMORANDUM

TO: DR. JONATHAN SHIMADA, DIRECTOR AND CHIEF ENGINEER
DEPARTMENT OF PUBLIC WORKS

ATTENTION: MR. JERRY IWATA, CHIEF
DIVISION OF LAND SURVEY AND ACQUISITION

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

SUBJECT: HART STREET (NEW) WASTEWATER PUMP STATION (WWPS)
REQUEST FOR ADDITIONAL LAND

We request your assistance in obtaining the additional land to support the subject project. The land is owned by the State Department of Transportation (DOT) Harbors Division and a sketch of the proposed additional land is attached. The consultant for the Planning and Design phases of this project is Wilson Okamoto & Associates. Wilson Okamoto & Associates and our Department have determined that the additional land is required to operate and maintain the new Odor Control Facility, Venturi Meter and Diversion Pump Station. The added land will also provide adequate access to the site as well as meet the minimum operational, regulatory, safety, and storage requirements.

My staff at the Division of Planning & Service Control has initiated discussions with Mr. Derek Lining who is the Property Manager for the DOT Harbors Division. Mr. Lining has indicated that the Harbors Division is ready to begin the process of the land acquisition by the City.

We thank you for your assistance. Should there be any questions, please contact Mr. Kumar Bhagavan of the Division of Planning and Service Control at extension 5158.

Attachment

cc: John Sakaguchi - Wilson Okamoto & Associates
Wes Yokoyama - Division of Engineering & Construction

0000 00 16 1790

3441-01

3/31

DEPARTMENT OF WASTEWATER MANAGEMENT
CITY AND COUNTY OF HONOLULU
DIVISION OF PLANNING AND SERVICE CONTROL
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

JEREMY HARRIS
MAYOR

KENNETH E. SPRAGUE
DIRECTOR
STEPHEN T.C. CHING
CHIEF

WPP 97-127

March 20, 1997

Mr. Thomas T. Fujikawa, Chief
Harbors Division
Department of Transportation
State of Hawaii
79 South Nimitz Highway
Honolulu, Hawaii 96813

Dear Mr. Fujikawa:

Subject: Hart Street (New) Wastewater Pump Station (WWPS) Permanent Access/Staging/Storage Area on Department of Transportation Harbors Division Property

This letter is a follow up to your February 14, 1997 letter reference number HAR-PM 8633.97 and the telephone conversation between Derek Lining and Kumar Bhagavan on March 6, 1997 regarding the above referenced subject matter. We understand that you are in the process of reconfiguring your redevelopment plans for this area based on our needs.

As per the telephone conversation between Mr. Lining and Mr. Bhagavan, our Department was asked to begin the process of acquiring land. We will have the City Department of Public Works, Division of Land Survey & Acquisition contact your Division to start this process.

Should you have any questions, please contact Mr. Kumar Bhagavan of the Division of Planning & Service Control at 527-5158.

Very truly yours,

STEPHEN T.C. CHING
Chief

cc: John Sakaguchi - Wilson Okamoto & Associates
Jerry Iwata - DPW Division of Land Survey & Acquisition
Wes Yokoyama - Division of Engineering & Construction

0000 0016 1791

BENJAMIN J. CAYETANO
GOVERNOR

97-279
BL.

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
JERRY M. MATSUDA
GLENN M. OKIMOTO

RECEIVED

'97 FEB 19 A10:15

DEPT OF WASTEWATER MGT
DIVISION OF PLANNING
& SERVICE CONTROL

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HARBORS DIVISION
79 SO. NIMITZ HWY. • HONOLULU, HAWAII 96813-4898

IN REPLY REFER TO:
HAR-PM
8633.97

February 14, 1997

Mr. Stephen T.C. Ching
Chief
Department of Wastewater Management
City and County of Honolulu
Division of Planning and Service Control
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Ching:

Subject: Hart Street (New) Wastewater Pump Station (WWPS), Temporary Construction Access and Permanent Access/Staging/Storage Area on Department of Transportation Property

Thank you for your letter of January 28, 1997 following up on your meeting held with our staff on January 22, 1997 concerning your request to acquire approximately 14,370 square feet of land area for the purpose of expanding the New Hart Street Wastewater Pump Station situated near Pier 35, Honolulu Harbor, Oahu.

You also requested temporary use of approximately two (2) acres of land area for the purpose of staging construction equipment and materials for the subject project scheduled to commence on July 1, 1999. We indicated at the meeting that the area you are requesting is currently under a proposed redevelopment plan for maritime use. Therefore, if our redevelopment of the area has not begun by the anticipated commencement date of construction, we may allow use of the area by your contractor at that time.

Once we have determined the reconfiguration of the area based on your needs, we will inform you of our decision on your request to acquire the 14,370 square feet of land. Should you have any questions, you may contact Mr. Derrick Lining, Property Manager, at 587-1942.

Very truly yours,

Thomas T. Fujikawa
Chief

0000 00 16 1792

DEPARTMENT OF WASTEWATER MANAGEMENT
CITY AND COUNTY OF HONOLULU
DIVISION OF PLANNING AND SERVICE CONTROL
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

JEREMY HARRIS
MAYOR

CHERYL K. OKUMA-SEPE
ACTING DIRECTOR

STEPHEN T.C. CHING
CHIEF

WPP 97-031

January 28, 1997

Mr. Thomas T. Fujikawa, Chief
Harbors Division
Department of Transportation
State of Hawaii
79 South Nimitz Highway
Honolulu, Hawaii 96813

Dear Mr. Fujikawa:

Subject: Hart Street (New) Wastewater Pump Station (WWPS)
Temporary Construction Access and Permanent
Access/Staging/Storage Area on Department of
Transportation Property

This letter is a follow up to the January 22, 1997 meeting regarding the above referenced subject matter. The existing WWPS must be rehabilitated and upgraded to meet future flow requirements and the Sand Island Treatment Plant expansion projects.

As discussed previously, Wilson Okamoto & Associates is under contract with the City Department of Wastewater Management to prepare a Preliminary Engineering Report (PER) for rehabilitation of the existing Hart Street WWPS. Wilson Okamoto & Associates recently submitted the 90% complete PER document and it is currently being reviewed by our Department.

Based on current planning, the construction contractor will need temporary access to the State of Hawaii Department of Transportation Harbors Division property (Tax Map Key: 1-5-34:21) adjacent to the Hart Street WWPS. This temporary access is required to provide a material, equipment and construction staging area during the approximate two year long construction period. Construction is currently scheduled to commence after July 1, 1999.

Wilson Okamoto & Associates and our Department have determined that a portion of the neighboring Harbors Division property (14,370 square feet) is required for permanent acquisition. The additional land is needed to operate and maintain the new Odor Control Facility, Venturi Meter, and Diversion Pump Station. The added land will also give adequate access to the site as well as meet the minimum operational, regulatory, safety, and storage requirements.

The attached site plans, showing the proposed temporary construction staging area and the permanent additional land, are provided for your review and approval. It is noted that the additional space required reflects your Department's concern over possible future development in this area and is the minimum required for the project.

Once your Department has reviewed these plans, a follow-up meeting can be arranged to discuss the details of the permanent and temporary land acquisitions. Should there be any questions, please contact Mr. Kumar Bhagavan of the Division of Planning & Service Control at 527-5158.

Very truly yours,

STEPHEN T.C. CHING
Chief

Attachments

cc: John Sakaguchi - Wilson Okamoto & Associates

0000 00:16 1794

97-41 fyi.

JAMES CAYETANO
GOVERNOR

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
[redacted]
GLENN M. OKIMOTO
JERRY MATSUDA

RECEIVED
'97 JAN -9 A9:18
DEPT OF WASTEWATER MGT
DIVISION OF PLANNING
& SERVICE CONTROL

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HARBORS DIVISION
79 SO. NIMITZ HWY. • HONOLULU, HAWAII 96813-4898

IN REPLY REFER TO:
HAR-PM
8584.97

January 6, 1997

Mr. Stephen T.C. Ching, Chief
Division of Planning and Service Control
Department of Wastewater Management
City and County of Honolulu
650 S. King Street
Honolulu, Hawaii 96813

Dear Mr. Ching:

Subject: Hart Street (New) Wastewater Pump Station (WWPS), Request for Temporary Construction Access and Permanent Access/Parking Area, Pier 36, Honolulu Harbor, Oahu

Thank you for your letter dated December 18, 1996 concerning your request for temporary use of Harbors Division property consisting of approximately 14,370 square feet near Pier 36 for the purpose of staging construction materials and equipment for the proposed subject project during fiscal year 1999.

In our review, we have determined that the property requested may conflict with our planned redevelopment of the area. However, we are willing to discuss the various options in order to accommodate your requirements.

Please contact Mr. Derrick Lining, Property Manager at 587-1942 to arrange a meeting with our staff to discuss your proposed project.

Very truly yours,

Thomas T. Fujikawa
Chief

Post-it™ brand fax transmittal memo 7671	# of pages ▸ 1
To RICHARD HARADA	From KUMAR B.
Co. WOA	Co. WWM-Planning
Dept.	Phone # 527-5158
Fax # 946-2253	Fax # 523-4642

0000 0016 1795

3441-01
12/24/96
RH

DEPARTMENT OF WASTEWATER MANAGEMENT
CITY AND COUNTY OF HONOLULU
DIVISION OF PLANNING AND SERVICE CONTROL
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

JEREMY HARRIS
MAYOR

FELIX B. LIMTIACO
DIRECTOR

STEPHEN T.C. CHING
CHIEF

WPP 96-773

December 18, 1996

Mr. Derrick Lining, Property Manager
Harbors Division
Department of Transportation
State of Hawaii
79 South Nimitz Highway
Honolulu, Hawaii 96813

RECEIVED
DEC 20 1996
WILSON OKAMOTO & ASSOC., INC.

Subject: Hart Street (New) Wastewater Pump Station (WWPS)
Temporary Construction Access and Permanent Access/Parking
Area on Department of Transportation Property

Dear Mr. Lining:

This letter is a follow-up to the earlier conversations and correspondence between Wilson Okamoto & Associates and your office regarding the above referenced subject matter.

As discussed previously, Wilson Okamoto is under contract with the City Department of Wastewater Management (WWM) to prepare a Preliminary Engineering Report (PER) for rehabilitation of the existing Hart Street WWPS. Wilson Okamoto is currently proceeding toward the 90% PER stage.

Based on current planning, the construction contractor will need temporary access to the State of Hawaii, Department of Transportation, Harbors Division property (Tax Map Key: 1-5-34:21) adjacent to the Hart Street WWPS. This temporary access is required to provide a material and equipment staging area during the approximate one year long construction period. Construction is currently scheduled for fiscal year 1999.

Wilson Okamoto and the WWM have determined that a portion of the neighboring Harbors Division property (approximately 14,370 square feet) is required to provide adequate access as well as operational and storage requirements for the WWPS project site.

0000 0016 1796

The attached site plans, showing the proposed construction staging area and the required additional land, are provided for your review and approval. It is noted that the additional space required reflects your Department's concern and is the minimum required for the project.

Once your Department has reviewed these plans, a meeting can be arranged to discuss the details of this project. Should there be any questions, please contact Mr. Kumar Bhagavan of the Division of Planning & Service Control at 527-5158.

Very truly yours,

STEPHEN T.C. CHING
Chief

Attachments

cc: John Sakaguchi - Wilson Okamoto & Associates

0000 0016 1797

BENJAMIN J. CAYETANO
GOVERNOR

J-344-01

KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
JERRY M. MATSUDA
GLENN M. OKIMOTO

6/5/96

IN REPLY REFER TO:

HAR-PM
4010.96

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HARBORS DIVISION
79 SO. NIMITZ HWY. • HONOLULU, HAWAII 96813-4898

June 4, 1996

Mr. John L. Sakaguchi
Planner
Wilson Okamoto & Associates, Inc.
1907 South Beretania Street
Honolulu, Hawaii 96826

RECEIVED
JUN 5 1996
WILSON OKAMOTO & ASSOC., INC.

Dear Mr. Sakaguchi:

Subject: Hart Street Wastewater Pump Station (WWPS), Preliminary Engineering Report; Temporary Construction Access to Department of Transportation Property (Tax Map Key No. 1-5-34:21) During Rehabilitation

Thank you for your letter of April 16, 1996 requesting temporary access to our property for the purpose of staging the project contractor's materials and equipment adjacent to Hart Street WWPS.

Based on your conversation with our Property Manager, Mr. Derrick Lining, you indicated that the proposed staging area will affect an existing butler type building that is currently occupied by one of our tenants. Since this project will impact our revenues, we request that the City and County of Honolulu, Department of Wastewater Management, contact our office directly to arrange a meeting to discuss the details of this project.

Please contact Mr. Lining at 587-1942 to arrange a meeting with your company and representatives of the Department of Wastewater Management.

Very truly yours,

Thomas T. Fujikawa
Chief

CC: BK BHAGAVAN, DWWM
VIA FAX 6/5/96

0000-0016 1798

3441-01
April 16, 1996

Mr. Maurice Fujimoto, Project Manager
Harbors Division
Department of Transportation
State of Hawaii
79 South Nimitz Highway
Honolulu, Hawaii 96813

Subject: Hart Street (New) Wastewater Pump Station (WWPS), Preliminary Engineering Report; Temporary Construction Access to Department of Transportation Property (Tax Map Key: 1-5-34:21) During Rehabilitation

Dear Mr. Fujimoto:

This letter follows up our conversation regarding the rehabilitation of the Hart Street Wastewater Pump Station (WWPS). As we discussed, Wilson Okamoto and Associates, Inc. is under contract to prepare a Preliminary Engineering Report (PER) for rehabilitation of the Hart Street WWPS. Based on our current planning, the construction contractor must have temporary access to the State of Hawaii Department of Transportation Harbors Division property (Tax Map Key: 1-5-34:21) adjacent to the Hart Street WWPS.

The temporary access will be necessary for a material and equipment staging area during the approximately one-year long construction period. The requested temporary construction access area will be only a portion of the land currently being used by Frank Coluccio Construction Co. for their yard. The attached map shows the property and area involved.

Although at this time a specific schedule for the construction has not been established, temporary access will be critical to undertake the rehabilitation. If there are any constraints to use temporary construction access area, please notify us. We would appreciate it if the Harbors Division would keep the property available for use by the City's contractor and would provide us with any procedures to ensure future availability of the land.

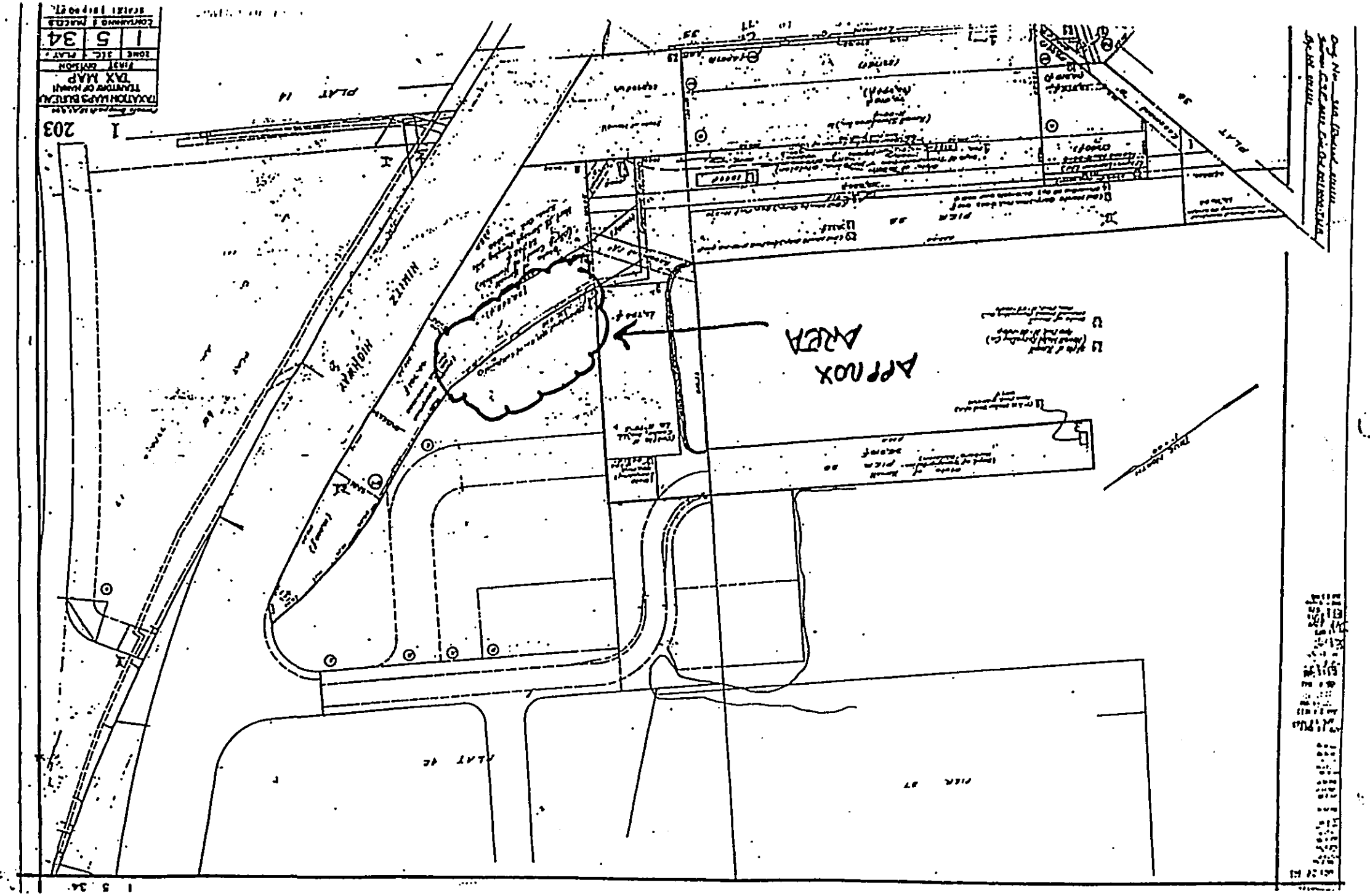
If you have any questions, please call me at 946-2277 or fax to 946-2253.

Sincerely,

John L. Sakaguchi, Planner

Attachment

cc: K. Bhagavan, DWWM
: B+C



0000 0016 1800

APPENDIX B

0000 0016 1801

M F A **MASA FUJIOKA & ASSOCIATES**
A PROFESSIONAL PARTNERSHIP
ENVIRONMENTAL • GEOTECHNICAL • HYDROGEOLOGICAL CONSULTANTS
99-1205 HALAWA VALLEY STREET, SUITE 302 • AIEA, HAWAII 96701-3281
PHONE 808 484-5366 • FAX 808 484-0007

3441-01
FILE

May 1, 1996
96096-012

Wilson Okamoto & Associates, Inc.
P. O. Box 3530
Honolulu, HI 96811

Attention: Mr. John Sakaguchi

Letter Report
Subsurface Investigation
Hart Street Waste Water Pump Station
Pier 35, Honolulu, Oahu, Hawaii

Dear Mr. Sakaguchi:

INTRODUCTION

Masa Fujioka & Associates (MFA) is pleased to submit this letter report which describes the results of our subsurface investigation for this project. The investigation consisted of drilling three exploratory soil borings, installing a groundwater monitoring well, and soil sampling and analysis.

Soil boring HS1 was advanced to 10 feet below ground surface (bgs) in the immediate area of the proposed new electrical room. Soil boring HS2 was advanced to 10 feet below grade in the area of the proposed companion station, and soil boring HS3 was advanced to 10 feet bgs in the immediate area of the proposed pipe route (Figure 1). All three borings encountered strong petroleum odors and elevated organic vapor readings at the groundwater surface (5 feet below grade), and laboratory analyses of soil samples indicate petroleum contamination in all three borings.

SCOPE OF WORK

MFA conducted this subsurface investigation to investigate potential hydrocarbon contamination at the subject site, and to assess the potential impacts of the contamination on planned site construction of the new electrical room, companion station, and pipe conduits. We performed the following tasks:

1. Drilled three exploratory soil borings (HS1, HS2, and HS3) to 10 feet bgs;

2. Collected four soil samples from each boring;

3. Installed a groundwater monitoring well in boring HS3;

4. Submitted two soil samples from each boring for analysis of total petroleum hydrocarbons (TPH) as jet fuel, TPH as gasoline, TPH as diesel, the volatile organics benzene, toluene, ethylbenzene, and xylene (BTEX); polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and total lead;

5. Prepared this letter report detailing soil sample results and providing our recommendations.

DESCRIPTION OF FIELD ACTIVITIES

Field work was performed on February 26 and 27, 1996. Three borings were advanced to 10 feet bgs using MFA's portable hydraulic drill rig. Soil samples were collected from all three borings at depths of 2.5 feet bgs, 5 feet bgs, 7.5 feet bgs, and 10 feet bgs. Boring logs are attached in Appendix A. Soil sampling procedures are described in Appendix B. Chain-of-custody records and laboratory reports are contained in Appendix C.

Measurements of total volatile organic vapor concentrations using a photoionization detector (PID) were taken during the drilling of the soil borings for use in selecting samples for chemical testing. The PID responses are recorded on the boring logs (Appendix A), and sampling techniques are described in Appendix B. Samples were selected for laboratory analyses on the basis of the volatile organic vapor concentrations, i.e., the two samples exhibiting the greatest PID readings were submitted for analysis. Hydrocarbon odors were noted by MFA personnel during drilling and collection of samples in all three borings near the groundwater surface (5 feet bgs) and in all the samples below the groundwater surface. Table 1 (below) contains soil sample descriptions, depths, and field screening results.

Upon completion of borings HS3, a PVC well casing was installed in the boring. Diagrams detailing the well installations are presented in conjunction with the borehole logs in Appendix A.

M F A MASA FUJIOKA & ASSOCIATES
A PROFESSIONAL PARTNERSHIP
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TABLE 1
SOIL SAMPLE DESCRIPTIONS

Sample #	Depth Ft bgs	PID ppm	Description
HS1-2.5	2.5	180	Grey sandy silt, no odor
HS1-5.0	5.0	>2,500	Grey sandy clay and silt, strong-moderate petr. odor
HS1-7.5	7.5	>2,500	Grey sandy clay and silt, moderate petroleum odor
HS1-10	10	>2,500	Grey sandy clay and silt, moderate petroleum odor
HS2-2.5	2.5	0	Reddish tan silty sand, no odor
HS2-5.0	5.0	>2,500	Grey sandy silt, strong to moderate petroleum odor
HS2-7.5	7.5	>2,500	Grey sandy silt w/ occ. coral gravel, mod. petr. odor
HS2-10	10.0	>2,500	Grey sandy clay, moderate petroleum odor
HS3-2.5	2.5	1.5	Grey clayey gravel, no odor
HS3-5.0	5.0	513	Dark grey sandy silt, petroleum odor
HS3-7.5	7.5	53.3	Grey sandy silt, petroleum odor
HS3-10	10.0	32.6	Grey sandy silt, petroleum odor

RESULTS OF LABORATORY ANALYSIS

The soil samples collected for this investigation were delivered to Hawaii Analytical for chemical testing. Samples were tested for TPH as gasoline, TPH as diesel, and TPH as jet fuel in accordance with EPA Method 8015, PAHs in accordance with EPA Method 8270, PCBs in accordance with EPA Method 8080, BTEX by EPA Method 8020, and total lead by EPA method 6010. A summary of chemical test results for soil is presented in Table 2. Laboratory reports of the chemical testing and chain-of-custody records are contained in Appendix C.

Soil contamination was found in all three soil borings. Levels of soil contamination were greater in samples from the capillary fringe zone (groundwater interface) than in the deeper samples below groundwater.

TABLE 2
SUMMARY OF SOIL SAMPLE ANALYTICAL RESULTS

Sample ID	HS1-5	HS1-7.5	HS2-5	HS2-7.5	HS3-5	HS3-7.5
TPH-gasoline	780	97	390	160	890	90
TPH-jet fuel	2,700	46	1,500	570	3,200	200
TPH-diesel	3,000	65	1,300	610	4,400	310
PCBs	ND *	NA	ND *	NA	ND *	NA
PAHs	ND (5)	NA	ND (2.5)	NA	ND (25)	NA
Benzene	ND (.5)	ND (.125)	ND (.5)	ND (.125)	ND (.5)	ND (.125)
Toluene	1.8	ND (.125)	ND (.5)	0.32	2.3	0.16
Ethyl-benzene	2.7	0.39	1.0	0.50	2.1	0.15
Total Xylenes	10	1.2	3.2	1.4	7.1	0.54
Total Lead	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)	ND (50)

Notes:

All results are reported in milligrams per kilogram (mg/kg), equivalent to parts per million (ppm).

ND () = Not detected above the sample-specific reporting limit (given in brackets)

NA = Not Analyzed

* = Reporting limit for PCBs ranged from 0.02 to 0.40 mg/kg.

DISCUSSION

The results of this investigation have indicated the presence of petroleum contamination of soil, at and below the groundwater surface, at several locations at the site. Benzene, PCBs, PAHs, and total lead were not detected above sample reporting limits in any of the soil samples analyzed. Sample reporting limits for these analytes were below DOH Tier 1 action levels. Action levels discussed in this section are taken from DOH's "Risk-Based Corrective Action and Decision Making at Sites with Contaminated Soil and Groundwater" (December 1995), and are for sites with less than 200 cm of rainfall per year and where a drinking water source is not threatened. This category is appropriate for the site as the site receives approximately 60 cm rainfall per year, and is located below (makai of) the UIC line.

TPH-gasoline, TPH-jet fuel, and TPH-diesel were reported in all 6 soil samples obtained during our subsurface investigation. TPH-gasoline was reported at concentrations up to 890 mg/kg, TPH-jet fuel at concentrations up to 3,200 mg/kg, and TPH-diesel at concentrations up to 4,400 mg/kg. The TPH concentrations reported are below the DOH Tier 1 action levels of 2,000 mg/kg for TPH-gasoline and 5,000 mg/kg for TPH-jet fuel and TPH-diesel.

Toluene and xylenes were reported at concentrations up to 2.3 mg/kg and 10 mg/kg, respectively. The reported concentrations are well below current DOH Tier 1 action levels of 34 mg/kg (toluene) and 23 mg/kg (xylenes).

Ethylbenzene, however, was reported at concentrations (2.7, 1.0, and 2.1 mg/kg) greater than the Tier 1 action level of 0.50 mg/kg for the three samples obtained at the groundwater surface.

A diesel UST is used to fuel an emergency generator near the generator building (east corner of the site). However, the greatest concentration of diesel was found in the boring furthest from the diesel tank, which suggests that the diesel UST may not be the source of the diesel contamination. We understand that the City and County of Honolulu Department of Wastewater Management (DWWM) is not aware of any releases from the UST or other sources at the site. Based on our experience, soil and groundwater contamination is widespread in the Iwilei area, and the contamination we encountered at the site may have migrated from offsite.

USTs that fuel emergency generators are subject to the federal regulations for USTs under Title 40 Code of Federal Regulations Part 280, with the exception of Subpart D (Release Detection). However, since no known release from the tank has occurred, and since our experience and the results of our investigation suggest that the diesel UST may not be the source of the diesel contamination encountered, the reporting requirements triggered by a known or apparent release from a UST do not appear to apply to this situation.

The State DOH issued a letter, entitled "General Guidelines for Taking Action in the Course of Encountering Petroleum Contamination during Public Works Activities in Hawaii" and dated April 1, 1991, to the Director and Chief Engineer of the City and County of Honolulu Department of Public Works. In the letter, the DOH recognizes the need to provide guidance and assist in facilitating the completion of construction projects in area wide contamination loactions, which will benefit the public at large in Hawaii.

We have attached the General Guidelines as Appendix D. The document describes basic guidelines for planned public works projects, including sampling of soil and groundwater prior to the start of excavation. The document also requests that the results of sampling and analysis be reported to DOH's Office of Hazard Evaluation and Emergency Response (HEER). We understand that the City and County DWWM has notified the DOH Office of Hazard Evaluation and Emergency Response (HEER) of the soil contamination encountered at the site. DWWM may also wish to forward a copy of this report to HEER.

Excavation and construction work at the site should consider the presence of petroleum contamination of the soil and groundwater. In addition to the risks posed by exposure to petroleum products, jet fuel and diesel contamination provide good conditions for increased subsurface microbial activity and resulting increased methane production.

RECOMMENDATIONS

We recommend that the guidelines in DOH's April 1, 1991 letter be followed with respect to mitigating contamination (see page 2 of the attached guidelines in Appendix D). In particular, Item 2 states that, generally, contaminated soils should not be redeposited into any excavated areas, and that the excavations should be backfilled only with clean soils unless it can be

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demonstrated that clean soils will be recontaminated. Item 2 further states that, in that scenario, the area where contamination of the fill would occur could be backfilled with the contaminated material which was originally excavated. Since the contamination appears to be area-wide, contamination of the clean fill is likely and, therefore, backfilling with the original contaminated material would appear appropriate, provided it is suitable fill material with respect to soils engineering requirements.

Based on laboratory results obtained during this investigation, excavated contaminated soil that cannot be reutilized during construction could likely be disposed of at a local treatment facility, such as Nanakuli Soil Reclamation (bioremediation) Facility. Additional testing of the soil may be required prior to disposal.

Item 3 states that if the activity undertaken requires dewatering, any contaminated ground water pumped out must be treated, stored, or disposed of in accordance with all applicable State and Federal requirements. Since the soil exceeds ethylbenzene action levels, groundwater will likely require treatment prior to discharge to receiving waters during dewatering operations. The dewatering treatment design should consider the occurrence of petroleum contamination.

Subsurface petroleum contamination may also provide a risk to human health after completion of construction. Hydrocarbon vapors may enter buildings where they may be inhaled by workers, or may provide an explosive risk. These factors should be considered in the construction and operation of the facility.

We further recommend the following actions for any work involving excavation at the site:

1) Preparation of a site specific health and safety plan (SSHP) addressing the potential hazards associated with the excavation activities on the property. The SSHP should incorporate the information obtained during this investigation regarding the subsurface conditions in the work area, including the risks due to inhalation and contact with petroleum products, and the risks of explosion due to petroleum volatiles and methane.

2) Performance of on-site soil monitoring during excavation activities by heavy equipment, particularly for excavation at or below the groundwater table. All mass excavated soils should be investigated and screened for the presence of organic vapors as petroleum using a PID and a flame ionization detector (FID) for methane detection. Trenches and other excavations should be monitored with both PID and FID. The purpose of the soil screening activities would be to quickly and inexpensively assess the extent of volatile hydrocarbon contamination and to initially segregate contaminated soils from clean soils.

3) Segregated contaminated soils can be stored in a plastic-lined, bermed, soil management unit (SMU) until disposal or treatment options are determined. Appropriate areas for temporary stockpiling should be identified prior to the excavation work to minimize construction delays while awaiting laboratory testing and disposal arrangements. Alternately, areas planned for excavation could be characterized in place prior to the excavation work to expedite disposal and limit on-site storage.

4) On site worker health & safety monitoring should be performed in the worker breathing zones of all site personnel while excavation or work in trenches is in progress. Monitoring should be for the presence of organic vapors using a PID and FID.

5) If air monitoring results indicate the presence of contaminant concentrations in ambient air exceeding exposure limits listed in the SSHP, the equipment operators should have 40 hour Hazwopper training, as specified by the Occupational Safety and Health Administration, Title 29 Code of Federal Regulations Section 1910.120 (e).

-oOo-

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The following attachments complete this report:

Figure 1	Site Plan
Appendix A	Boring Logs
Appendix B	Field Proceedures
Appendix C	Laboratory Results and Chain of Custody Documentation
Appendix D	General Guidelines for Taking Action in the Course of Encountering Petroleum Hydrocarbon Contamination during Public Works Activities in Hawaii

It has been a pleasure to prepare this report for you. Please contact us at 484-5366 if there are any questions regarding this report.

Respectfully submitted,

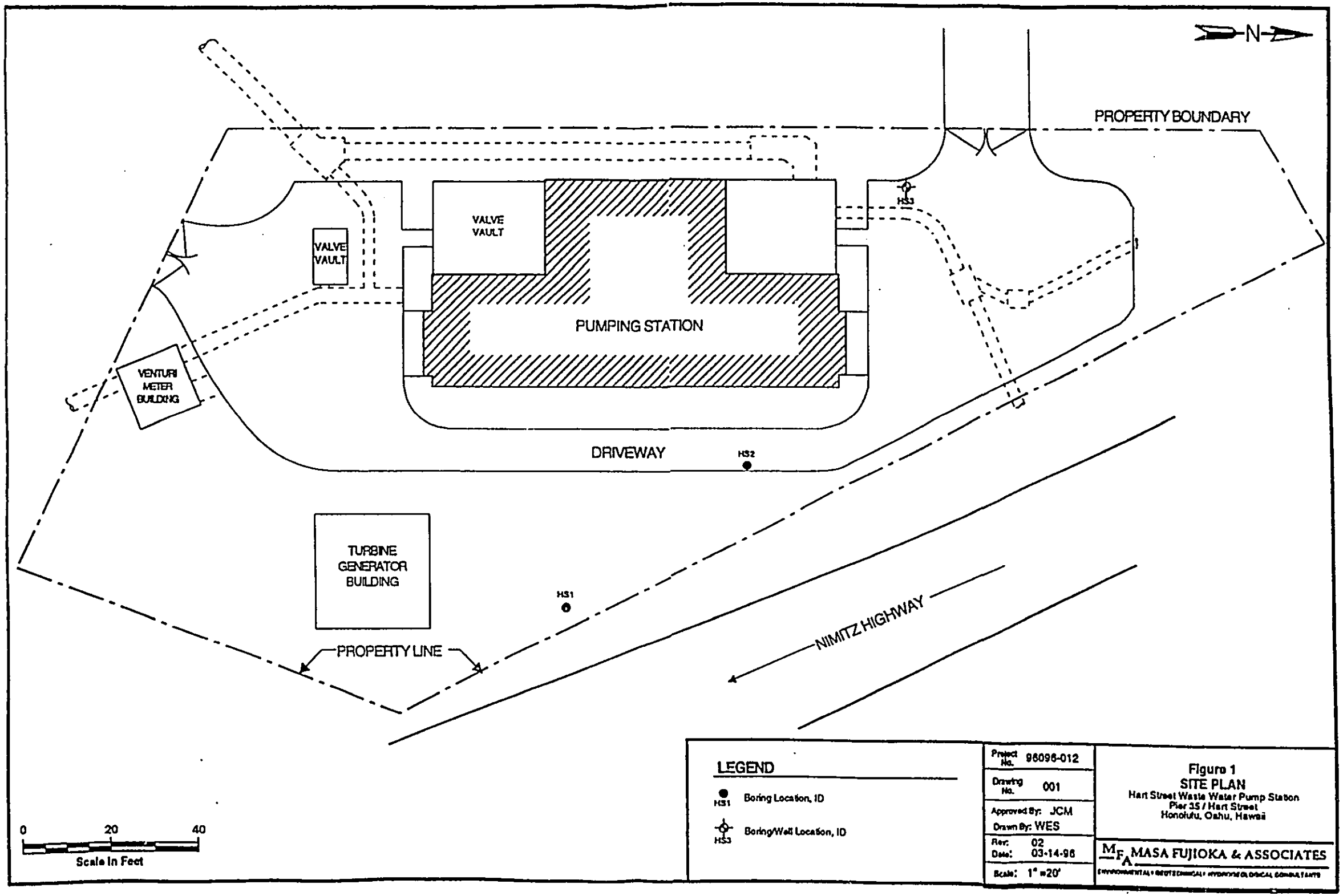
MASA FUJIOKA & ASSOCIATES
A Professional Partnership

Janice C. Marsters

Janice C. Marsters
Associate

JCM: jbg

Three (3) copies submitted


N
PROPERTY BOUNDARY
VALVE VAULT
VALVE VAULT
PUMPING STATION
HS3
VENTURI METER BUILDING
DRIVEWAY
HS2
TURBINE GENERATOR BUILDING
HS1
PROPERTY LINE
NIMITZ HIGHWAY
0
20
40
Scale in Feet
LEGEND
HS1 Boring Location, ID
HS3 Boring/Well Location, ID
Project No. 96096-012
Drawing No. 001
Approved By: JCM
Drawn By: WES
Rev: 02
Date: 03-14-96
Scale: 1" =20'
Figure 1
SITE PLAN
Hart Street Waste Water Pump Station
Pier 35 / Hart Street
Honolulu, Oahu, Hawaii
MFA MASA FUJIOKA & ASSOCIATES

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APPENDIX A

Boring Logs

0000 0016 1812

BORING: HS-1

DRILLING DATE: February 26,1996
SAMPLING METHOD: Drive Sampler/ Hand Auger
DRILLING METHOD: Solid Stem Auger
HAMMER TYPE: Slide

Depth (ft)	SAMPLE DATA: Blows/ 6"	Oraganic Vapor Reading (ppm)	Sample Depth (ft)	Sample ID	SOIL TYPE: Symbols	USCS	Description
0							0 to 2.5 Light brown to tan silty sand with traces of clay, numerous plant roots and gravel sized coral fragments, loose, no odor
1						SM	
2							
3	25	180	2.5	HS1-2.5			2.5 to 11.0 Grey sandy silt with traces of clay and gravel sized coral fragments Slighty moist, medium dense, no odor
4							
5							Saturated after 5.5' , moderate to strong petroleum odor
6	16	> 2,500	5.0	HSI-5.0	▽		
7							
8	19	> 2,500	7.5	HS1-7.5		ML	Moderate petroleum odor
9							
10		> 2,500	10.0	HS1-10.0			Moderate petroleum odor
11							Total Depth = 11.0 '
12							
13							Note: Classifications based on visual observations.
14							

LEGEND:

- Sample for Physical Description
- Sample for Laboratory Analysis
- Sample attempted, but no recovery

BORING LOG
Hart Street Waste Water Pump Station
Pier 35
Honolulu, Oahu, Hawaii
Job # 96096-012

MFA MASA FUJIOKA & ASSOCIATE

0000 0016 1813

BORING: HS-2

DRILLING DATE: February 26,1996
SAMPLING METHOD: Drive Sampler/ Hand Auger
DRILLING METHOD: Solid Stem Auger
HAMMER TYPE: Slide

Depth (ft)	Blows/ 6"	Oraganic Vapor Reading (ppm)	Sample Depth (ft)	Sample ID	Symbols	USCS	Description
0							0 to 3" Asphalt
1							3" to 5.0 Tan silty sand with numerous gravel sized coral and shell fragments
2							
3	29	0	2.5	HS2-2.5		SM	Reddish tan , slighty moist, medium dense, no odor
4							
5	23	> 2,500	5.0	HS2-5.0		▽	Saturated after 5.5' , moderate to strong petroleum odor
6						ML	5.0 to 9.0 Grey sandy silt with numerous gravel sized coral fragments,
7		> 2,500	7.5	HS2-7.5			Saturated, moderate petroleum odor
8							
9							
10		> 2,500	10.0	HS1-10.0		CL	9.0 to 11.0 Grey sandy clay with coarse sand to gravel sized coral and shell fragments
11							Saturated, moderate petroleum odor
12							Total Depth = 11.0 '
13							Note: Classifications based on visual observations.
14							

LEGEND:

- Sample for Physical Description
- Sample for Laboratory Analysis
- Sample attempted, but no recovery

BORING LOG
Hart Street Waste Water Pump Station
Pier 35
Honolulu, Oahu, Hawaii
Job # 96096-012

MFA MASA FUJIOKA & ASSOCIATES

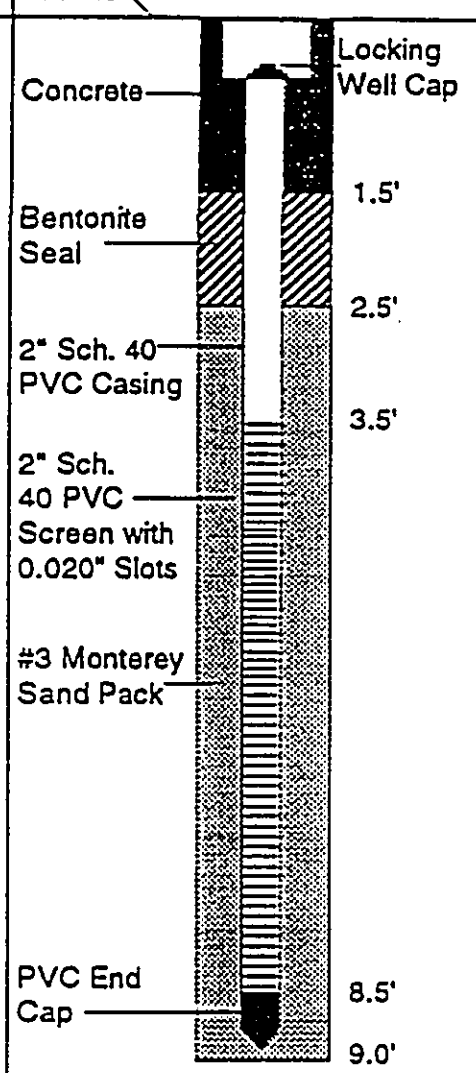
0000 00 16 18 14

BORING/WELL: HS-3

DRILLING DATE: February 27,1996
SAMPLING METHOD: Drive Sampler/ Hand Auger
DRILLING METHOD: Solid Stem Auger
HAMMER TYPE: Slide

Depth (ft)	Blows/ 6"	Oraganic Vapor Reading (ppm)	Sample Depth (ft)	Sample ID	Symbols	USCS	Description
0							0 to 0.25' Asphalt
1							0.25 to 5' Coral gravel with clay and silt, no odor.
2						GM	
3		1.5	2.5	HS3-2.5			
4							
5		513	5.0	HS3-5.0			5.0 to 11.0' Dark grey sandy silt, saturated after 5.5' Moderate to strong petroleum odor
6							
7		53.3	7.5	HS3-7.5		ML	Moderate petroleum odor.
8							
9							
10		32.6	10.0	HS3-10.0			Moderate petroleum odor.
11							Total Depth = 11.0'
12							
13							Note: Classifications based on visual observations.
14							

WELL SCHEMATIC



LEGEND:

- Sample for Physical Description
- Sample for Laboratory Analysis
- Sample attempted, but no recovery

G = Grab sample

BORING/WELL LOG

Hart Street Waste Water Pump Station
Pier 35
Honolulu, Oahu, Hawaii
Job # 96096-012

MFA MASA FUJIOKA & ASSOCIATES

APPENDIX B

Field Proceedures

Field Proceedures

Soil Sampling

Soil samples were collected using a 12-pound slide/hammer sampler. Samples were collected by driving the sampler into undisturbed soil at the bottom of the borehole. The sampler was fitted with removable brass sleeves in which the soil samples were obtained. The brass sleeves containing the soil samples were sealed by placing teflon liners and plastic caps over the ends of the sleeves. The samples were then labeled, placed in ziploc bags and stored in a cooler containing blue ice. Selected samples were sent in a cooler to the analytical testing laboratory. Chain-of-custody procedures were followed during the transfer of samples to the laboratory.

Measurements of total volatile organic vapor concentrations using a photoionization detector (PID) were taken during the drilling of the soil borings for use in selecting samples for chemical testing. To obtain the measurements, soil from one of the extra rings used in sampling was placed in a ziploc bag and sealed with an equal volume of air. The bagged samples were allowed to sit for at least 15 minutes to allow the vapor concentrations in the soil and air to come to equilibrium. A sample of the equilibrated air from the bagged sample was then drawn into a field PID. PID readings were recorded on the boring logs.

All sampling equipment was cleaned before and after collection of each sample to mitigate boring and crosshole contamination. Decontamination of the sampling equipment was performed by washing in a solution of Liquinox and water, rinsing in clean water, and rinsing a second time in distilled water. In addition, drilling equipment was washed in a solution of Liquinox and water and pressure washed before each boring to reduce the potential of crosshole contamination.

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Monitoring Well Installation

Upon completion of boring HS3, a 2-inch diameter schedule 40 PVC well casing was installed in the boring. The casing consisted of 5 feet of slotted screen (0.020-inch slot width) and 3.5 feet of unslotted PVC casing. A schematic of the well construction is shown on the boring log in Appendix A. Pre-slotted, flush joint casing was used and a flush-threaded end cap was placed on the bottom of the slotted screen. Cements or adhesives were not used in any of the casing joints. An airtight, locking cap was placed on the top of the well. Clean Monterey sand was placed in the annular space between the borehole and the PVC casing to at least one foot above the screened PVC. A bentonite seal, approximately 2-foot thick, was placed in the annulus above the sand, and the remaining annular space, from the top of the bentonite seal to ground surface, was filled with a cement/bentonite grout.

0000 0016 1818

APPENDIX C

Laboratory Reports
Chain of Custody Documentation

0000 0016 1819

Hawaii Analytical

3375 Koapaka Street, Suite H465
Honolulu, Hawaii 96819
Phone: 808•839-1443 Fax: 808•839-1536

Masa Fujioka & Associates	Client Project ID: 95096-012, Hart Street WWPS	Sampled: Feb 26-27, 1996
99-1205 Halawa Valley St., Ste. 302	Sample Matrix: Solid	Received: Feb 27, 1996
Alea, HI 96701-3281	Analysis Method: EPA 5030/8015 Mod./8020	Reported: Mar 12, 1996
Attention: Janice Marsters	First Sample #: 602-0201	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/kg	Sample I.D. 602-0201 HS1-5	Sample I.D. 602-0202 HS1-7.5	Sample I.D. 602-0203 HS2-5	Sample I.D. 602-0204 HS2-7.5	Sample I.D. 602-0205 HS3-5	Sample I.D. 602-0206 HS3-7.5
Purgeable Hydrocarbons	1.0	780	97	390	160	890	90
Benzene	0.0050	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
Toluene	0.0050	1.8	N.D.	N.D.	0.32	2.3	0.16
Ethyl Benzene	0.0050	2.7	0.39	1.0	0.50	2.1	0.15
Total Xylenes	0.0050	10	1.2	3.2	1.4	7.1	0.54
Chromatogram Pattern:		Unidentified Hydrocarbons > C7	Unidentified Hydrocarbons > C7	Unidentified Hydrocarbons > C7	Unidentified Hydrocarbons > C7	Unidentified Hydrocarbons > C7	Unidentified Hydrocarbons > C7

Quality Control Data

Report Limit Multiplication Factor:	100	25	100	25	100	25
Date Analyzed:	3/4/96	3/4/96	3/4/96	3/4/96	3/4/96	3/4/96
Instrument Identification:	GCHP18	GCHP18	GCHP18	GCHP18	GCHP18	GCHP18
Surrogate Recovery, %: (QC Limits = 70-130%)	87	82	85	90	99	82

Purgeable Hydrocarbons are quantitated against a fresh gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

HAWAII ANALYTICAL

Dirk Koeppenkastrop, Ph.D.
Laboratory Director

0000 0016 1820

Hawaii Analytical

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Honolulu, Hawaii 9681
Phone: 808•839-1443 Fax: 808•839-153

Masa Fujioka & Associates	Client Project ID: 95096-012, Hart Street WWPS	Sampled: Feb 26-27, 1996
99-1205 Halawa Valley St., Ste. 302	Sample Matrix: Solid	Received: Feb 27, 1996
Aiea, HI 96701-3281	Analysis Method: EPA 3550/8015 Mod.	Reported: Mar 12, 1996
Attention: Janice Marsters	First Sample #: 602-0201	

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit mg/kg	Sample I.D. 602-0201 HS1-5	Sample I.D. 602-0202 HS1-7.5	Sample I.D. 602-0203 HS2-5	Sample I.D. 602-0204 HS2-7.5	Sample I.D. 602-0205 HS3-5	Sample I.D. 602-0206 HS3-7.5
Extractable Hydrocarbons	1.0	3000	65	1300	610	4400	310
Chromatogram Pattern:		Unidentified Hydrocarbons C9-C24	Unidentified Hydrocarbons C9-C24	Unidentified Hydrocarbons C9-C24	Diesel & Unidentified Hydrocarbons C9-C14	Diesel & Unidentified Hydrocarbons C9-C13	Unidentified Hydrocarbons C9-C24

Quality Control Data

Report Limit Multiplication Factor:	50	2.0	20	10	100	20
Date Extracted:	3/4/96	3/4/96	3/4/96	3/4/96	3/4/96	3/4/96
Date Analyzed:	3/5/96	3/6/96	3/5/96	3/6/96	3/6/96	3/6/96
Instrument Identification:	GCHP4B	GCHP5A	GCHP5B	GCHP5A	GCHP5A	GCHP5A

Extractable Hydrocarbons are quantitated against a fresh diesel standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

HAWAII ANALYTICAL

Dirk Koeppenkastrop, Ph.D.
Laboratory Director

0000 0016 1821

Hawaii Analytical

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Masa Fujioka & Associates
99-1205 Halawa Valley St., Ste. 302
Aiea, HI 96701-3281
Attention: Janice Marsters

Client Project ID: 95096-012, Hart Street WWPS
Sample Matrix: Solid
Analysis Method: EPA 3550/8015 Mod.
First Sample #: 602-0201

Sampled: Feb 26-27, 1996
Received: Feb 27, 1996
Reported: Mar 12, 1996

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit mg/kg	Sample I.D. 602-0201 HS1-5	Sample I.D. 602-0202 HS1-7.5	Sample I.D. 602-0203 HS2-5	Sample I.D. 602-0204 HS2-7.5	Sample I.D. 602-0205 HS3-5	Sample I.D. 602-0206 HS3-7.5
Extractable Hydrocarbons as Jet Fuel	1.0	2700	46	1500	570	3200	200
Chromatogram Pattern:		Jet Fuel	Unidentified Hydrocarbons C9-C17	Jet Fuel	Jet Fuel	Unidentified Hydrocarbons C9-C17	Unidentified Hydrocarbons C9-C17

Quality Control Data

Report Limit Multiplication Factor:	50	2.0	20	10	100	20
Date Extracted:	3/4/96	3/4/96	3/4/96	3/4/96	3/4/96	3/4/96
Date Analyzed:	3/5/96	3/6/96	3/5/96	3/6/96	3/6/96	3/6/96
Instrument Identification:	GCHP4B	GCHP5A	GCHP5B	GCHP5A	GCHP5A	GCHP5A

Extractable Hydrocarbons are quantitated against a fresh diesel standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

HAWAII ANALYTICAL

Dirk Koeppenkastrop, Ph.D.
Laboratory Director

0000 00 16 1822

Hawaii Analytical

3375 Koapaka Street, Suite H-465
Honolulu, Hawaii 96819
Phone: 808-839-1443 Fax: 808-839-1536

Masa Fujioka & Associates	Client Project ID: 95096-012, Hart Street WWPS	Sampled: Feb 26-27, 1996
99-1205 Halawa Valley St., Ste. 302	Sample Matrix: Solid	Received: Feb 27, 1996
Aiea, HI 96701-3281	Analysis Method: EPA 8270	Extracted: Mar 5, 1996
Attention: Janice Marsters	First Sample #: 602-0201	Reported: Mar 12, 1996

Polynuclear Aromatic Hydrocarbons (EPA 8270)

Analyte	Reporting Limit mg/L	Sample I.D. 602-0201 HS1-5	Sample I.D. 602-0203 HS2-5	Sample I.D. 602-0205 HS3-5
Acenaphthene	0.25	N.D.	N.D.	N.D.
Benzo(a)pyrene	0.25	N.D.	N.D.	N.D.
Fluoranthene	0.25	N.D.	N.D.	N.D.
Naphthalene	0.25	N.D.	N.D.	N.D.

Surrogates	Control Limits %	% Recovery	% Recovery	% Recovery
2-Fluorophenol	25-121%	*	*	*
Phenol-d5	24-113%	*	*	*
Nitrogenzene-d5	23-120%	*	*	*
2-Fluorobiphenyl	30-115%	*	*	*
2,4,6-Tribromoph	19-122%	*	*	*
p-Terphenyl-d14	18-137%	*	*	*

Quality Control Data

Report Limit Multiplication Factor:	20	10	100
Date Analyzed:	3/6/96	3/6/96	3/6/96
Instrument Identification:	F4	F4	F4

Analytes reported as N.D. were not detected above the stated reporting limit.

HAWAII ANALYTICAL

Dirk Koeppenkastrop, Ph.D.
Laboratory Director

Please Note:
*Surrogates diluted out.

0000 0016 1823

Hawaii Analytical

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Masa Fujioka & Associates	Client Project ID: 95096-012, Hart Street WWPS	Sampled: Feb 26-27, 1996
99-1205 Halawa Valley St., Ste. 302	Sample Matrix: Solid	Received: Feb 27, 1996
Alea, HI 96701-3281	Analysis Method: EPA 8080	Extracted: Mar 5, 1996
Attention: Janice Marsters	First Sample #: 602-0201	Reported: Mar 12, 1996

Polychlorinated Biphenyls (EPA 8080)

Analyte	Reporting Limit mg/L	Sample I.D. 602-0201 HS1-5	Sample I.D. 602-0203 HS2-5	Sample I.D. 602-0205 HS3-5
PCB 1016	0.020	N.D.	N.D.	N.D.
PCB 1221	0.080	N.D.	N.D.	N.D.
PCB 1232	0.020	N.D.	N.D.	N.D.
PCB 1242	0.020	N.D.	N.D.	N.D.
PCB 1248	0.020	N.D.	N.D.	N.D.
PCB 1254	0.020	N.D.	N.D.	N.D.
PCB 1260	0.020	N.D.	N.D.	N.D.

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	5.0
Date Analyzed:	3/6/96	3/5/96	3/7/96
Instrument Identification:	GCHP12	GCHP12	GCHP12

Analytes reported as N.D. were not detected above the stated reporting limit.

HAWAII ANALYTICAL

Dirk Koeppenkastrop, Ph.D.
Laboratory Director

0000 0016 1824

Hawaii Analytical

3375 Koapaka Street, Suite H465
Honolulu, Hawaii 96819
Phone: 808•839-1443 Fax: 808•839-1536

Masa Fujioka & Associates
99-1205 Halawa Valley St., Ste. 302
Aiea, HI 96701-3281
Attention: Janice Marsters

Client Project ID: 95096-012, Hart Street WWPS
Matrix: Solid
QC Sample Group: 6020201-0206
Reported: Mar 12, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Benzene	Toluene	Ethyl Benzene	Xylenes	TEPH Diesel
Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M
Analyst:	DJ	DJ	DJ	DJ	BA
MS/MSD Batch#:	9602159-01	9602159-01	9602159-01	9602159-01	9602175-1
Date Prepared:	3/4/96	3/4/96	3/4/96	3/4/96	2/29/96
Date Analyzed:	3/4/96	3/4/96	3/4/96	3/4/96	3/1/96
Instrument I.D.#:	GCHP22	GCHP22	GCHP22	GCHP22	GCHP4A
Conc. Spiked:	0.20 mg/kg	0.20 mg/kg	0.20 mg/kg	0.60 mg/kg	25 mg/Kg
Matrix Spike % Recovery:	95	95	100	98	88
Matrix Spike Duplicate % Recovery:	95	95	100	98	88
Relative % Difference:	0.0	0.0	0.0	0.0	0.0
LCS Batch#:	GBLK030496BS	GBLK030496BS	GBLK030496BS	GBLK030496BS	BLK030496
Date Prepared:	3/4/96	3/4/96	3/4/96	3/4/96	3/4/96
Date Analyzed:	3/4/96	3/4/96	3/4/96	3/4/96	3/5/96
Instrument I.D.#:	GCHP22	GCHP22	GCHP22	GCHP22	GCHP5B
LCS % Recovery:	95	95	100	97	84
% Recovery Control Limits:	50-150	50-150	50-150	50-150	50-150

HAWAII ANALYTICAL

Dirk Koeppenkastrop, Ph.D.
Laboratory Director

Please Note:
The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

0000.0016 1825

Hawaii Analytical

3375 Koapaka Street, Suite H465
Honolulu, Hawaii 96819
Phone: 808•839-1443 Fax: 808•839-1536

Masa Fujioka & Associates
99-1205 Halawa Valley St., Ste. 302
Aiea, HI 96701-3281
Attention: Janice Marsters

Client Project ID: 95096-012, Hart Street WWPS
Matrix: Solid

QC Sample Group: 6020201, 0203, 0205

Reported: Mar 12, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	1,4-Dichloro-benzene	N-Nitroso-Di-N-propylamine	1,2,4-Trichloro-benzene	Acenaphthene	2,4-Dinitro-toluene	Pyrene	PCB 1260
Method:	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8270	EPA 8080
Analyst:	BP	BP	BP	BP	BP	BP	GG
MS/MSD Batch#:	9603049-01	9603049-01	9603049-01	9603049-01	9603049-01	9603049-01	P9602189-01
Date Prepared:	3/4/96	3/4/96	3/4/96	3/4/96	3/4/96	3/4/96	3/1/96
Date Analyzed:	3/6/96	3/6/96	3/6/96	3/6/96	3/6/96	3/6/96	3/4/96
Instrument I.D.#:	H5	H5	H5	H5	H5	H5	GCHP12
Conc. Spiked:	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg	3300 µg/Kg	83 µg/Kg
Matrix Spike % Recovery:	79	109	76	85	73	85	81
Matrix Spike Duplicate % Recovery:	91	127	91	94	88	94	81
Relative % Difference:	14	15	18	10	19	10	0.0
LCS Batch#:	SB0304BS	SB0304BS	SB0304BS	SB0304BS	SB0304BS	SB0304BS	BLK030596
Date Prepared:	3/4/96	3/4/96	3/4/96	3/4/96	3/4/96	3/4/96	3/5/96
Date Analyzed:	3/5/96	3/5/96	3/5/96	3/5/96	3/5/96	3/5/96	3/5/96
Instrument I.D.#:	H5	H5	H5	H5	H5	H5	GCHP12
LCS % Recovery:	76	88	85	79	70	73	70
% Recovery Control Limits:	30-120	30-120	40-120	50-140	40-130	50-115	40-120

HAWAII ANALYTICAL

Dirk Koeppenkastrop, Ph.D.
Laboratory Director

Please Note:
The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

0000 0016 1826

Hawaii Analytical

3375 Koapaka Street, Suite H465
Honolulu, Hawaii 96819
Phone: 808•839-1443 Fax: 808•839-1536

Masa Fujioka & Associates
99-1205 Halawa Valley St., Ste. 302
Aiea, HI 96701-3281
Attention: Janice Marsters

Client Project ID: 95096-012, Hart Street WWPS

Reported: Mar 12, 1996

LABORATORY NARRATIVE

NOTES:

PAHs EPA 8270: Samples were diluted due to non-target petroleum hydrocarbons.

TPPH Gas/BTEX: All samples required dilution due to the presence of target and non-target compounds.

TEPH as Diesel and Jet Fuel: All samples required dilution due to presence of target and non-target compounds.

HAWAII ANALYTICAL

Dirk Koeppenkastrop, Ph.D.
Laboratory Director

0000 0016 1827

Work Order #: 9602070

Sample Receipt Checklist/Problem Chain of Custody

...n of Custody:	Present ☑	Absent ☐		
...C properly completed:	Yes ☑	No ☐		
...ple Labels Present:	Yes ☑	No ☐		
...s Information on COC and and Sample Labels Agree:	Yes ☑	No ☐		
...er Preservatives Used: (If not preserved according to SOP#'s 205-208 see comments)	Yes ☑	No ☐		
...ple Condition:	Intact ☑	Broken ☐	Leaking ☐	
...ple Received on ice:	Yes ☑	No ☐		

...perature upon receipt 4 °C

...Bill:	Present ☐	Absent ☑

...Bill #: NA

...tody Seal(s):	Present ☐	Absent ☑

...tody Seal #'s NA

...e/Time Received: 2-27-96 / 1340 Employee Sheila

...mments/Problems: None

...solution:

...M. Signature: [signature] Date/Time: 2/27/96 142

CHAIN-OF-CUSTODY RECORD 4602070

ing Well ber	Sample Number	Date of Collection	Time	Sample Type	Depth	Container Type	TPH-Gas/BTEX	TPH-Diesel	TRPH (418.1)	PCBs	PAHs	8010/601	8240/624	8270/625	Total Lead	Total Cadmium	Asbestos	TCLP Metals	TCLP Volatiles	TCLP Semi-Vols	TCLP Pesticides	Reactivity	Corrosivity	Ignitability	TPH Jet Fuel		NOTES:	Total Number Of Containers
S1	5	2-26	10:05	Soil	5'	brass	X	X		X	X				*										X		6020201	2
S1	7.5	"		"	7.5'	"	X	X							*										X		202	1
S2	5	"		"	5'	"	X	X		X	X				*										X		203	2
S2	7.5	"		"	7.5'	"	X	X							*										X		204	1
S3	5	2-27	9:00	Soil	5'	brass	X	X		X	X				*										X		205	1
S3	7.5	"	9:20	"	7.5'	"	X	X							*										X		206	1

LINQUISHED BY: (Signature) [signature] DATE/TIME 2-27-96 RECEIVED BY: (Signature) [signature] DATE/TIME 2/29/96

LINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature) S. GRACE DATE/TIME

LINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature) DATE/TIME

ALYTICAL LABORATORY: Hawaii Analytical

BORATORY CONTACT:

A CONTACT: Janice Marsters

LABORATORY NOTES:
140p

* analyte added 3/28/96
(total lead)

JOB NO: 95096-012 SHEET 1 OF 1

PROJECT Hart St. WWPS

LOCATION

COLLECTOR MLW DATE OF COLLECTION 2-26, 27-96

MASA FUJIOKA & ASSOCIATES
99-1205 Halawa Valley Street, Suite 302
Aiea, Hawaii 96701-3281
Phone 808 484-5366 • Fax 808 484-0007

0000 0016 1828

0000 0016 1829

Hawaii Analytical

3375 Koapaka Street, Suite H465
Honolulu, Hawaii 96819
Phone: 808•839-1443 Fax: 808•839-1536

Masa Fujioka & Associates
99-1205 Halawa Valley, Ste. 302
Aiea, HI 96701
Attention: Janice Marsters

Client Project ID: Hart St. WWPS, 95096-012
Sample Descript: Soil
Analysis for: Total Lead, EPA 6010
First Sample #: 602-0201

Sampled: Feb 26-27, 1996
Received: Feb 27, 1996

Analyzed: Apr 2, 1996
Reported: Apr 3, 1996

LABORATORY ANALYSIS FOR: Total Lead, EPA 6010

Sample Number	Sample Description	Detection Limit mg/kg	Sample Result mg/kg
602-0201	HS1-5	50	N.D.
602-0202	HS1-7.5	50	N.D.
602-0203	HS2-5	50	N.D.
602-0204	HS2-7.5	50	N.D.
602-0205	HS3-5	50	N.D.
602-0206	HS3-7.5	50	N.D.

Analytes reported as N.D. were not present above the stated limit of detection.

HAWAII ANALYTICAL

Dirk Koeppenkastrop, Ph.D.
Laboratory Director

6020201 MMM <1>

0000 00 16 1830

Hawaii Analytical

3375 Koapaka Street, Suite H46
Honolulu, Hawaii 96819
Phone: 808•839-1443 Fax: 808•839-1537

Masa Fujioka & Associates
99-1205 Halawa Valley, Ste. 302
Aiea, HI 96701
Attention: Janice Marsters

Client Project ID: Hart St. WWPS, 95096-012
Matrix: Solid

QC Sample Group: 6020201-0206

Reported: Apr 3, 1996

QUALITY CONTROL DATA REPORT

ANALYTE	Beryllium	Cadmium	Chromium	Nickel
Method:	EPA 6010	EPA 6010	EPA 6010	EPA 6010
Analyst:	CM	CM	CM	CM
MS/MSD Batch#:	9603166-1	9603166-1	9603166-1	9603166-1
Date Prepared:	4/1/96	4/1/96	4/1/96	4/1/96
Date Analyzed:	4/1/96	4/1/96	4/1/96	4/1/96
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2
Conc. Spiked:	100 mg/Kg	100 mg/Kg	100 mg/Kg	100 mg/Kg
Matrix Spike % Recovery:	94	93	85	82
Matrix Spike Duplicate % Recovery:	93	92	86	82
Relative % Difference:	1.1	1.1	1.0	0.0
LCS Batch#:	BLK040196	BLK040196	BLK040196	BLK040196
Date Prepared:	4/1/96	4/1/96	4/1/96	4/1/96
Date Analyzed:	4/1/96	4/1/96	4/1/96	4/1/96
Instrument I.D.#:	MTJA2	MTJA2	MTJA2	MTJA2
LCS % Recovery:	100	99	100	99
% Recovery Control Limits:	75-125	75-125	75-125	75-125

Please Note:
The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

HAWAII ANALYTICAL

Dirk Koeppenkastrop, Ph.D.
Laboratory Director

CHAIN OF CUSTODY RECORD

Boring or Well Number	Sample Number	Date of Collection	Time	Sample Type	Depth	Container Type	TPH-Gas/BTEX	TPH-Diesel	TRPH (418.1)	PCBs	PAHs	8010/8011	8240/8024	8270/625	Total Lead	Total Cadmium	Asbestos	TCLP Metals	TCLP Volatiles	TCLP Semi-Vols	TCLP Pesticides	Reactivity	Corrositivity	Ignitability	TPH Jet Fuel	NOTES:	Total Number Of Containers
HS1	5	2-26	10:05	Soil	5'	brass	X	X		X	X				*									X		6020/7421	2
HS1	7.5	"		"	7.5'	"	X	X							*									X		202	1
HS2	5	"		"	5'	"	X	X		X	X				*									X		203	2
HS2	7.5	"		"	7.5'	"	X	X							*									X		204	1
HS3	5	2-27	9:00	Soil	5'	brass	X	X		X	X				*									X		205	1
HS3	7.5	"	9:20	"	7.5'	"	X	X							*									X		206	1

RELINQUISHED BY: (Signature) DATE/TIME 2-27-96 RECEIVED BY: (Signature) DATE/TIME 2/27/96

RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature) DATE/TIME

RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature) DATE/TIME

ANALYTICAL LABORATORY: Hawaii Analytical

LABORATORY CONTACT:

MFA CONTACT: Janice Marsters

LABORATORY NOTES:

140P

* analyte added 3/28/96
(total lead)

JOB NO: 95096-012 SHEET 1 OF 1

PROJECT Hart St. WW PS

LOCATION

COLLECTOR MLW DATE OF COLLECTION 2-26,27-96

MASA FUJIOKA & ASSOCIATES
99-1205 Halawa Valley Street, Suite 302
Aiea, Hawaii 96701-3281
Phone 808 484-5366 • Fax 808 484-0007

WHITE COPY: Return to MFA YELLOW COPY: Laboratory Copy PINK COPY: Field Copy

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APPENDIX D

General Guidelines for Taking Action in the Course of Encountering Petroleum Hydrocarbon Contamination during Public Works Activities in Hawaii

GENERAL GUIDELINES FOR TAKING ACTION IN THE COURSE OF ENCOUNTERING PETROLEUM HYDROCARBON CONTAMINATION DURING PUBLIC WORKS ACTIVITIES IN HAWAII

Hawaii State Department of Health

PURPOSE: To provide guidance and assist in facilitating the completion of non-emergency (e.g. regular construction other than sewer or water main breaks) construction projects in area wide petroleum contamination locations, which will benefit the public at large in Hawaii. The definition of area wide petroleum contamination, within the context of this discussion, is vertical and horizontal contamination which crosses property boundaries and the source of which is unknown.

DOH Recommends that public works project managers follow these basic guidelines for each public works project planned:

1. Conduct a public records search of pertinent information on sources or potential sources of petroleum products where the activity is planned. This includes reviewing the publicly available records of both public and private entities and properties, including adjacent properties. This information will give some indication of the possible nature and extent of contamination. The search is limited exclusively to public records and does not include search of confidential, proprietary, or private records.

2. If the results of record searches do not identify the source(s) or the extent of the hazard posed by the contaminants, a draft site characterization sampling plan should be submitted for review. DOH may comment on the draft to address technical concerns and the plan should then be finalized.

3. If contamination is suspected but possible source(s) of contamination not determined, environmental measurements to determine the sources(s) should be conducted.

4. Water and soils that may be contaminated should be sampled and tested for contaminants. The test locations would be positioned to correlate with boring locations as a cost saving mechanism. This would enable characterization of the problem before major excavation begins. Sampling and testing should be conducted according to the final sampling plan.

5. If the source of contamination originates from adjacent properties or from underground storage tanks, the DOH will pursue appropriate action.

6. Results of the sampling and analyses should be reported to DOH's Office or Hazard Evaluation and Emergency Response at (808) 543-8249.

7. Depending on the extent of the problem, a written plan may be required to use the following guidelines.

In mitigating contamination problems the following guidelines should be adhered to:

1. If floating petroleum hydrocarbons are encountered during excavation, as much of the hydrocarbons as possible should be recovered for reuse or disposal.

2. Contaminated soil to be removed from the area must be treated, stored, or disposed of in accordance with all applicable State and Federal requirements. Generally, contaminated soils should not be redeposited into any excavated areas. The excavations should be backfilled only with clean soils unless it can be demonstrated that clean soils will be recontaminated. In that scenario, the area where contamination of the fill would occur could be backfilled with the contaminated material which was originally excavated. Clean material shall be placed on top of the contaminanted fill in order to ensure no contaminated materials are left at the surface.

3. If the activity undertaken requires dewatering, any contaminated groung water pumped out must be treated, stored, or disposed of in accordance with all applicable State and Federal requirements.

4. Detailed records should be maintained of all investigative and cleanup activities conducted. Copies of these records should be submitted to DOH's Office of Hazard Evaluation and Emergency Response upon initiation and after completion of the project. There may be occasions where DOH may request copies of records-to-date for review.

The above items are considered minimum guidelines for abating releases that do not pose an imminent or substantial threat to public health and the environment. These guidelines are consistent with the DOH's long-term cleanup goals. There may be cases where DOH may require a site assessment and evaluation based on the nature and severity of the contamination found. Given the resource-intensive nature of site assessments, especially in cases of area wide contamination, we anticipate that project managers will be meeting with DOH to discuss site specific cases as they arise.

Comprehensive cost documentation records should be maintained for all assessment and cleanup activities. These records may then be used to cost recover City and State expenses from other potentially responsive parties.

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04/23/96 09:46 FAX 8086276-14 ... WTR QUALITY ... 001

FILE COPY

Post-it® Fax Note 7671	Date 4-23-96	# of pages ▶ 1
To Richard Harada	From Keith Sugihara	
Co./Dept. WQA	Co. WWM	
Phone # 946-2277	Phone # 523-4938	
Fax # 946-2253	Fax #	

6.10 B.10

4/23/96

cc: MFA, via fax 4/23/9

WMC 96-275

April 19, 1996

Mr. Steven S. Armann
Hazard Evaluation & Emergency Response Office
State Department of Health
919 Ala Moana Boulevard, Room 206
Honolulu, Hawaii 96814

Attention: Mr. Bryce Hataoka

Dear Mr. Armann:

Subject: Hazardous Materials Found @ Hart Street Wastewater Pump Station Site

Based on a telephone conversation with Mr. Hataoka, analysis of the sample borings (fax dated April 10, 1996) is allowable under the Department of Health's regulatory limits. Also, a remediation plan of the soil is not required at this time.

The Department of Wastewater Management understands that these guidelines, 'General Guidelines for Taking Action in the Course of Encountering Petroleum Contamination During Public Works Activities in Hawaii,' provided to Mr. Sam Callejo, dated April 1, 1991, are still applicable. Therefore, unless informed otherwise by the Department of Health, we will comply with these guidelines as well.

If there are any questions or discrepancies on this matter, please contact Mr. Keith Sugihara from the Division of Water Quality at 523-4938.

Very truly yours,

CHERYL K. OKUMA-SEPE

for FELIX B. LIMTIACO
Director

cc: Kumar Bhagavan, PS&C

KS:sm

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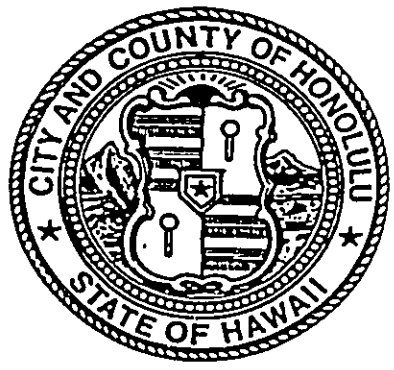

APPENDIX C

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M F A MASA FUJIOKA & ASSOCIATES
A PROFESSIONAL PARTNERSHIP
ENVIRONMENTAL • GEOTECHNICAL • HYDROGEOLOGICAL CONSULTANTS
98-1205 HALAWA VALLEY STREET, SUITE 302 • AIEA, HAWAII 96701-3281
PHONE 808-484-5366 • FAX 808-484-0007

3441-01

August 27, 1996
MFA Project #96096-012

Wilson Okamoto & Associates
P.O. Box 3530
Honolulu, HI 96811

Attention: Mr. John Sakaguchi

Report
Asbestos and Lead-Based Paint Survey
Hart Street Wastewater Pump Station
Honolulu, Oahu, Hawaii

Dear Mr. Sakaguchi:

Masa Fujioka & Associates is pleased to submit the revised Asbestos and Lead-Based Paint Report for the subject property. We also provide the following information in response to key questions posed by the reviewer.

Page 6: Information regarding the necessary approvals, permits, and clearances is not within MFA's scope of work.

Further detail regarding ACM removal and disposal is part of the scope of work for construction specifications. We have discussed the requirements for ACM removal and disposal in §6.1.

Page 7: A. The exposure assessment is conducted at the start of work in areas of greatest lead concern. More detailed information would be provided in plans and specifications for demolition and removal of LBP.

B. Prior to and throughout the exposure, the employer shall provide employees with the proper equipment, training, and medical surveillance.

Respectfully submitted,

MASA FUJIOKA & ASSOCIATES
A Professional Partnership

Janice C. Marsters

Janice C. Marsters
Associate

cc: K BHAGAVAN, WINM

0000 0016 1838

MFA MASA FUJIOKA & ASSOCIATES
A PROFESSIONAL PARTNERSHIP
ENVIRONMENTAL • GEOTECHNICAL • HYDROGEOLOGICAL CONSULTANTS
99-1205 HALAWA VALLEY STREET, SUITE 302 • AIEA, HAWAII 96701-3281
PHONE 808 484-5366 • FAX 808 484-0007

August 27, 1996
MFA Project #96096-012

Wilson Okamoto & Associates, Inc.
P. O. Box 3530
Honolulu, HI 96811

Attention: Mr. John Sakaguchi

Report
Asbestos and Lead-Based Paint Survey
Hart Street Wastewater Pump Station
Honolulu, Oahu, Hawaii

Dear Mr. Sakaguchi:

Masa Fujioka & Associates (MFA) is pleased to submit this report which describes the results of our asbestos and lead-based paint survey for the subject project. The survey consisted of inspections of areas proposed for renovation in buildings throughout the pump station facility to visually identify suspect asbestos-containing materials (ACM) and lead-based paint (LBP), to collect samples of suspect ACM and LBP for laboratory identification, and to quantify the amount and type of ACM and LBP present at the facility.

It has been a pleasure to prepare this report for you. Please contact us at 484-5366 if there are any questions regarding this report.

Respectfully submitted,

MASA FUJIOKA & ASSOCIATES
A Professional Partnership

Janice C. Marsters
Associate

JCM: WL

Two (2) copies submitted

MFA MASA FUJIOKA & ASSOCIATES
A PROFESSIONAL PARTNERSHIP
ENVIRONMENTAL • GEOTECHNICAL • HYDROGEOLOGICAL CONSULTANTS

EXECUTIVE SUMMARY

Masa Fujioka & Associates (MFA) performed an asbestos and lead-based paint survey of the Hart Street wastewater pump station. A total of 22 bulk samples of suspect ACM and 29 paint chip samples were collected.

MFA has confirmed the presence of ACM in the Pump Station and Turbine buildings. ACM located in the areas affected by the proposed renovation or demolition should be removed prior to renovation by a qualified asbestos abatement contractor possessing a valid C-19 license.

We have also confirmed the presence of lead-based paint (LBP) in the Pump Station, Turbine, and Venturi buildings. Areas containing LBP that are scheduled for removal or will be disturbed during demolition or removal activities require abatement.

Air monitoring is required for both ACM and LBP removal. All waste generated during abatement and removal should be properly disposed of as required by law.

0000 0016 1840

TABLE OF CONTENTS

LIST OF TABLES, FIGURES, AND APPENDICES

MFA MASA FUJIOKA & ASSOCIATES
A PROFESSIONAL PARTNERSHIP
ENVIRONMENTAL • GEOTECHNICAL • HYDROGEOLOGICAL CONSULTANTS

REPORT
ASBESTOS AND LEAD-BASED PAINT SURVEY
HART STREET WASTEWATER PUMP STATION
HONOLULU, OAHU, HAWAII

1.0 INTRODUCTION

Masa Fujioka & Associates (MFA) conducted an asbestos and lead-based paint survey of the Hart Street Pump Station Facility located in Honolulu, Oahu, Hawaii (Figure 1; located at end of text for ease of reference). The work was conducted as outlined in our proposal to Wilson Okamoto & Associates, dated December 8, 1995. We performed the asbestos and lead-based paint survey on April 2, 1996. The survey consisted of inspections of areas proposed for renovation in buildings throughout the pump station facility to visually identify suspect asbestos-containing materials (ACM) and lead-based paint (LBP), to collect samples of suspect ACM and LBP for laboratory identification, and to quantify the amount and type of ACM and LBP present at the facility. A total of 22 bulk samples of suspect ACM and 29 paint chip samples were collected and delivered to Advanced Technology Laboratory in Honolulu, Hawaii for laboratory analyses of asbestos and lead content. This report describes the survey, presents the analytical results, and furnishes our recommendations for abatement.

2.0 SCOPE OF WORK

An asbestos and lead-based paint survey was conducted to develop a sufficient level of information regarding the presence of ACM and LBP and to allow development of plans and specifications for the removal of any ACM and LBP prior to building demolition and renovation. MFA provided the following work for the survey:

a. Reviewed previous laboratory reports of samples collected at the wastewater pump station;

b. Inspected the buildings for suspect ACM and LBP;

c. Sampled and tested suspect ACM and LBP;

d. Assessed the quantity and location of ACM and LBP; and

e. Prepared this report containing a description of the site conditions encountered, observations, a summary of the testing conducted,

testing results, quantity, location, and type of ACM and LBP encountered, and a cost estimate for abatement services.

3.0 BACKGROUND INFORMATION

MFA reviewed a previous asbestos survey report (Hall-Kimbrell, October 1990) for samples previously collected at the Pump Station. The report indicates samples were collected from the Pump Station building only. The report shows that 12" x 12" brown vinyl floor tiles and mastic, transite ceiling panels, transite partitions, and linoleum sheeting all contained asbestos. Transite siding on the shed adjacent to the Pump Station building was also reported to contain asbestos. Based on information received by MFA, lead-based paint sampling had not been done previously at the facility.

The items listed above which Hall-Kimbrell previously determined to contain asbestos were labeled as such. Therefore, these labeled areas were not surveyed or sampled again.

Several suspect materials were not sampled during the previous investigation and our investigation because sampling would have caused destruction to the material or the material was not accessible. These materials included vibration dampening cloth in the Pump Station, and gaskets on exhaust vents and three fire doors in the Turbine building. These materials are discussed in our recommendations (§6.1).

3.1 PUMP STATION BUILDING

The Pump Station building consists of three floors with an adjoining shed. The first floor includes an electrical control room, gated electrical management area, office, restroom, and garage area. The basement contains the boiler area, air ducts, and a maintenance area. The pump room floor, below the basement, houses the pumps for the station and the wet well. At the time of the survey, no demolition or renovation work was scheduled for the pump room floor and no samples were taken on this floor. Suspect ACM was identified and sampled at the locations shown on Figure 2. A discussion of laboratory test results is included in §4.1. Suspect LBP was identified and sampled in the locations shown on Figure 3. A discussion of laboratory test results is included in §5.1.

3.2 TURBINE BUILDING

The Turbine building is a single story, one room cinder block building. Access is through three fire doors and two rolling garage doors. The building

houses two large turbine units used for backup power generation, and electrical control units. The roof is composed of pitch and gravel. Suspect ACM, including thermal paint, was identified and sampled at the locations shown on Figure 4. A discussion of laboratory test results is included in §4.2. Suspect LBP was identified and sampled at the locations shown on Figure 5. A discussion of laboratory test results is included in §5.2.

3.3 VENTURI BUILDING

The Venturi building consists of a single entrance and stairwell which is used to access the underground location of the venturi mechanicals. There are no rooms other than the stairwell itself. The walls, ceiling, and floor are made of solid concrete. The roof is composed of pitch and gravel. Suspect ACM was identified and sampled at the locations shown on Figure 6. A discussion of laboratory test results is included in §4.3. Suspect LBP was identified and sampled at the locations shown on Figure 7. A discussion of laboratory test results is included in §5.3.

4.0 RESULTS OF ASBESTOS SURVEY

The results of the asbestos survey are summarized in the following sections. The test results and locations of the ACM are indicated in Table 1 and Figures 8 and 9. Photographs of the ACM are contained in Appendix A and laboratory test reports are in Appendix C. Appendix D presents the estimated quantity of ACM found at the facility and a cost estimate for removal.

4.1 PUMP STATION BUILDING

The tan linoleum sheet flooring along the entire window sill of the east wall tested positive for asbestos. The olive-green linoleum sheet flooring along the window sill of the electrical area tested positive for asbestos. The same material from the adjacent office windowsill had previously tested positive (Hall-Kimbrell, October 1990). The vibration dampening cloth on the air ducts in the basement were not sampled to avoid severely damaging the equipment. The cloth should be assumed to contain asbestos if the ducts are going to be tampered with or removed. The gray caulk in the first floor windows of the east wall tested negative for asbestos. The locations of asbestos containing materials are shown in Figure 8 and photographs are included in Appendix A.

It should be noted that the following items were previously determined to contain asbestos by Hall-Kimbrell: perforated and solid ceiling panels, and brown 12" x 12" floor tiles with associated mastic from the ground floor electrical room,

cementitous partition panels in the ground floor restroom, stored gasket in the basement storage, corrugated cementitious panels on an exterior storage shed, and counter tops under windows.

4.2 TURBINE BUILDING

The gray caulk on the vertical shingles of the roof perimeter tested positive for asbestos. The silver paint on the exhaust stacks tested positive for asbestos. The silver paint is located on the exterior and interior portions of both exhaust stacks. The gaskets used in the exhaust stacks of the turbine units were not sampled to avoid severe damage to the gaskets. However, the mechanical plans for the building indicated that asbestos gaskets were installed so they should be assumed positive for the presence of asbestos. Samples of black caulk on the roof edging and core samples of the roofing material tested negative for asbestos. The vibration dampening material in the floor under the turbine units also tested negative for asbestos. The cinder block walls and mortar were sampled and tested negative for asbestos. The locations of asbestos containing materials are shown in Figure 9 and photographs are included in Appendix A.

4.3 VENTURI BUILDING

The Venturi building is constructed mainly of cement and wood in the access way area. The only area that warranted sampling for asbestos was the roof of the structure. Core samples of the roofing material tested negative for the presence of asbestos.

5.0 RESULTS OF LEAD-BASED PAINT SURVEY

The results of the lead-based paint survey are summarized in the following sections. The results and locations of LBP are indicated in Table 2 and Figures 10 through 12. Photographs of the LBP are contained in Appendix B and laboratory test reports are in Appendix C. Appendix E presents the estimated quantity of LBP found at the facility and a cost estimate for removal and disposal.

Concentrations of total lead in collected paint samples range from non-detect to 11.65% by weight. We have classified the painted surfaces into three groups.

Group I. Paint which does not contain detectable levels of lead;
Group II. Low level lead-based paint (detectable but < 0.5% lead by weight); and
Group III. High level lead-based paint (greater than or equal to 0.5% lead by weight).

These groups are based on regulations pertaining to residential paint, since there are currently no regulations pertaining to the amount of LBP allowed in public buildings.

5.1 PUMP STATION BUILDING

The white painted and the gray painted air ducts tested positive for Group III LBP. There were also air ducts on the ceiling with the same white paint that were not tested, but should be assumed to also contain Group III LBP. There are three yellow support beams, similar to the one which tested positive for Group III LBP, within close proximity to the proposed remodeling. The gray paint on the bathroom stall doors also tested positive for Group III LBP. In the basement, the red-orange paint on the floor, the orange paint on the electrical conduits, and the white paint on the walls tested positive for Group II LBP. On the first floor, the white paint from the control room tested positive for Group II LBP. In the bathroom the yellow pipes and the gray paint from the bathroom door frame tested positive for Group II LBP. The gray painted gates which restrict access to the electrical area did not contain detectable levels of lead and were classified as Group I. Locations of Group II and Group III lead-based paint in the Pump Station building are shown in Figure 10 and photographs are included in Appendix B.

5.2 TURBINE BUILDING

The silver metallic paint on the exhaust stacks tested positive for Groups II (inside building) and III (roof level) LBP. However, since the silver metallic paint also tested positive for asbestos, it will be treated as ACM. The light gray paint on the exterior vent support over the door tested positive for Group II LBP. The following did not contain detectable levels of lead and were classified as Group I: the white and gray paints on the exterior walls and doors, the gloss white paint on the interior walls and pipes, and the red paint on the floor. Locations of Group II and Group III lead-based paint in the Turbine building are shown in Figure 11 and photographs are included in Appendix B.

5.3 VENTURI BUILDING

The green upper handrail and the dark gray door frame tested positive for Group III LBP. The light tan and dark brown paint on the ceiling, walls, and conduits tested positive for Group II LBP. The light gray paint on the exterior door frame and window frame both tested positive for Group II LBP. The light gray door did not contain detectable levels of lead and has been classified as

Group I. Locations of Group II and Group III lead-based paint in the Venturi building are shown in Figure 12 and photographs are included in Appendix B.

6.0 RECOMMENDATIONS

6.1 ACM RECOMMENDATIONS

According to National Emission Standards for Hazardous Air Pollutants (NESHAP) Title 40 CFR 61, Asbestos NESHAP Revision; Final Rule November 20, 1990, materials which are known to contain asbestos and will become friable during demolition or renovation activities must be removed from the structure prior to these activities. In addition, landfills require that all asbestos-containing material, even non-friable ACM, be separated from construction debris, labeled, and double-bagged. To meet these requirements, we recommend that all ACM be removed from the buildings scheduled for demolition or from areas planned for renovation, prior to renovation or demolition. We understand that this would include the Pump Station and Turbine buildings. In addition, suspect ACM from any mechanical equipment that will be replaced (i.e. piping, gaskets, vibration dampening cloth, etc.) should be sampled prior to disturbing. If the materials will remain undisturbed they should be maintained through an Operations and Maintenance program. Removed ACM should be properly disposed of in accordance with Federal, State, and County regulations.

Based on the results of our preliminary sampling, MFA has confirmed the presence of ACM in the Pump Station and Turbine buildings. We understand that the Pump Station building will remain, but specified portions will be extensively renovated. We also understand that the Turbine building will be completely demolished. ACM located in the areas affected by the proposed renovation or demolition should be removed prior to renovation by a qualified asbestos abatement contractor possessing a valid C-19 license.

Additional ACM (such as materials inside walls, above ceilings, or subsurface piping) may not have been identified during our asbestos survey. Further testing of such materials will be required if they are encountered during renovation or demolition operations. During the asbestos removal, on-site air monitoring is recommended to check that the asbestos fibers do not exceed safe levels inside and outside the work area. Construction monitoring to check for compliance with the specifications is also recommended. Air monitoring and construction inspection representatives should be on-site during the asbestos removal phase so that additional suspect ACM encountered are properly identified and removed.

6.2 LBP RECOMMENDATIONS

Regulations for LBP abatement continue to develop, and a collaborative effort of several agencies including the Environmental Protection Agency (EPA) are responsible for establishing regulations and guidelines. Occupational Safety and Health Administration (OSHA) regulations must be followed for abrasive blasting, welding, cutting and torch burning of LBP (as classified in Groups II and III). OSHA regulations outlined in CFR 1926.62 specify the following:

A. The employer shall conduct an exposure assessment which will determine if any employee may be exposed to lead at or above the action level (30 $\mu g/m^3$ calculated as an 8-hour time-weighted average).

   The exposure assessment involves air monitoring of personal air samples taken during "worst case scenario" paint removal which is representative of a full work shift (CFR 1926.62 (d)(1)). The monitoring should be conducted during the most destructive removal procedures on the paint with the highest lead content.

B. Prior to the exposure assessment, the employer shall provide employees with appropriate respiratory protection, personal protective clothing and equipment, change areas, hand washing facilities, training (including hazard communication and use of respirators), and medical surveillance (blood testing for lead).

   1. If a positive determination is made (the exposure assessment is determined to exceed the action level) the employer shall continue protective measures outlined in section B above.

   2. If a negative determination is made (no employee is exposed to airborne concentrations of lead at or above the action level) the employer shall make a written record of such determination.

C. When a positive determination is made (the possibility of any employee exposure at or above the action level) the employer shall conduct monitoring which is representative of the exposure for each employee in the workplace who is exposed to lead and notify each worker in writing his or her exposure results.

Other requirements of OSHA for lead exposure are included in 29 CFR 1962 regulations. The EPA regulatory requirements for lead abatement involve the disposal of debris generated by the abatement. If the waste (water, solid debris, sand, or paint chips) generated from LBP abatement allow lead to leach at concentrations above 5 parts per million (40 CFR 260), these wastes are hazardous

and would have to be disposed of on the U.S. Mainland at a hazardous waste landfill. Hazardous waste must be properly stored, labeled and shipped using EPA uniform hazardous waste manifests.

Group I

For Group 1 paint (lead-free paint), worker protection for lead would not be necessary; workers could proceed with renovation or demolition.

Group II

For demolition of the painted surfaces at the facility which contain lead (Groups II and III), OSHA worker protection standards would need to be followed. OSHA has set the 8-hour permissible exposure limit (PEL) for lead at 50 $\mu g/m^3$ in air (29 CFR 1910.1025), and the 8-hour action level at 30 $\mu g/m^3$ in air (29 CFR 1926.62). The action level refers to employee exposure to an airborne concentration, without regard to use of respirators.

We recommend that an air monitoring consultant be employed to monitor worker exposure during removal of Group II paint.

Group III

For Group III paint (high level LBP) grinding, abrasive blasting, welding, cutting and torch burning operations should be conducted by workers trained and experienced in working in respirators and tyveks, such as workers employed by a lead abatement contractor. Such trained personnel could remove, collect and dispose of the paint chips, protecting workers and reducing the risk of contaminating the soil and other areas of the buildings with lead. In addition, the abatement contractor will have medical surveillance in place and the equipment for containment and showering, if necessary.

We recommend removal of Group III LBP by a lead abatement contractor. If certain materials such as air ducts, exhaust stacks, doors and handrails are to be removed intact, then abatement need only take place in areas where the saw cuts are to be made. If these items have to be cut, it is important that LBP chips or dust from grinding are not allowed to contaminate the surrounding soil.

7.0 LIMITATIONS

The conclusions presented in this report are professional opinions based solely upon visual observations of the site, previous asbestos reports, and the results of the asbestos and lead-based paint sampling. They are intended exclusively for the purpose outlined herein and at the site location and project indicated. This report is intended for the sole use of Wilson Okamoto & Associates, Inc. The scope of services performed in execution of this investigation may not be appropriate to satisfy the needs of other users, and any use or re-use of this document or the findings, conclusions, or recommendations presented herein is at the sole risk of said user.

Masa Fujioka & Associates' services are normally performed, within the limits prescribed by its Clients, with the usual thoroughness and competence of the consulting profession, in accordance with the standard for professional services at the time those services are rendered. No warranty or representation, either expressed or implied, is included or intended in its proposals, contracts, or reports.

Opinions and recommendations presented herein apply to site conditions existing at the time of our investigation and those reasonably foreseeable; they cannot necessarily apply to site changes of which this office is not aware and has not had the opportunity to evaluate.

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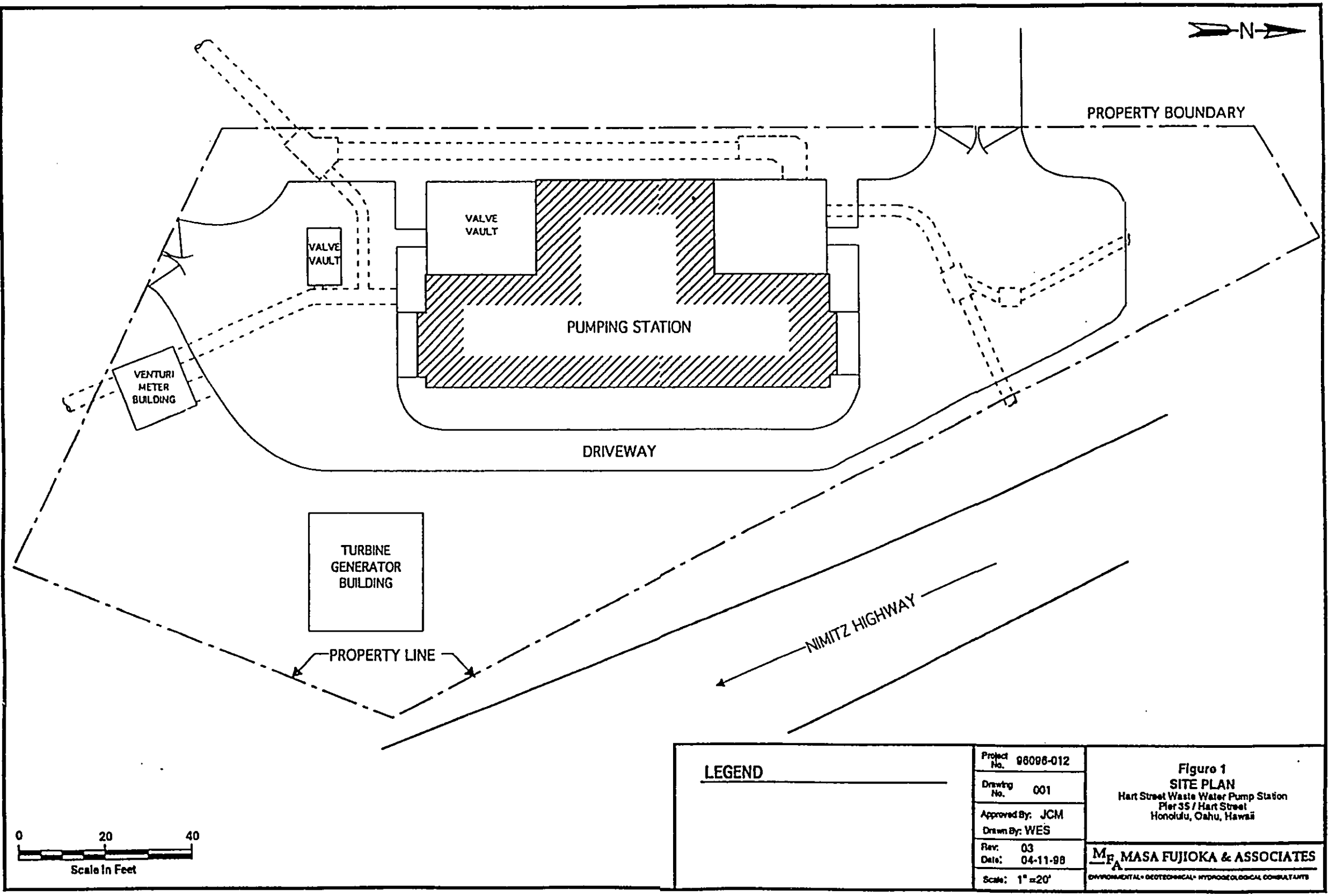

LEGEND

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Drawing No.	001
Approved By:	JCM
Drawn By:	WES
Rev:	03
Date:	04-11-98
Scale:	1" =20'

Figure 1
SITE PLAN
Hart Street Waste Water Pump Station
Pier 35 / Hart Street
Honolulu, Oahu, Hawaii

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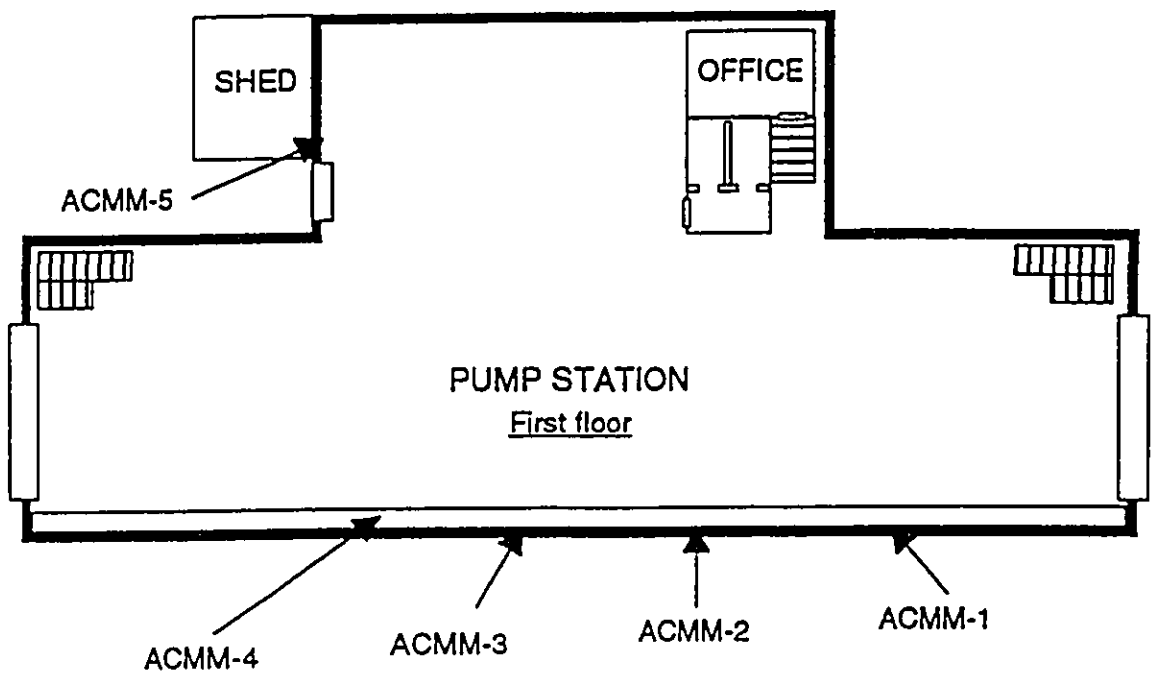

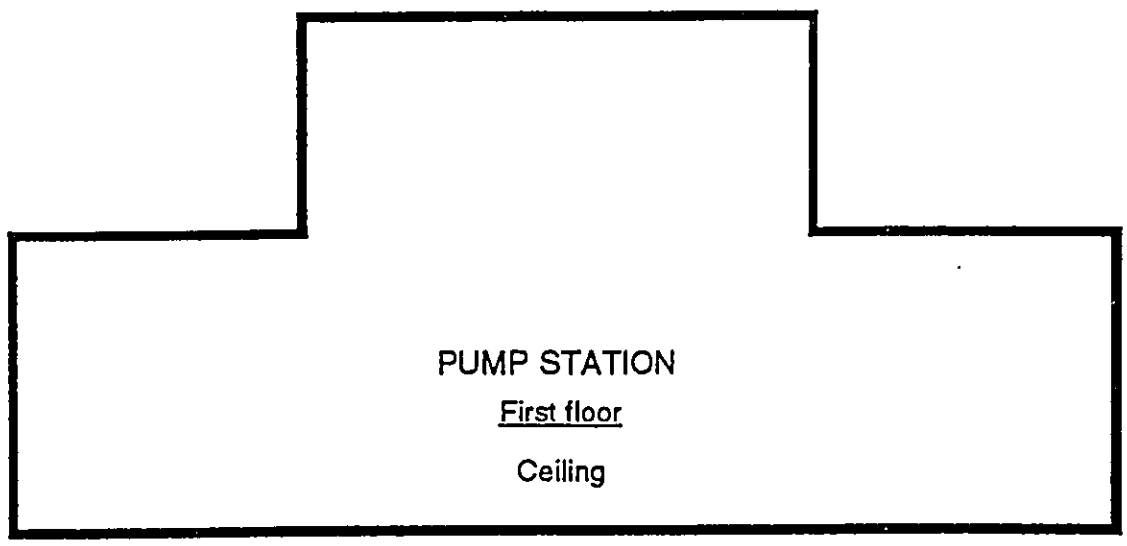

Legend:

ACMM-1 Sample location and ID

North

Project No.	96096-012
Drawing No.	1
Drawn By:	Bill Lyon
Rev: 1 Date: 4/8/96	
Scale:	1" = 10'

Figure 2
Suspect ACM Sample Locations
Pump Station Building
Hart Street Pump Station
Honolulu, Oahu, Hawaii

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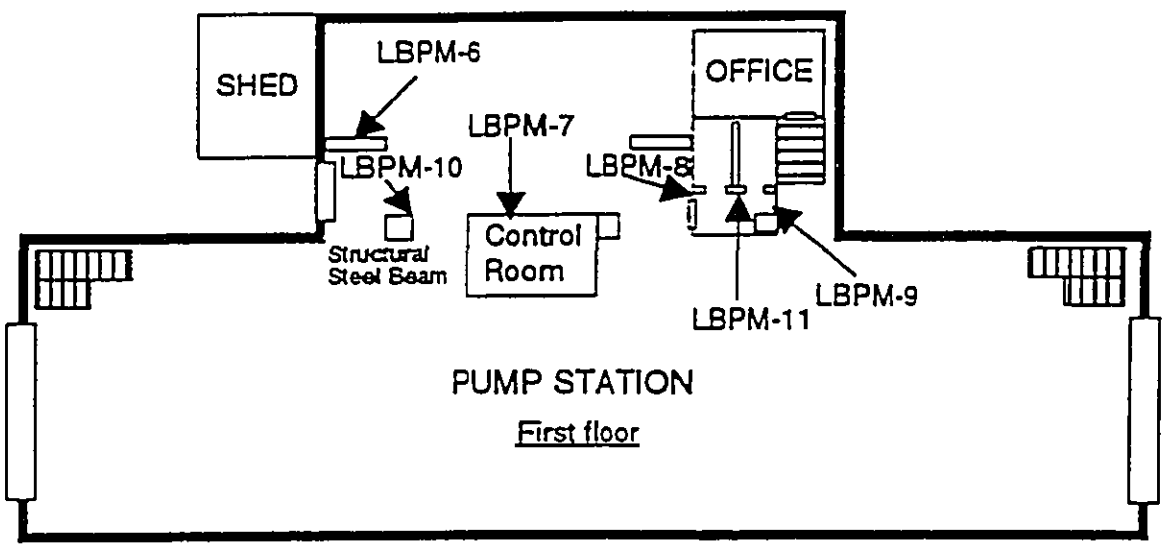

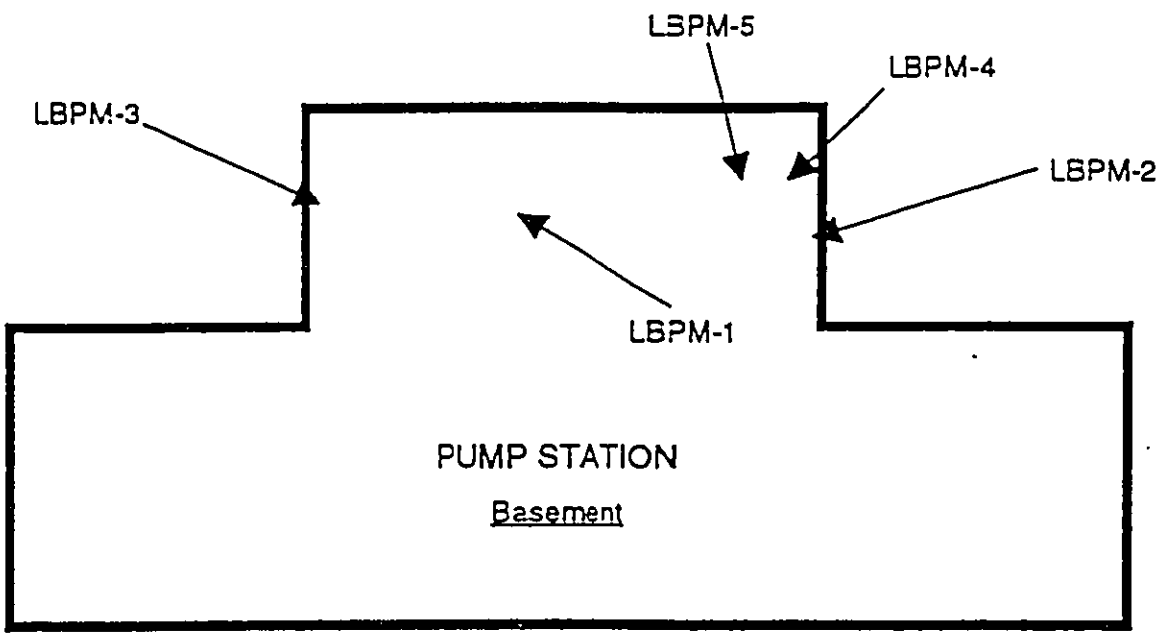

Legend:

← LBPM-1 Sample Location and ID

North

Project No.	96096-012
Drawing No.	1
Drawn By:	Bill Lyon
Rev: 1 Date: 4/8/96	
Scale:	1" = 10'

Figure 3
Suspect LBP Sample Locations
Pump Station Building
Hart Street Pump Station
Honolulu, Oahu, Hawaii

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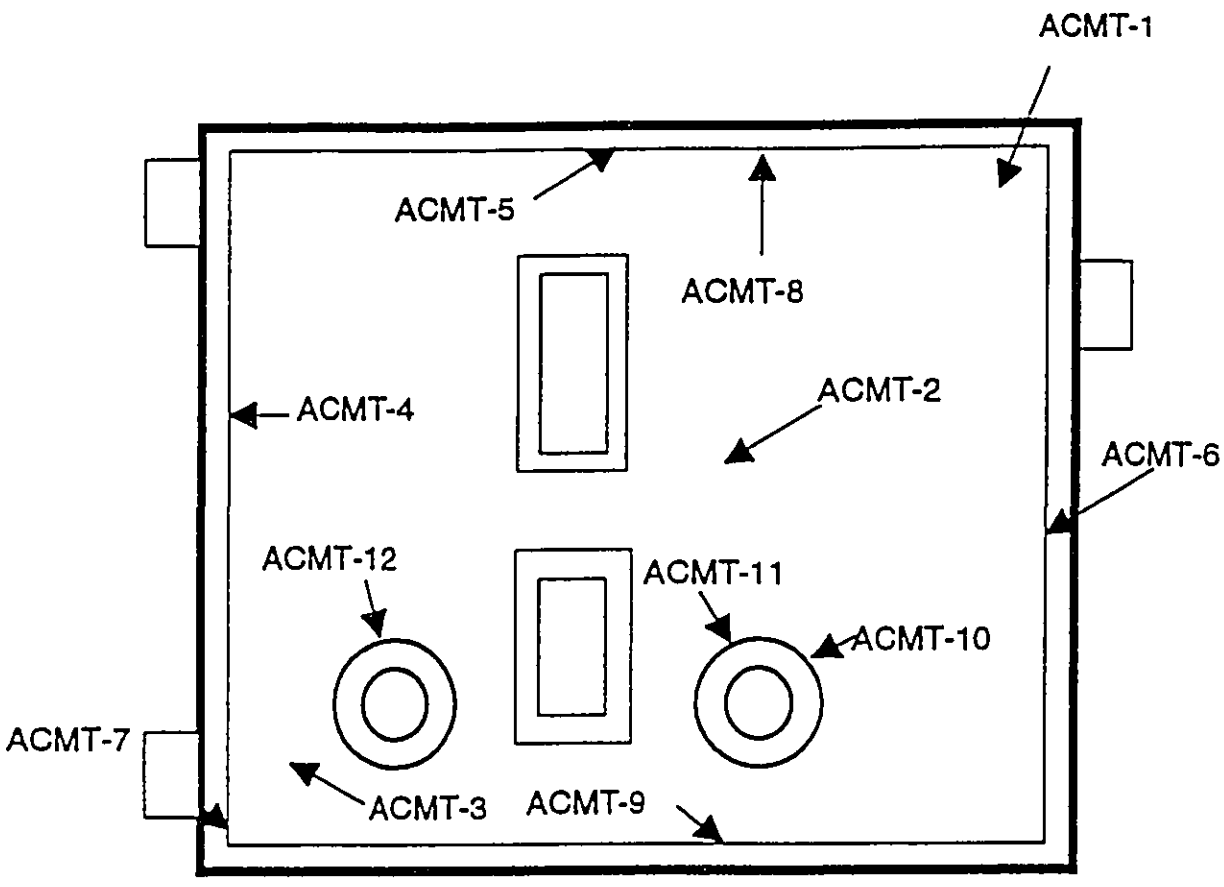

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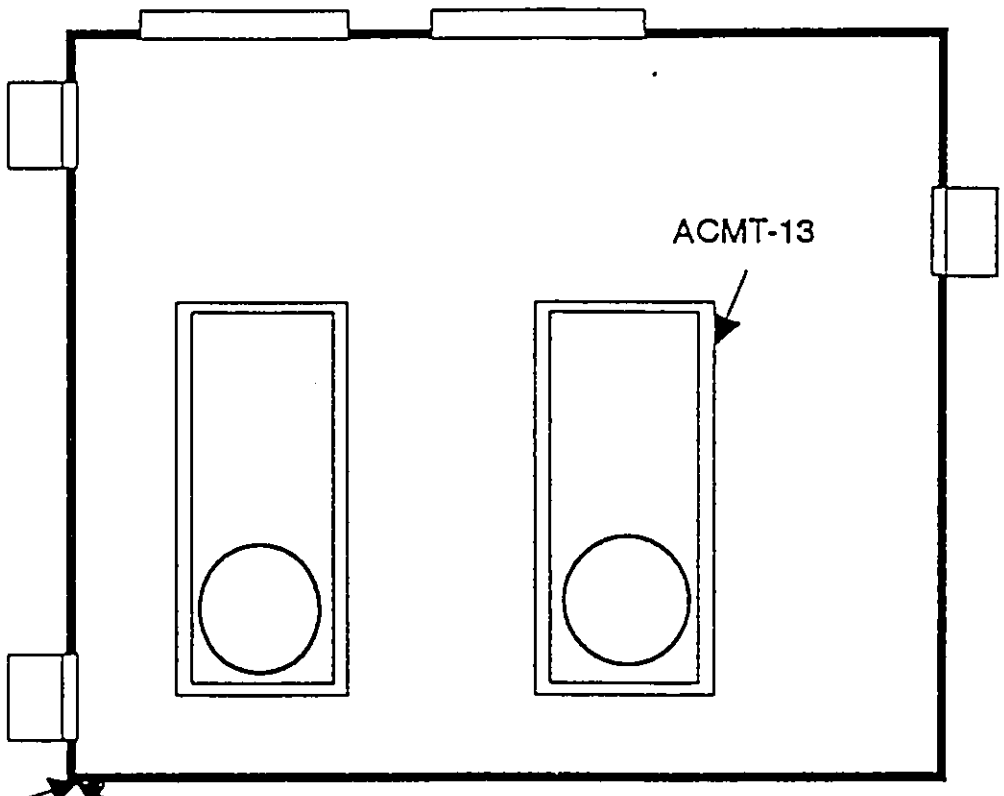

INTERIOR

Legend:

ACMT-15 Sample Location and ID

North

Project No.	96096-012
Drawing No.	2
Drawn By:	Bill Lyon
Rev: Date: 4/8/96	1
Scale:	1" = 10'

Figure 4
Suspect ACM Sample Locations
Turbine Building
Hart Street Pump Station
Honolulu, Oahu, Hawaii

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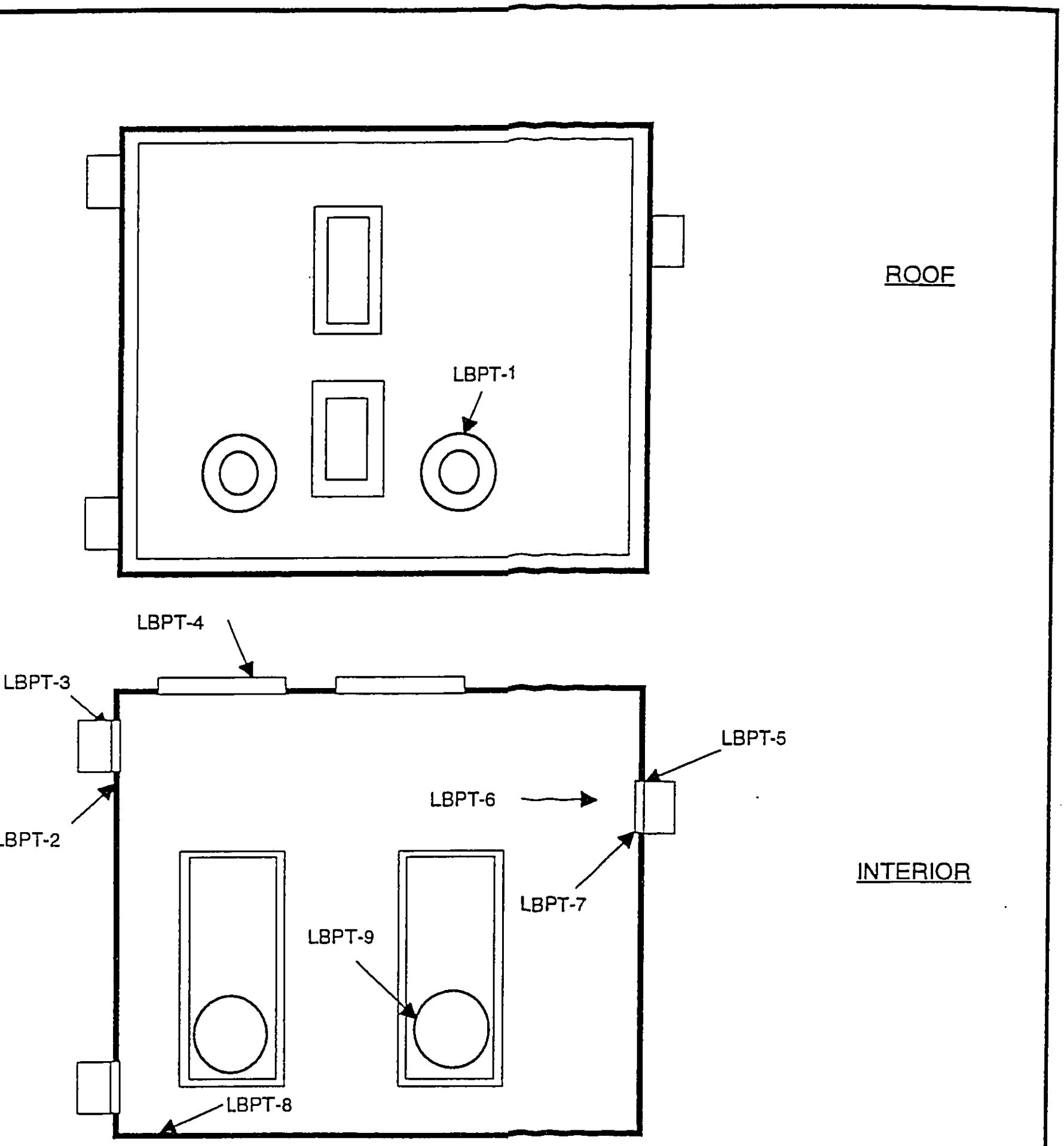

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LBPT-1 Sample Location and ID

North

Project No. 96096-012	**Figure 5** **Suspect LBP Sample Locations** Turbine Building Hart Street Pump Station Honolulu, Oahu, Hawaii
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Drawn By: Bill Lyon	
Rev: 1 Date: 4/8/96	MFA MASA FUJIOKA & ASSOCIATES
Scale: 1" = 10'	ENVIRONMENTAL • GEOTECHNICAL • HYDROGEOLOGICAL CONSULTANTS

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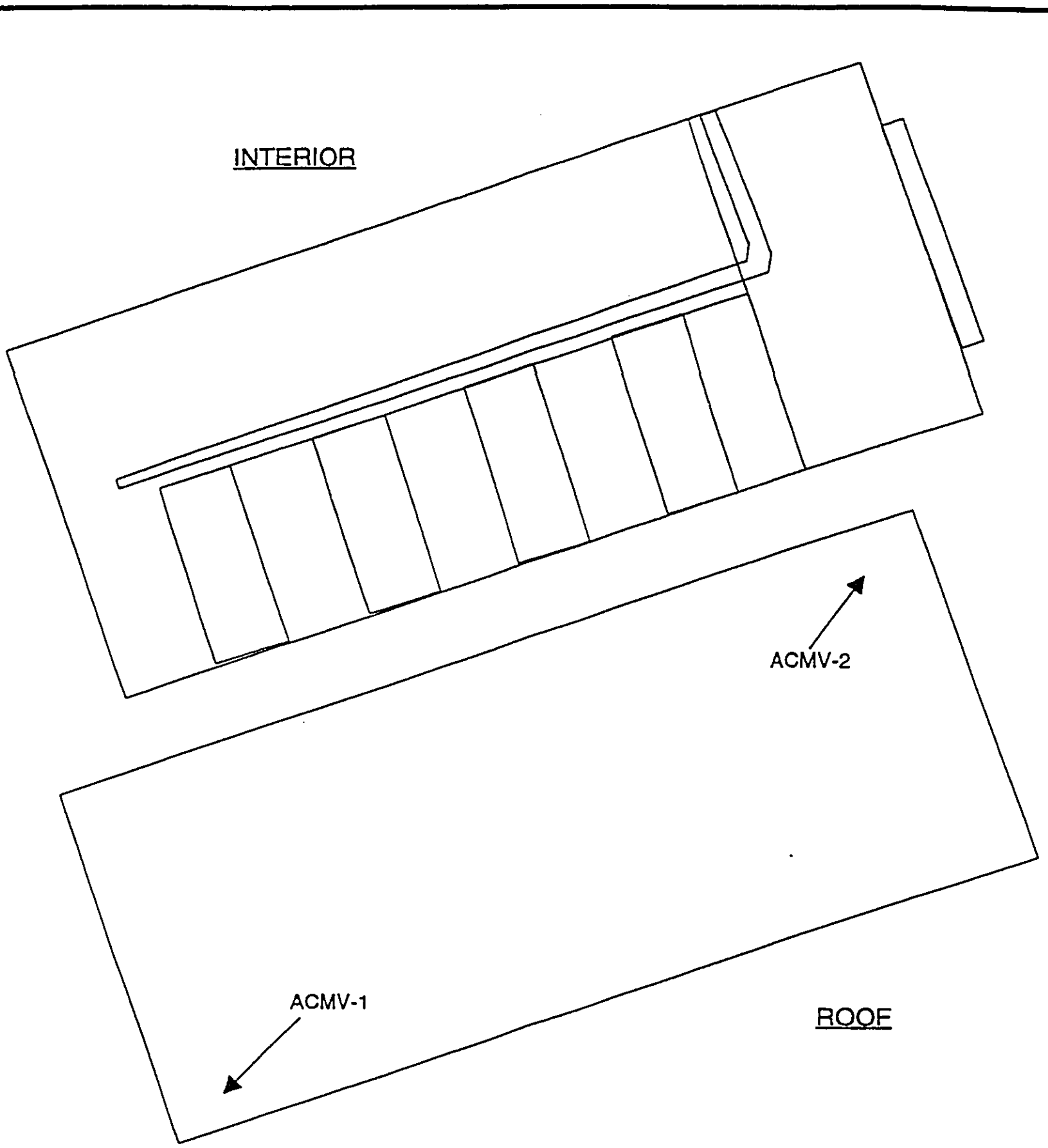

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ACMV-1 Sample Location and ID

Project No.	96096-012
Drawing No.	3
Drawn By:	ALS
Rev: 1 Date:	4/8/96
Scale:	1" = 2'

Figure 6
Suspect ACM Sample Locations
Venturi Building
Hart Street Pump Station
Honolulu, Oahu, Hawaii

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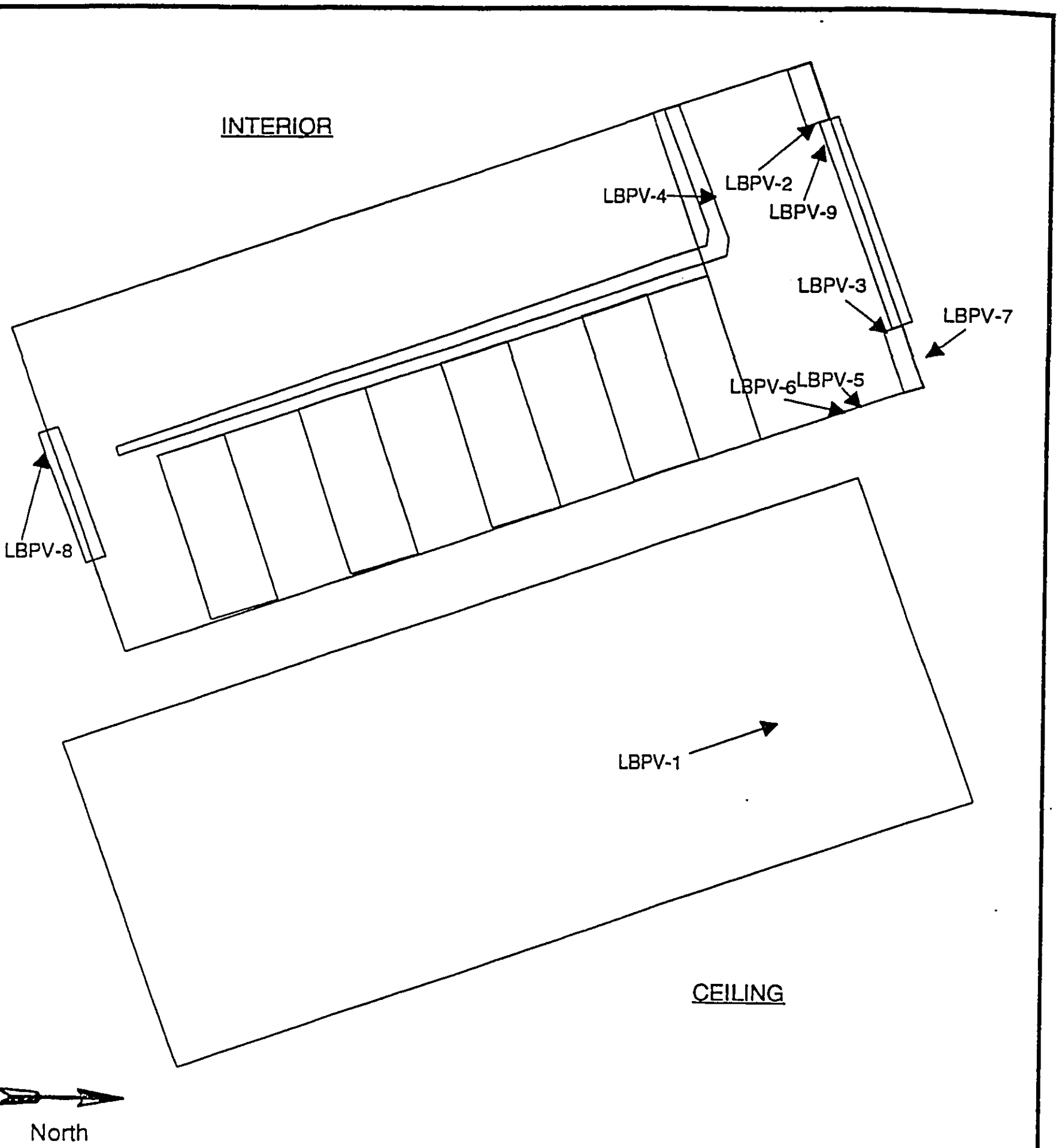

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LBPV-1 Sample Location and ID

Project No.	96096-012
Drawing No.	3
Drawn By:	ALS
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Scale:	1" = 2'

Figure 7
Suspect LBP Sample Locations
Venturi Building
Hart Street Pump Station
Honolulu, Oahu, Hawaii

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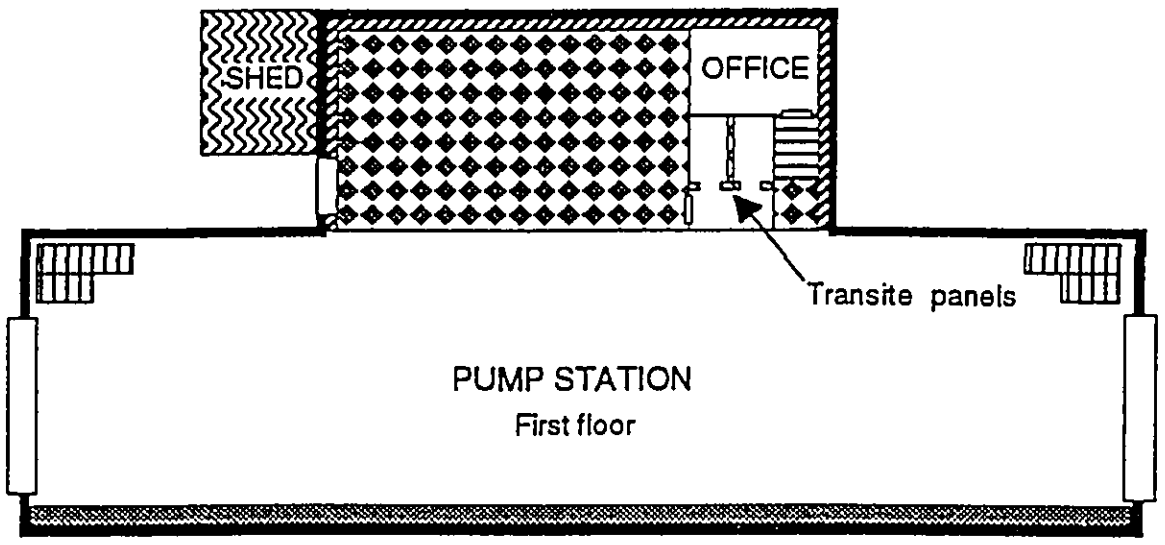

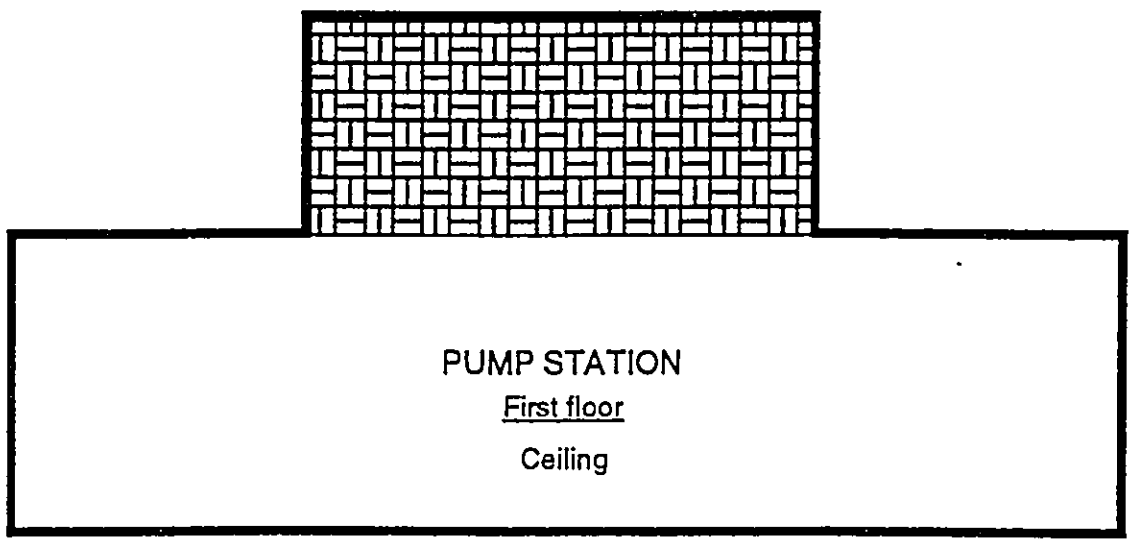

North

Legend:

- Tan linoleum sheet flooring on window sill
- Olive-green linoleum sheet flooring on window sill

Areas previously identified as ACM

- Brown 12 x 12 Vinyl floor tile + mastic
- Transite panels
- Transite ceiling panels(solid/perforated)

Project No.	96096-012
Drawing No.	1
Drawn By:	Bill Lyon
Rev: Date:	1 4/8/96
Scale:	1" = 10'

Figure 8
Asbestos Locations
Pump Station Building
Hart Street Pump Station
Honolulu, Oahu, Hawaii

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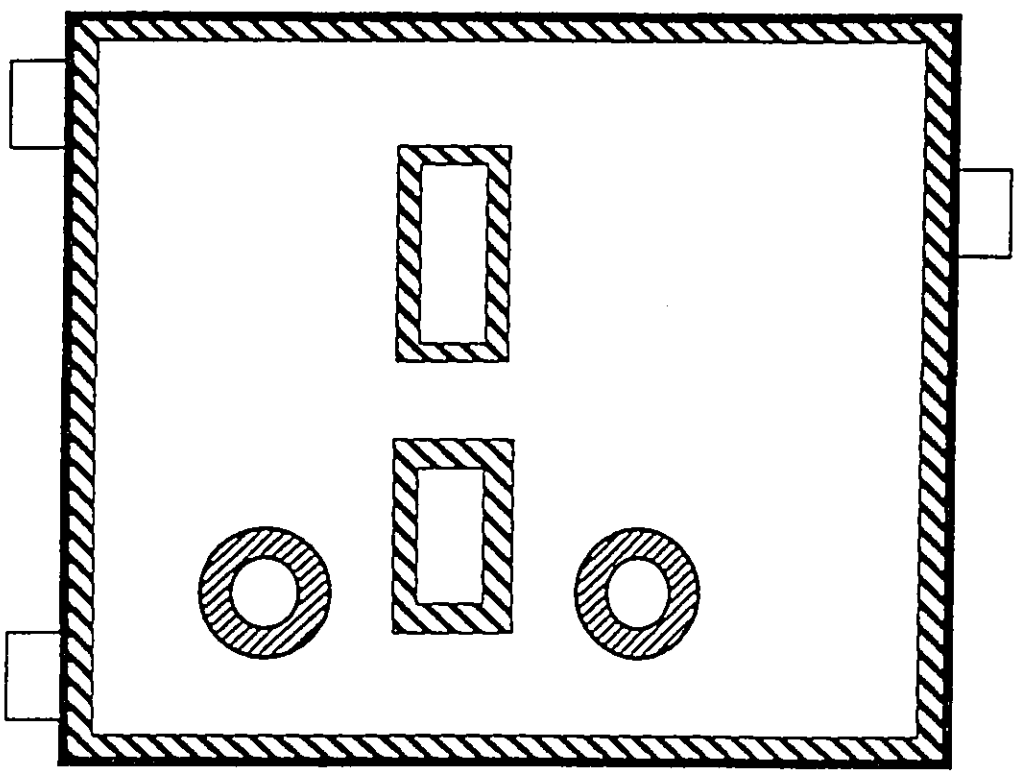

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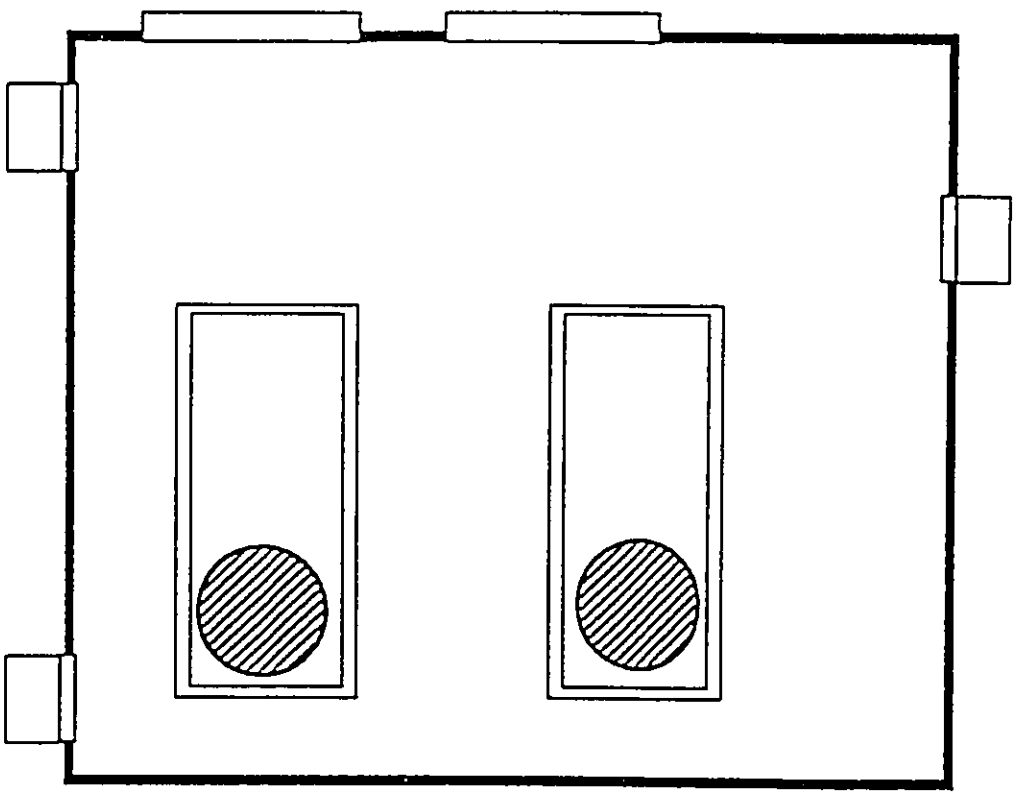

INTERIOR

Legend:

Silver paint on exhaust stacks

Gray caulk on vertical shingles

North

Project No.	96096-012
Drawing No.	2
Drawn By:	Bill Lyon
Rev: Date:	1 4/8/96
Scale:	1" = 10'

Figure 9
Asbestos Locations
Turbine Building
Hart Street Pump Station
Honolulu, Oahu, Hawaii

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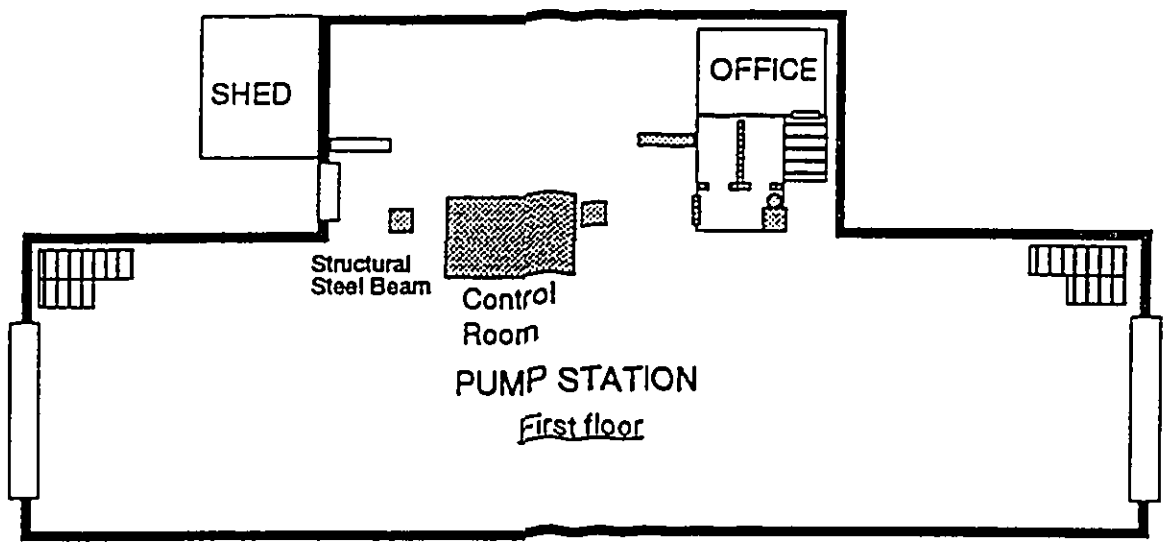

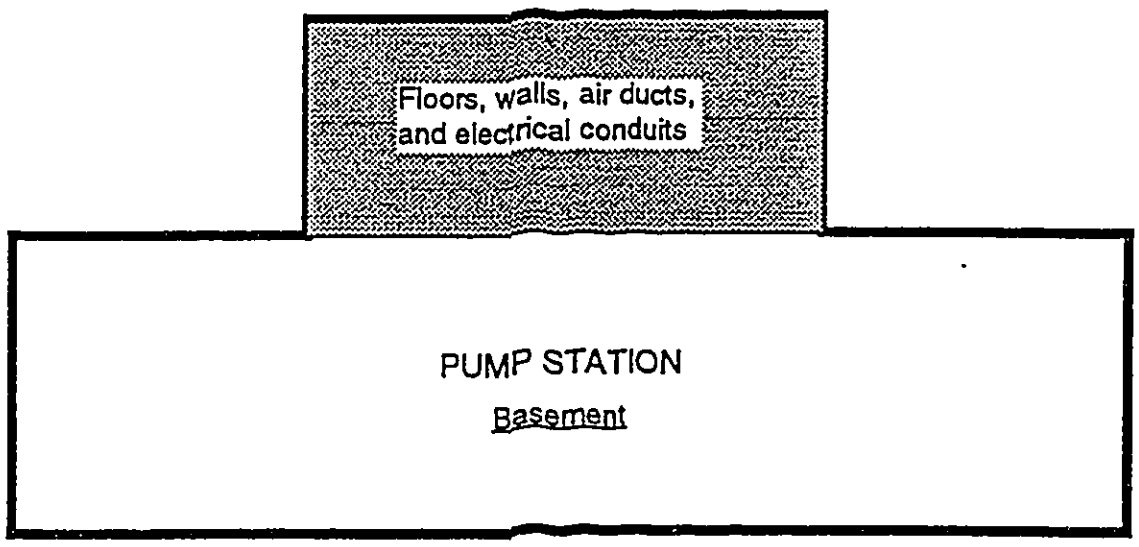

Legend:

Lead Based Paint

North

Project No.	96096-012
Drawing No.	1
Drawn By:	Bill Lyon
Rev: 1 Date: 4/8/96	
Scale:	1" = 10'

Figure 10
Lead Based Paint Locations
Pump Station Building
Hart Street Pump Station
Honolulu, Oahu, Hawaii

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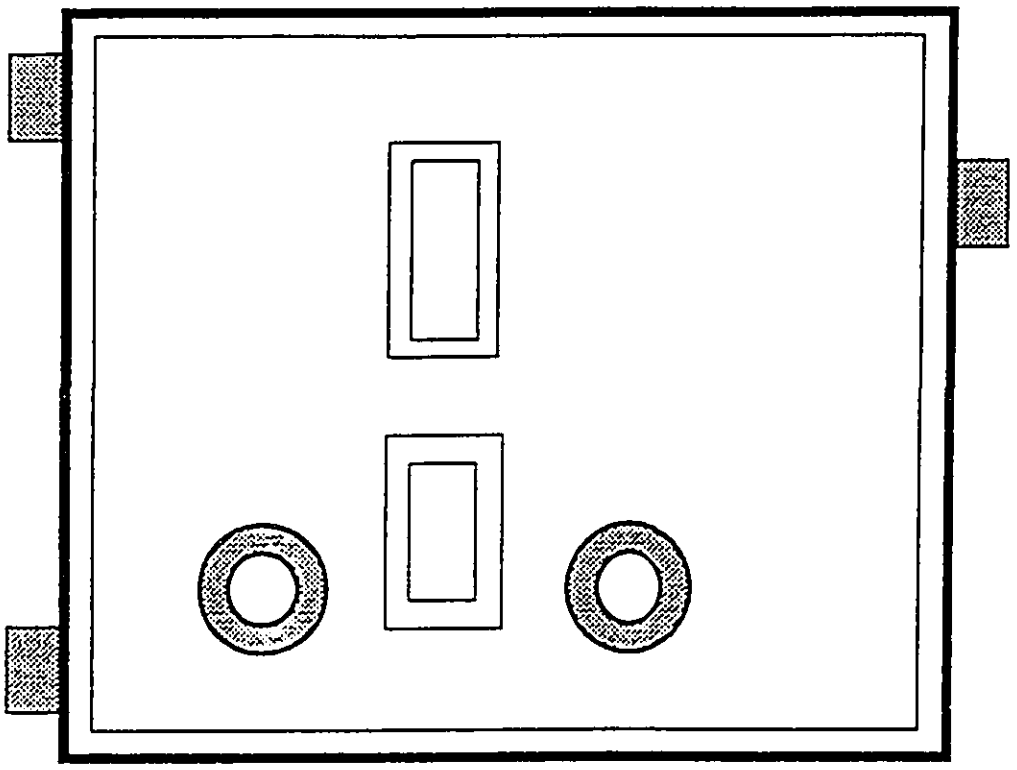

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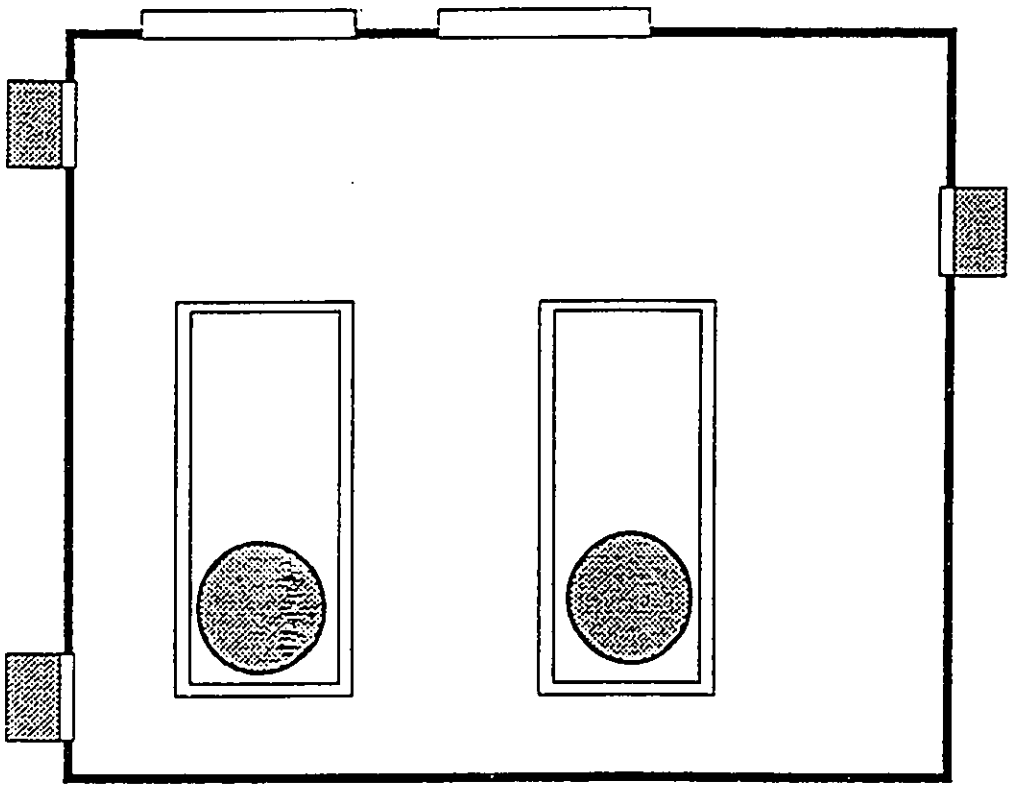

INTERIOR

Legend:

Lead Based Paint

North

Project No.	96096-012
Drawing No.	2
Drawn By:	Bill Lyon
Rev: Date:	1 4/8/96
Scale:	1" = 10'

Figure 11
Lead-Based Paint Locations
Turbine Building
Hart Street Pump Station
Honolulu, Oahu, Hawaii

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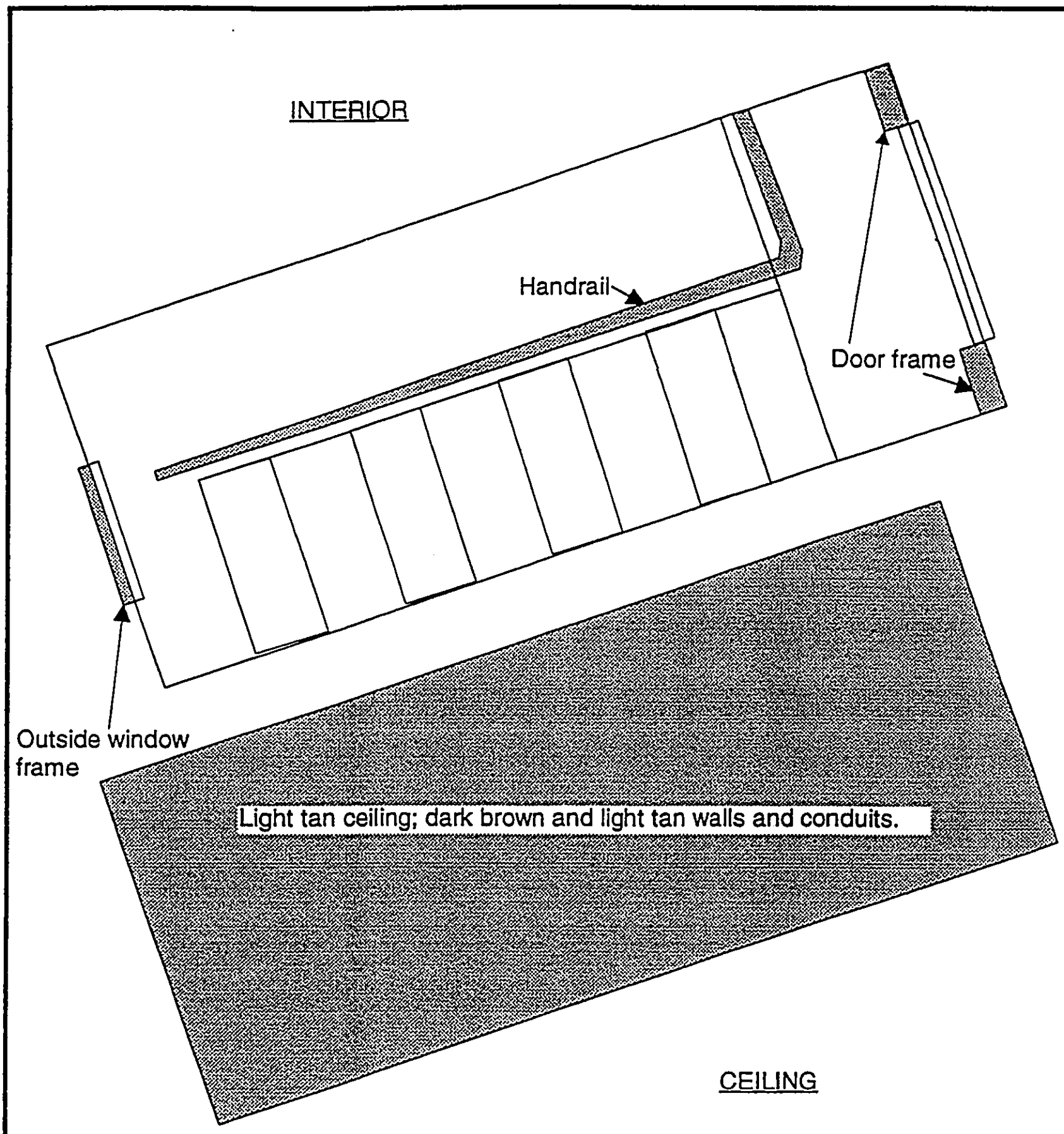

Legend:

Lead Based Paint

Project No.	96096-012
Drawing No.	3
Drawn By:	ALS
Rev: Date:	1 4/8/96
Scale:	1" = 2'

Figure 12
Lead Based Paint Locations
Venturi Building
Hart Street Pump Station
Honolulu, Oahu, Hawaii

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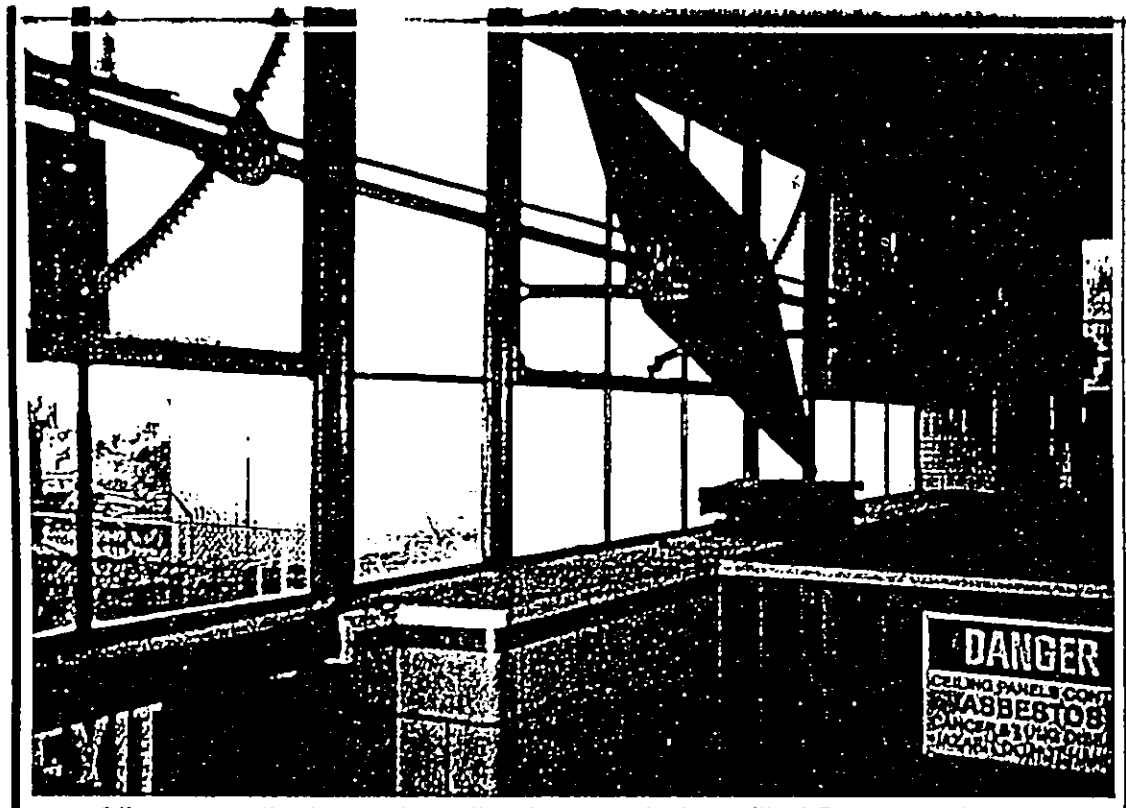
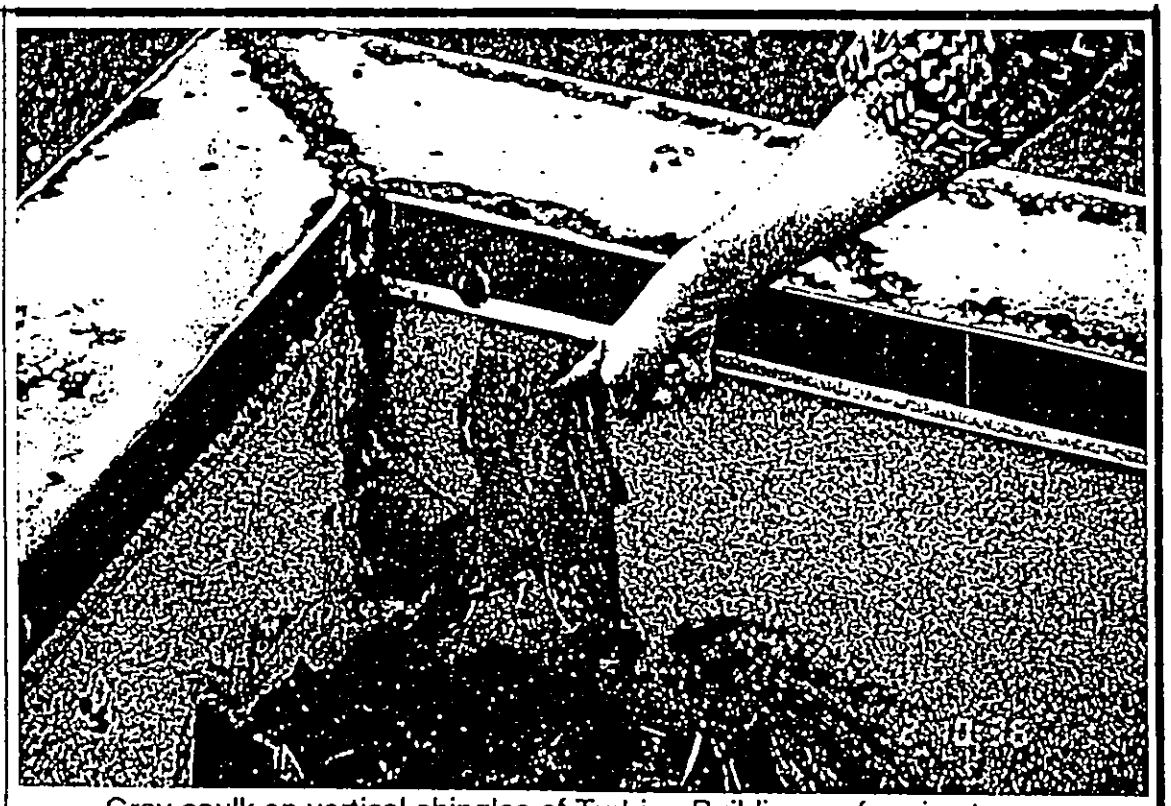
APPENDIX A

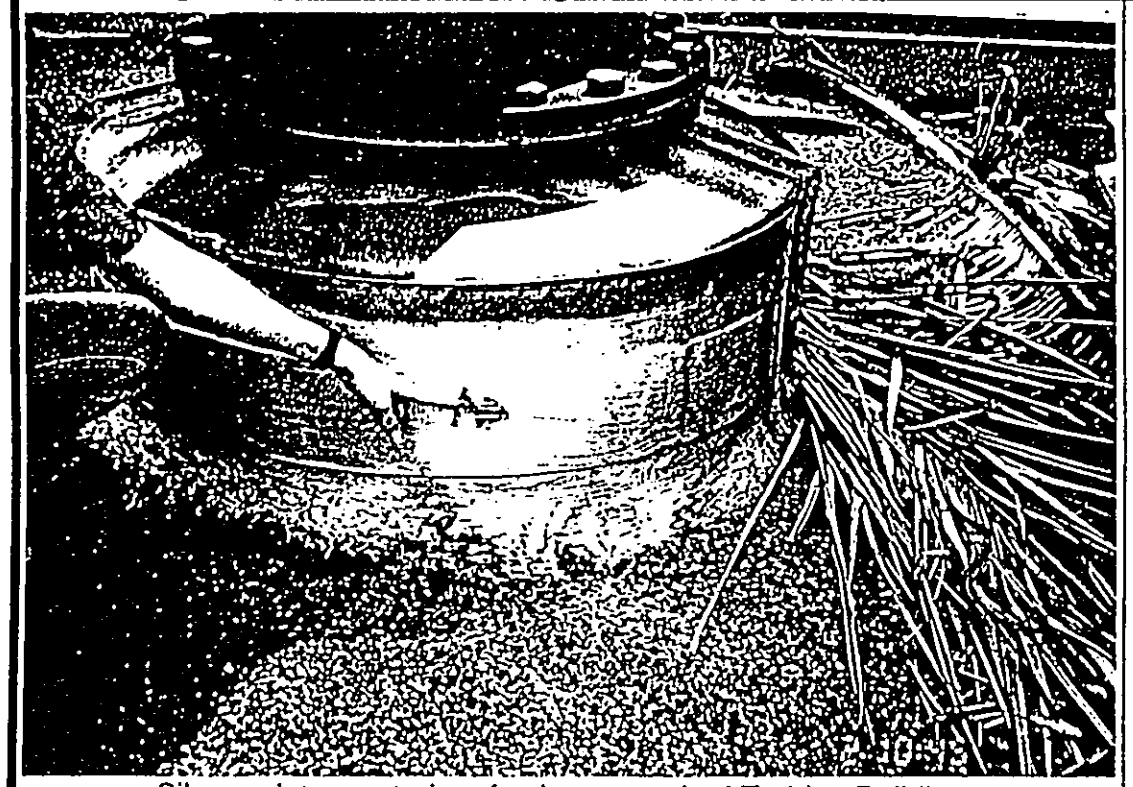
PHOTOGRAPHS OF ASBESTOS-CONTAINING MATERIALS



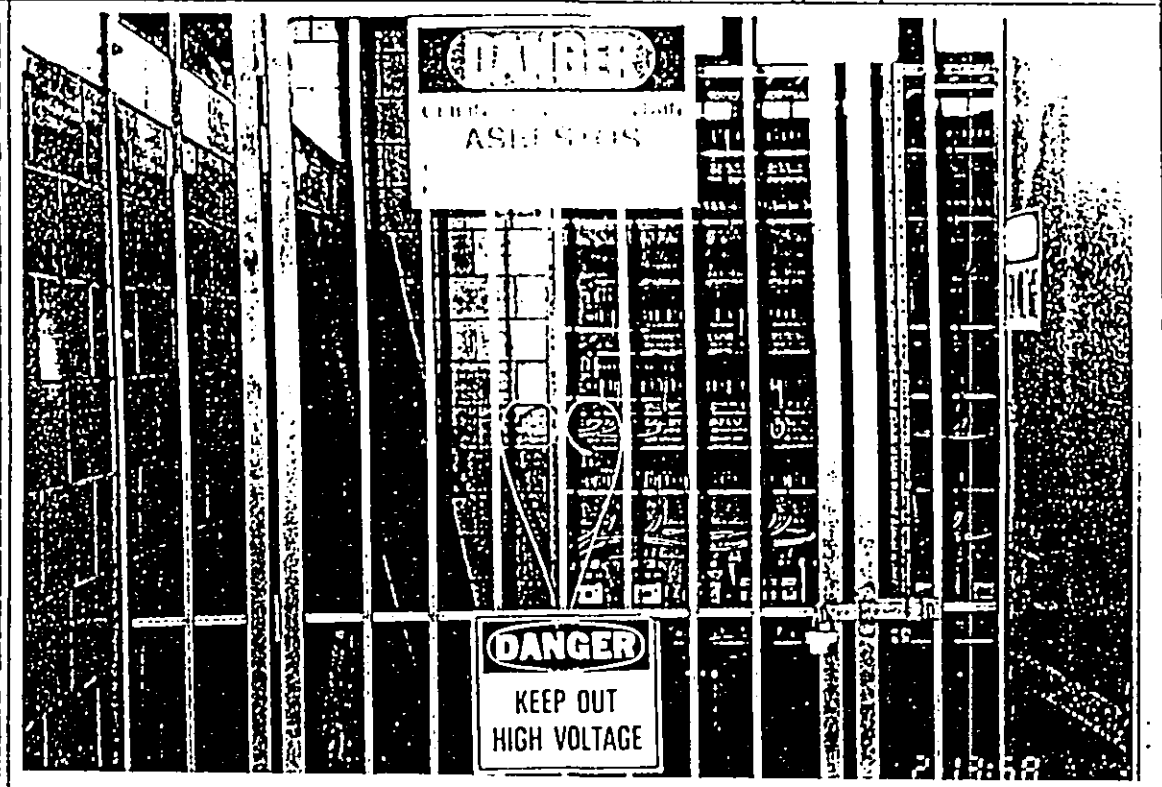
Olive-green linoleum sheet flooring on window sill of Pump Station.



Gray caulk on vertical shingles of Turbine Building roof perimeter.



Silver paint on exterior of exhaust stack of Turbine Building.



Sign indicating asbestos in electrical area of Pump Station.

Plate 1: Site Photos Showing Areas of Asbestos Containing Materials

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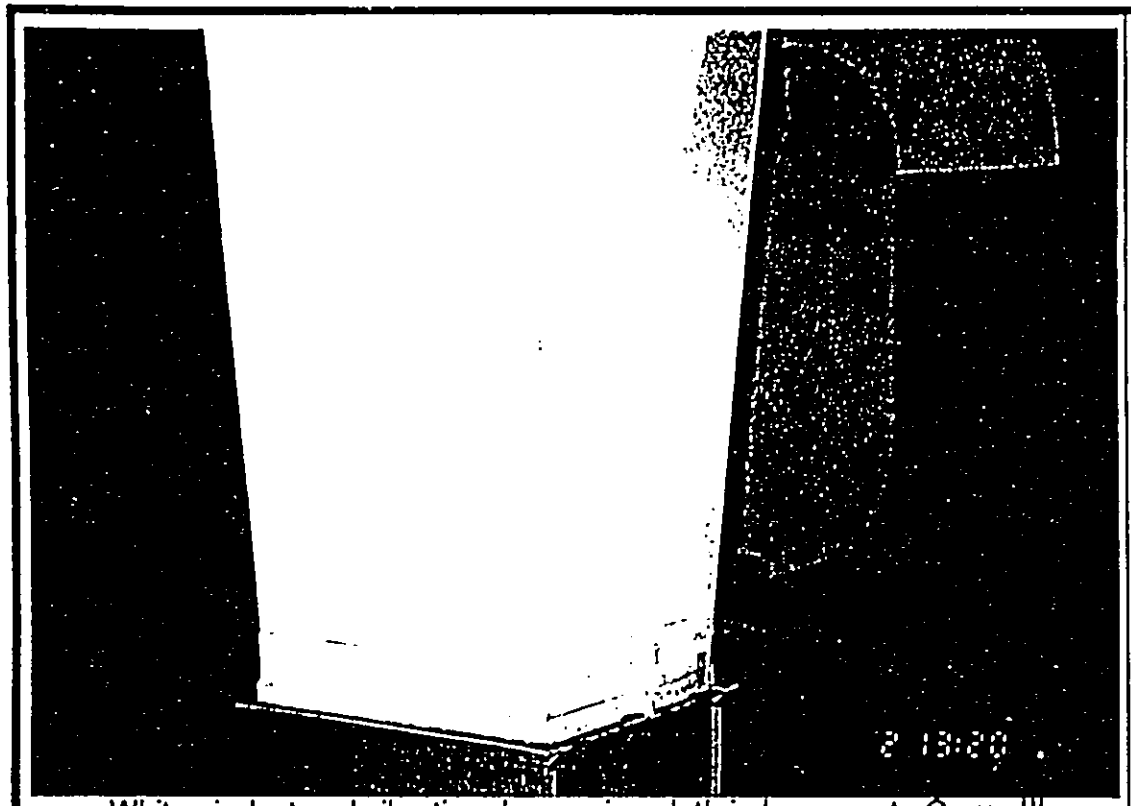
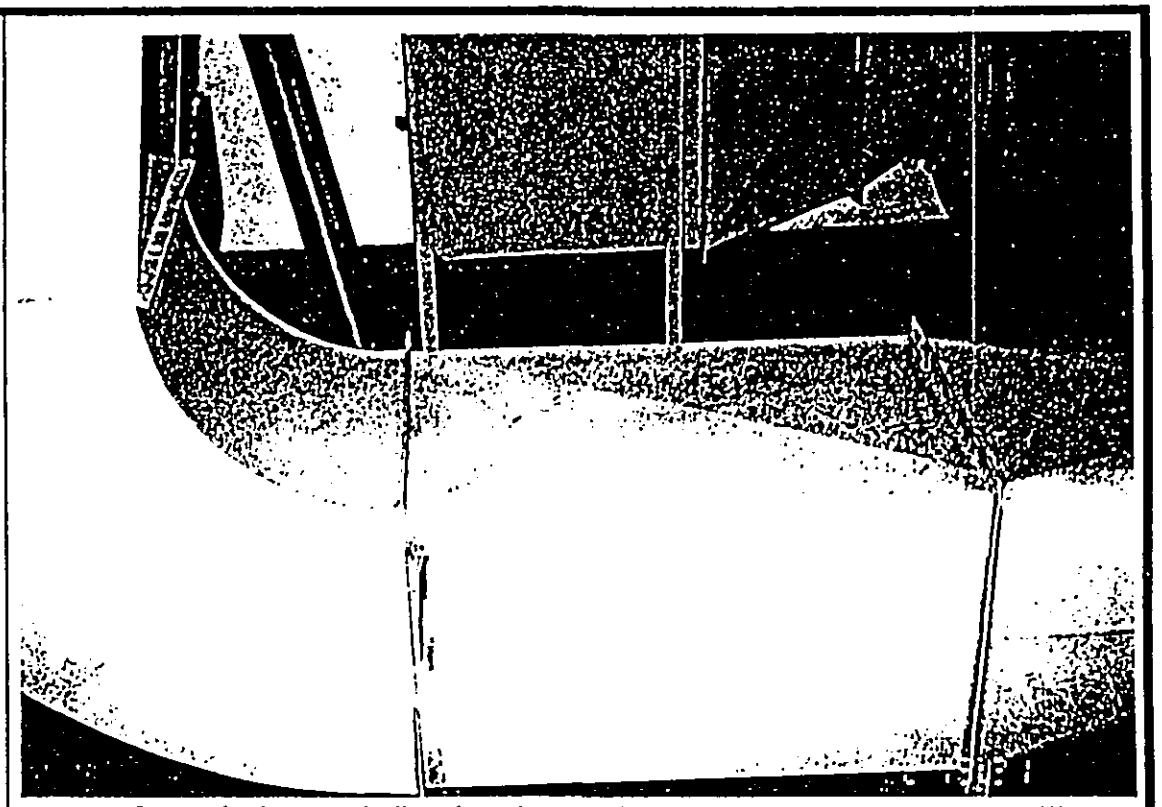
APPENDIX B

PHOTOGRAPHS OF LEAD-BASED PAINT

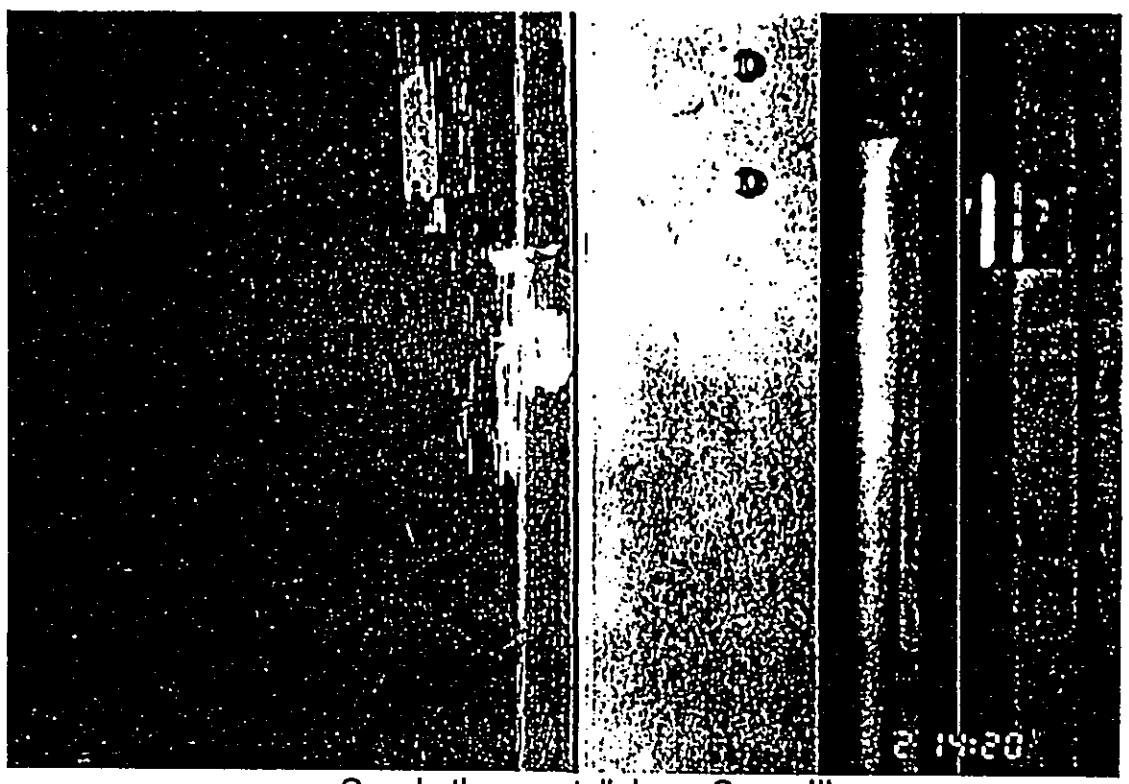


White air duct and vibration dampening cloth in basement. Group III.



Gray air duct and vibration dampening cloth in basement. Group III.

White control room, Group II (left) and yellow support beam, Group III (center).



Gray bathroom stall door. Group III.

Plate 1: Site Photos Showing Areas of Lead Based Paint in Pump Station

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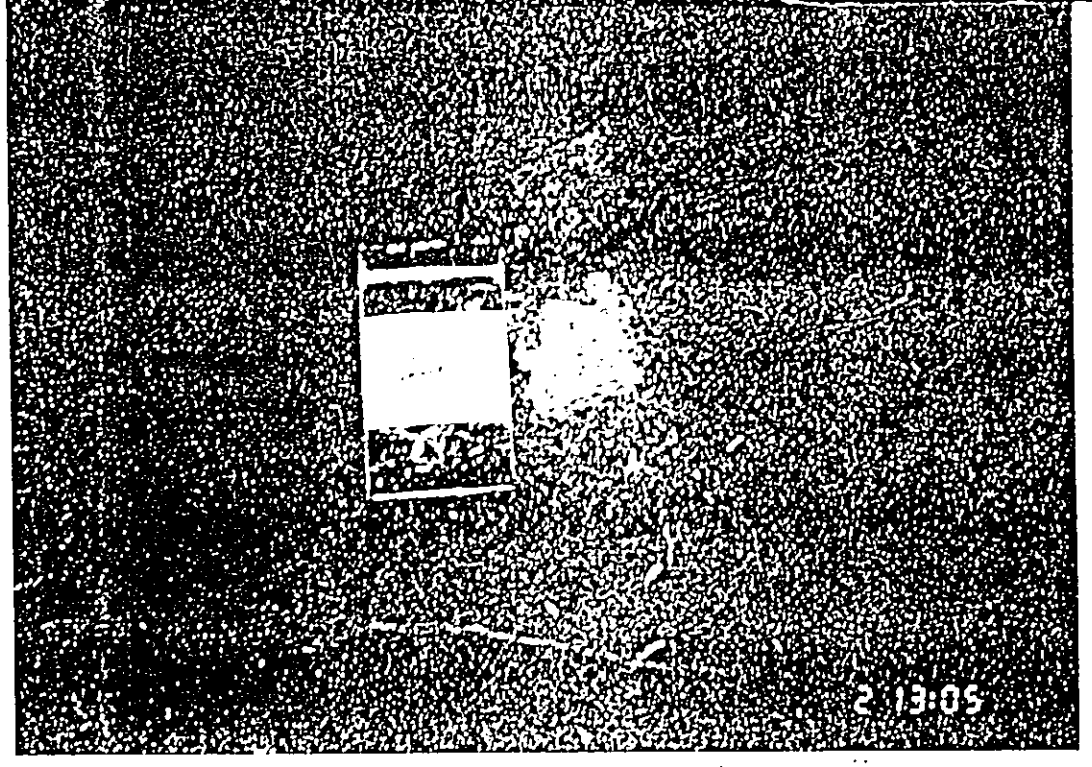
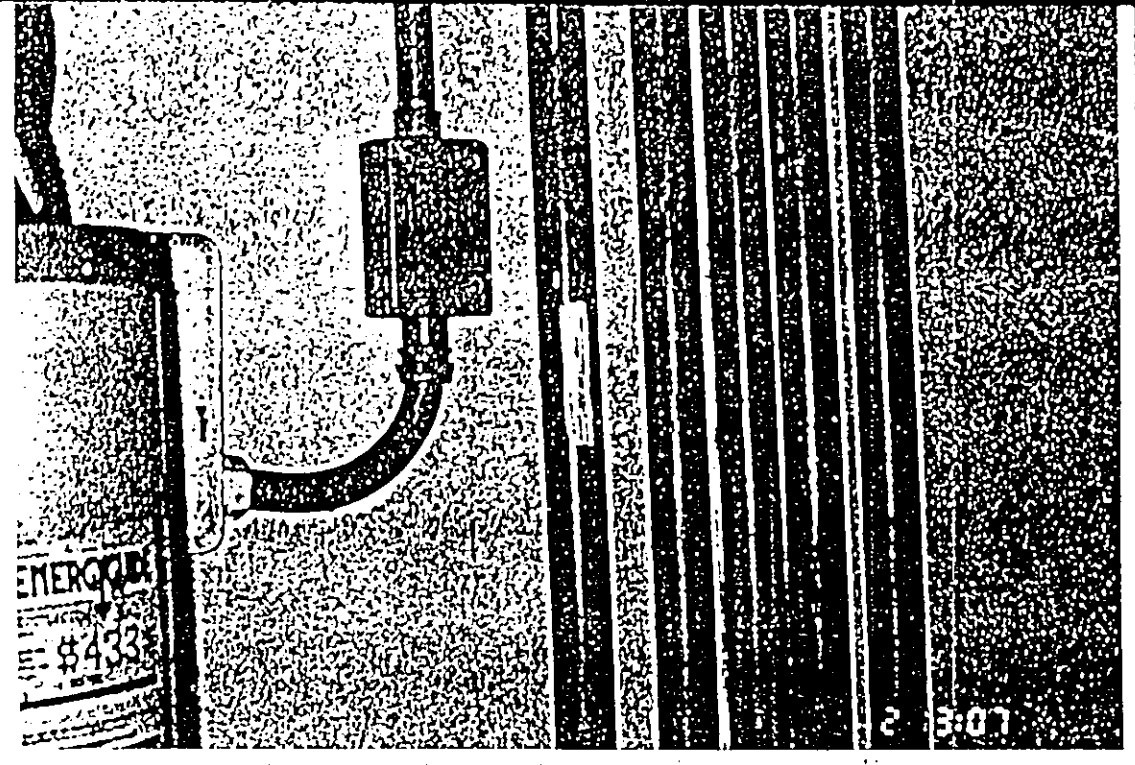
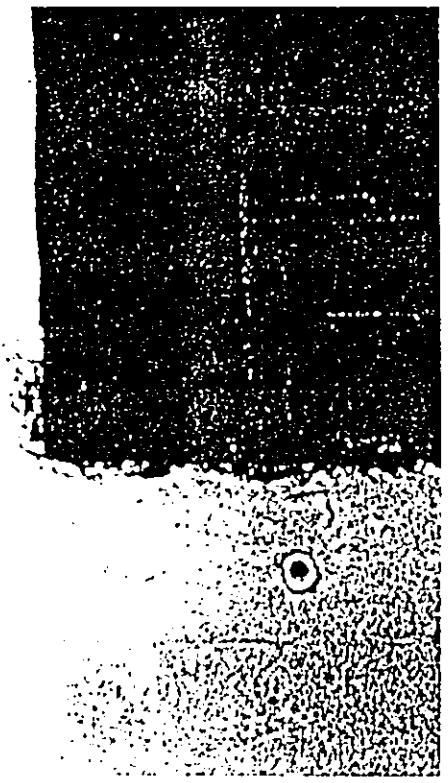






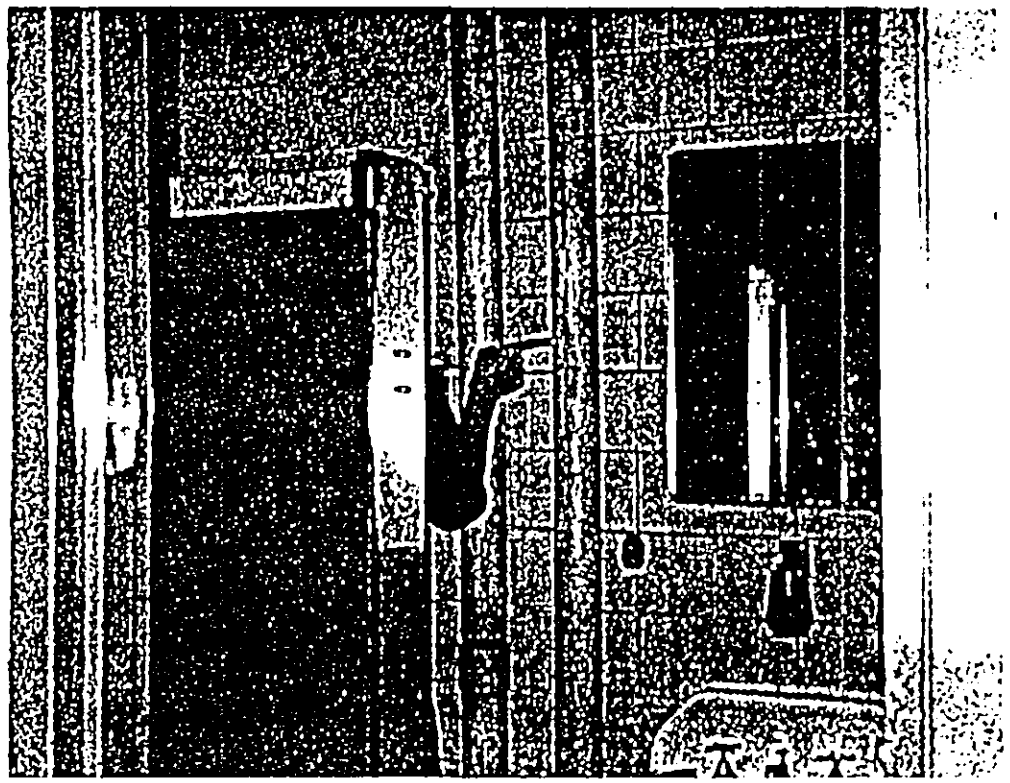
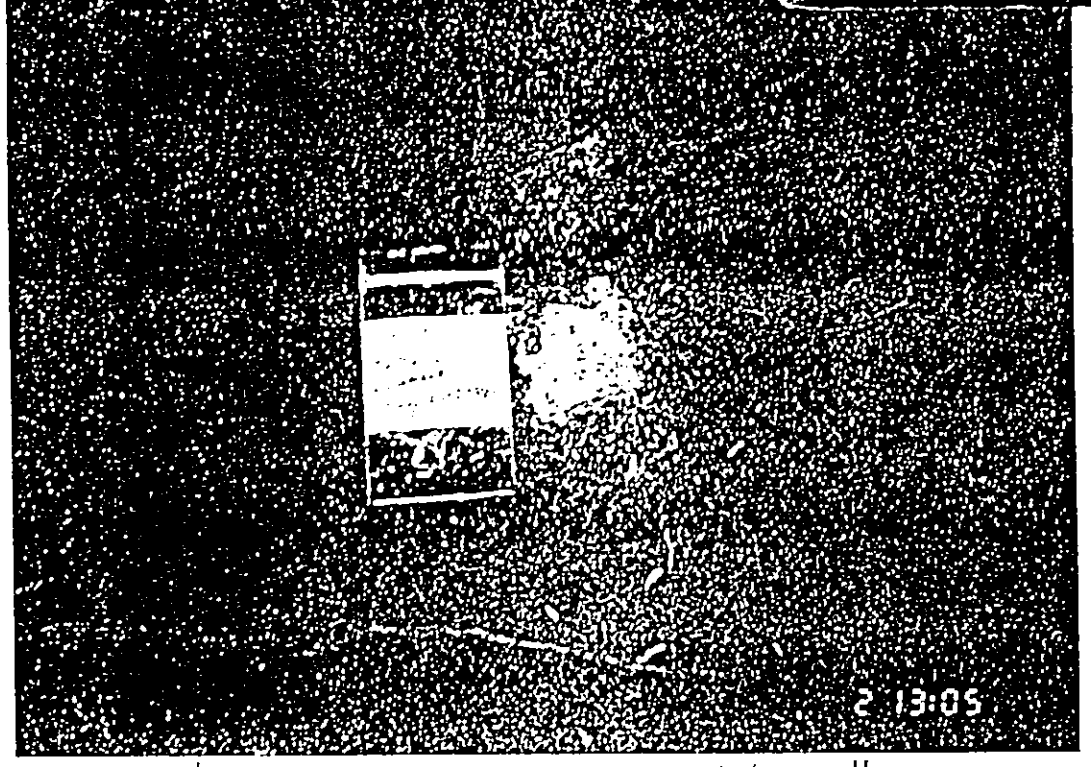
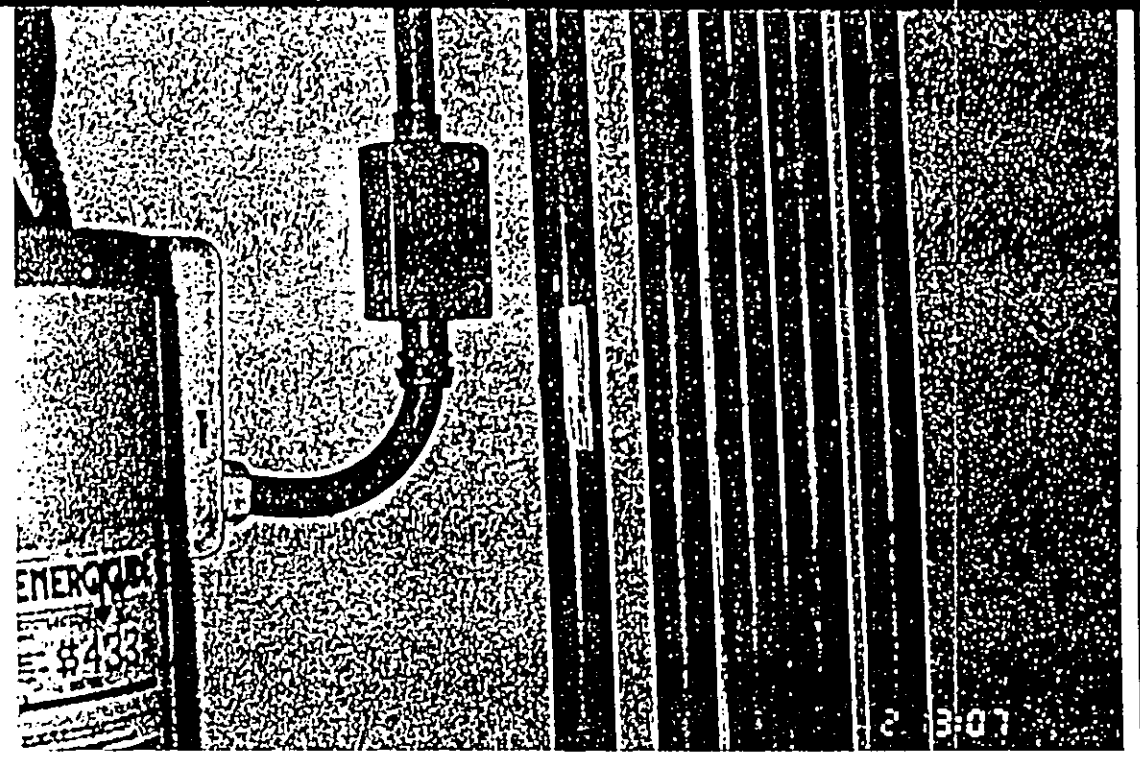


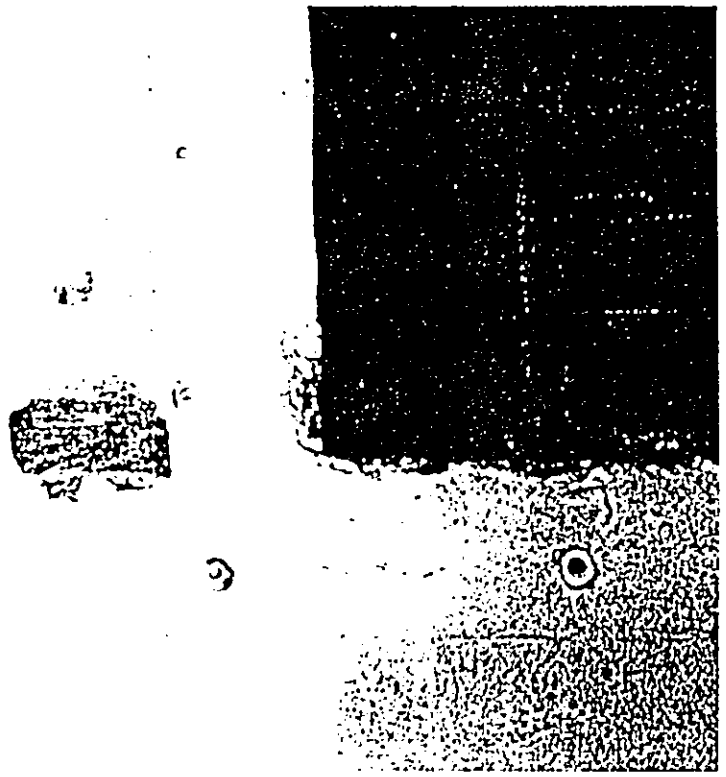
Plate 2 - Site Photos Showing Areas of Lead Based Paint in Pump Station

MASATOHOKA & ASSOCIATES

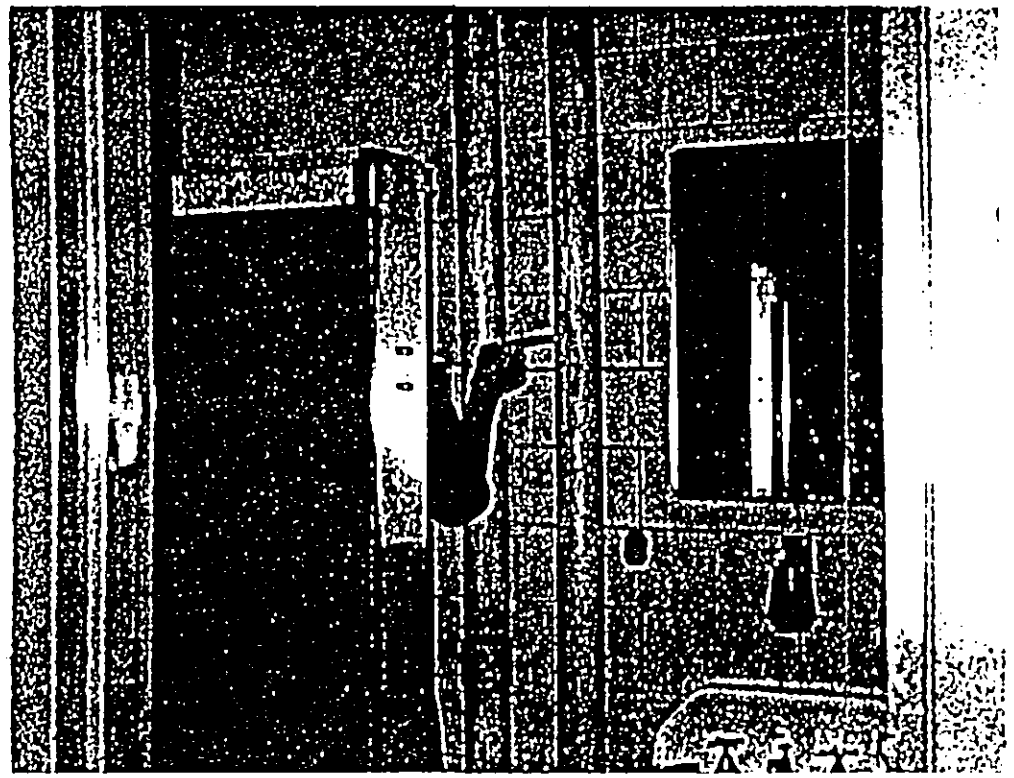




Orange paint on electrical conduits. Group II



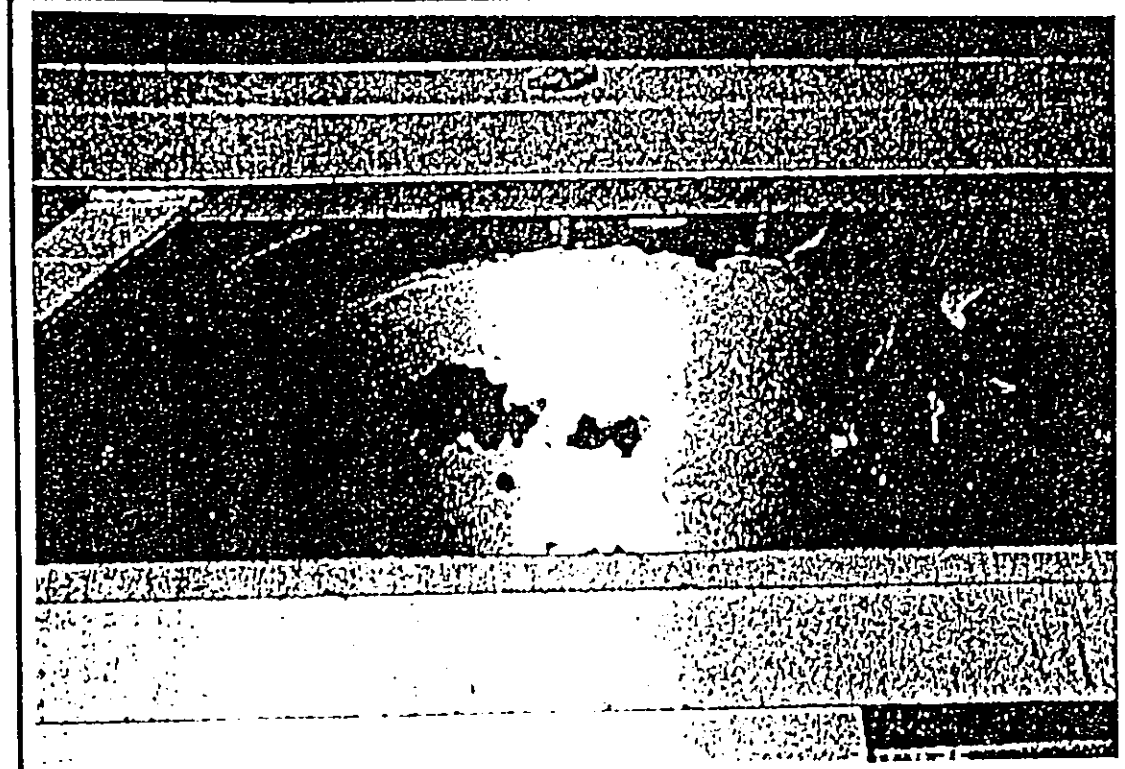
White paint on wall. Group II.

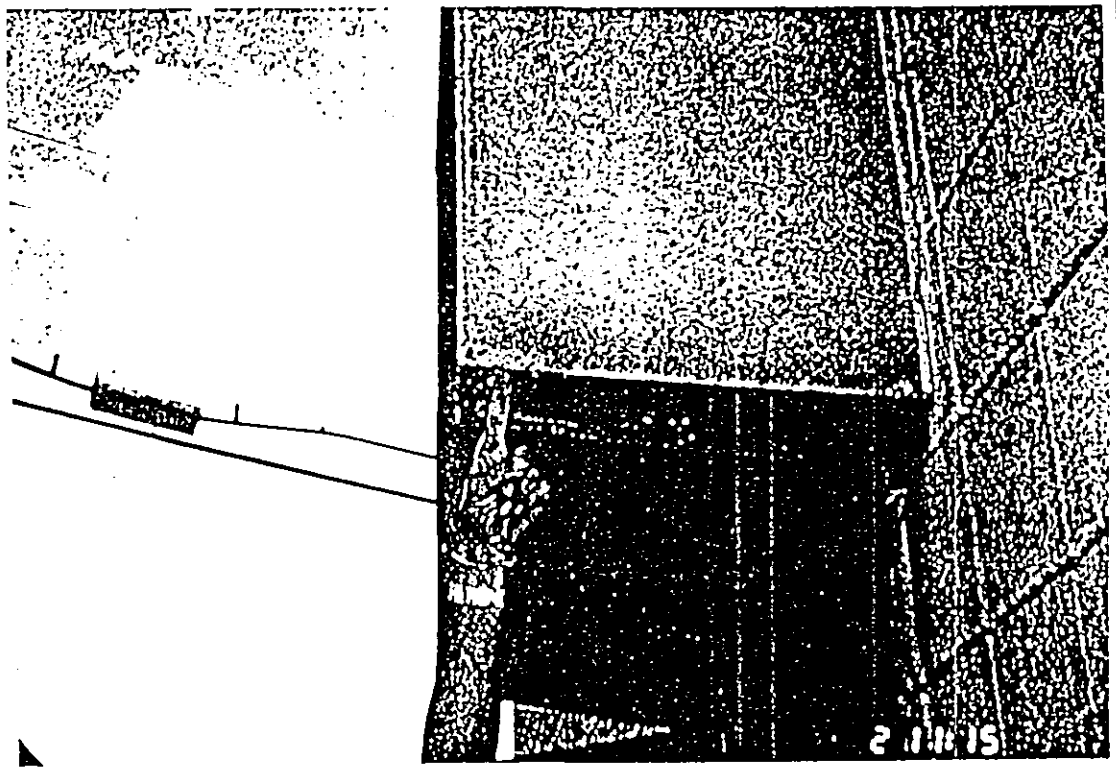


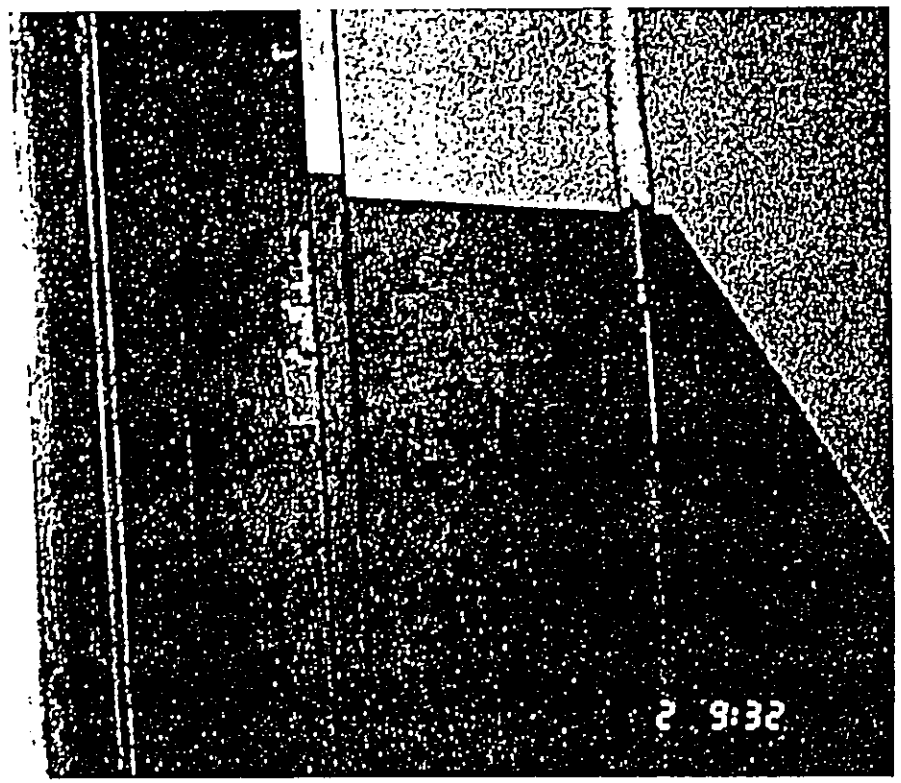
Yellow paint on pipes in bathroom. Group II.

Plate 2: Site Photos Showing Areas of Lead Based Paint in Pump Station

MASA FUJIOKA & ASSOCIATES







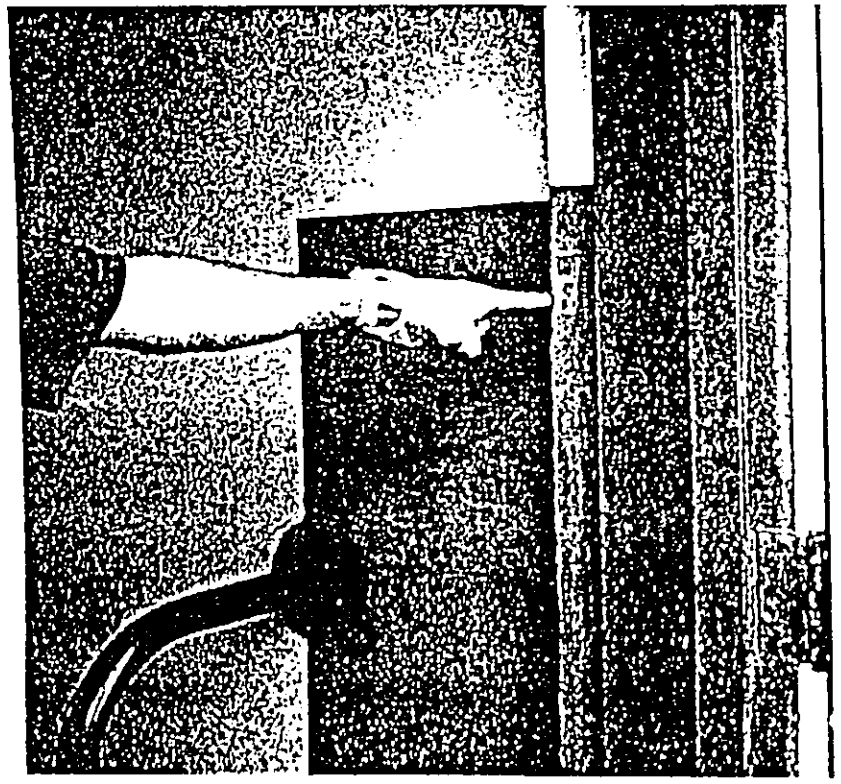
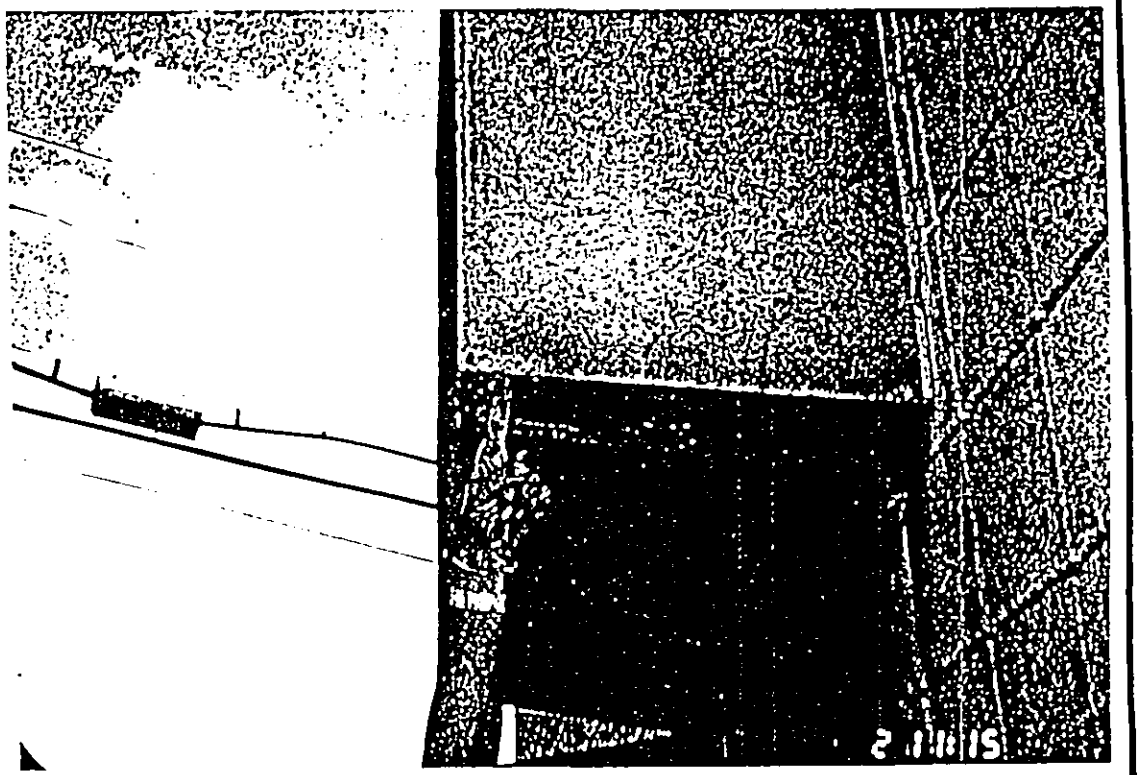


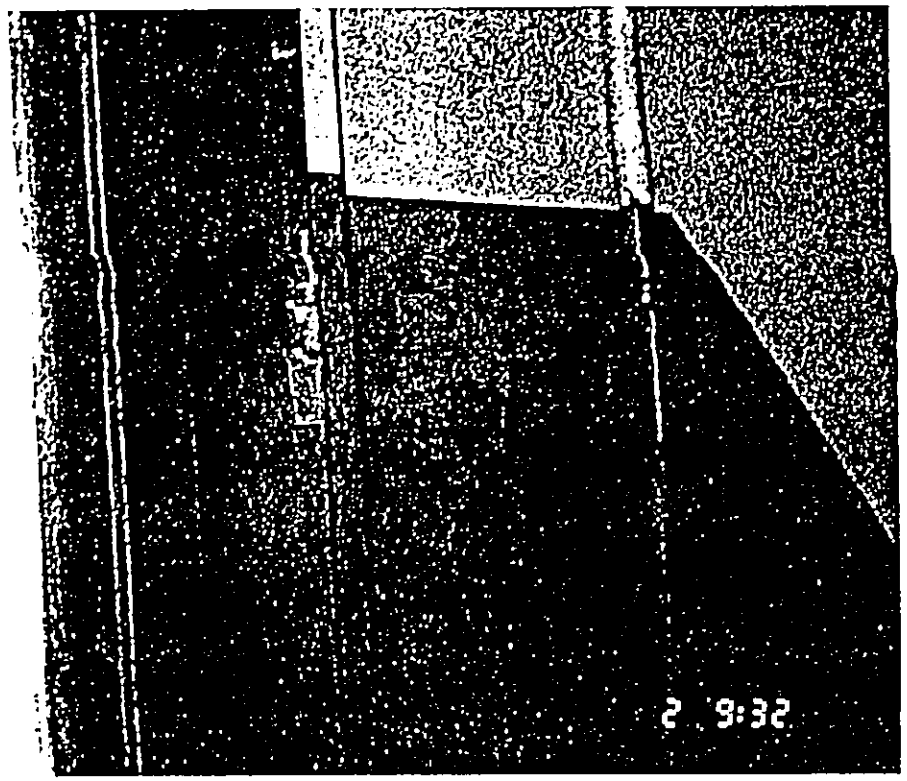
Plate 8 Site Photos Showing Areas of Lead Based Paint in Turbine and Venturi Buildings

MASA FUJIOKA & ASSOCIATES

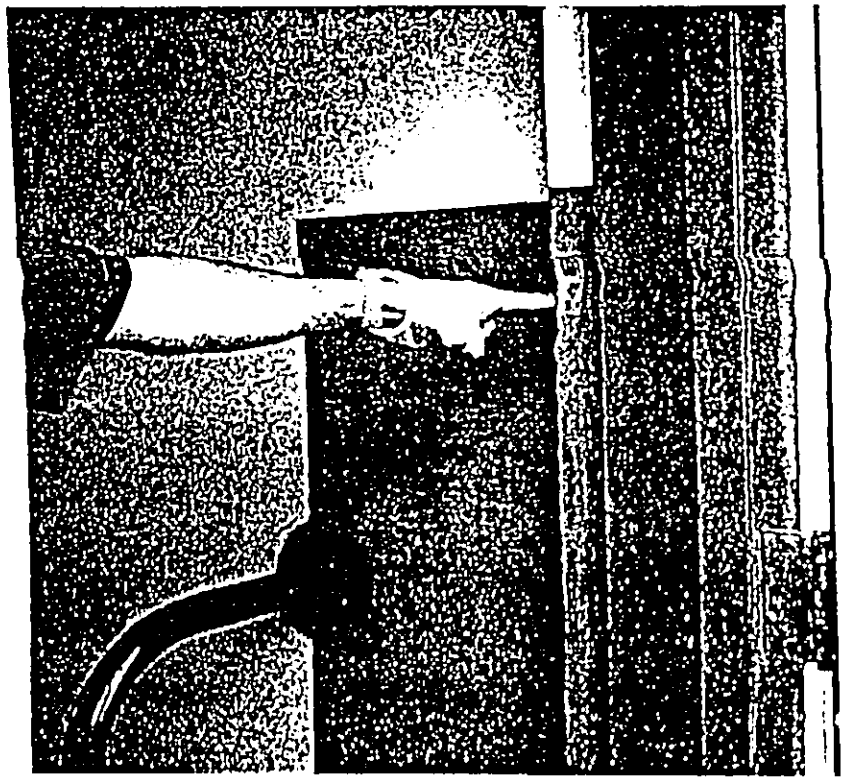
Silver metallic paint on interior of exhaust stacks in Turbine Building Group II



Light gray paint of vent support over Turbine Building doorway Group II



Dark gray paint on inside of Ventura Building door frame, Group III.



Dark brown paint on interior wall of Ventura Building Group II

Plate 3: Site Photos Showing Areas of Lead Based Paint in Turbine and Venturi Buildings

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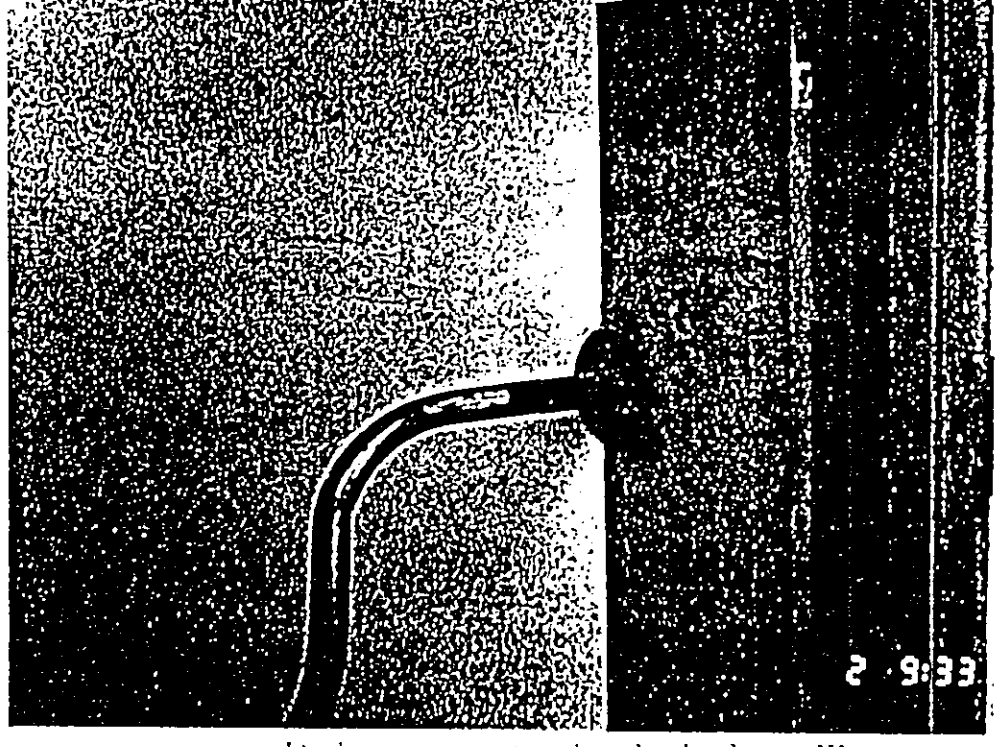
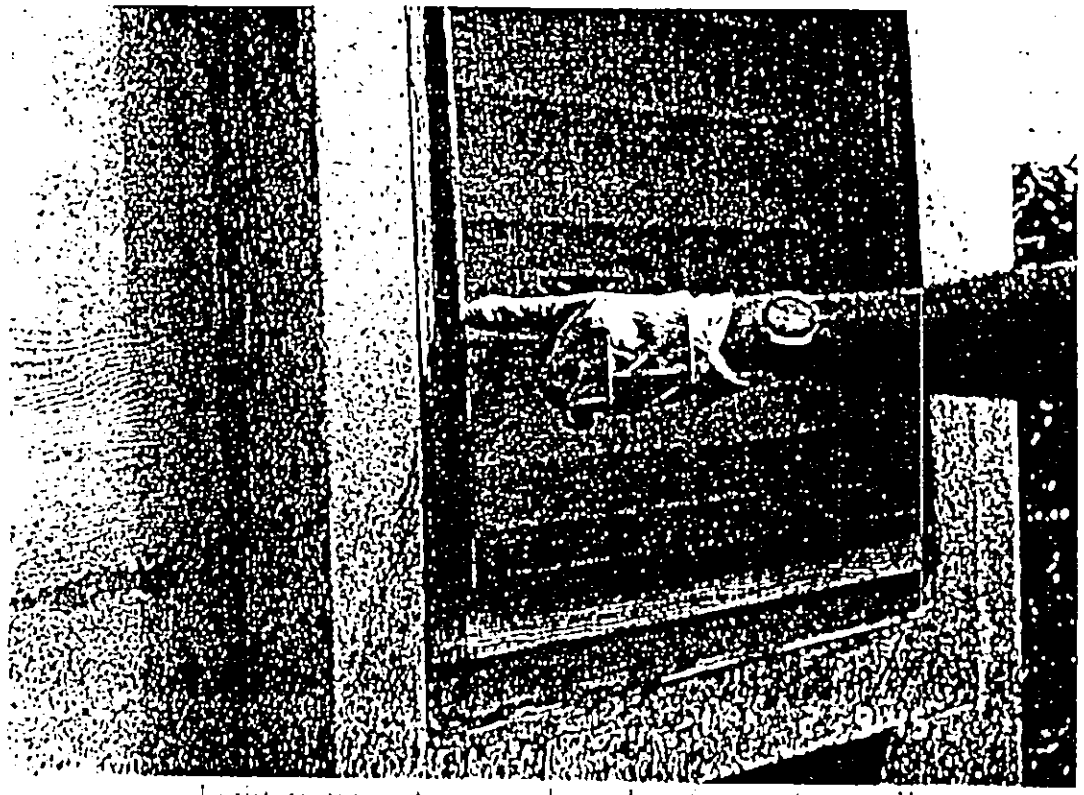
Light blue paint on plaster covering portion of electrical conduit - Group II



Dark green paint on handrail - Group III

Light green paint on wood window frame - Group II

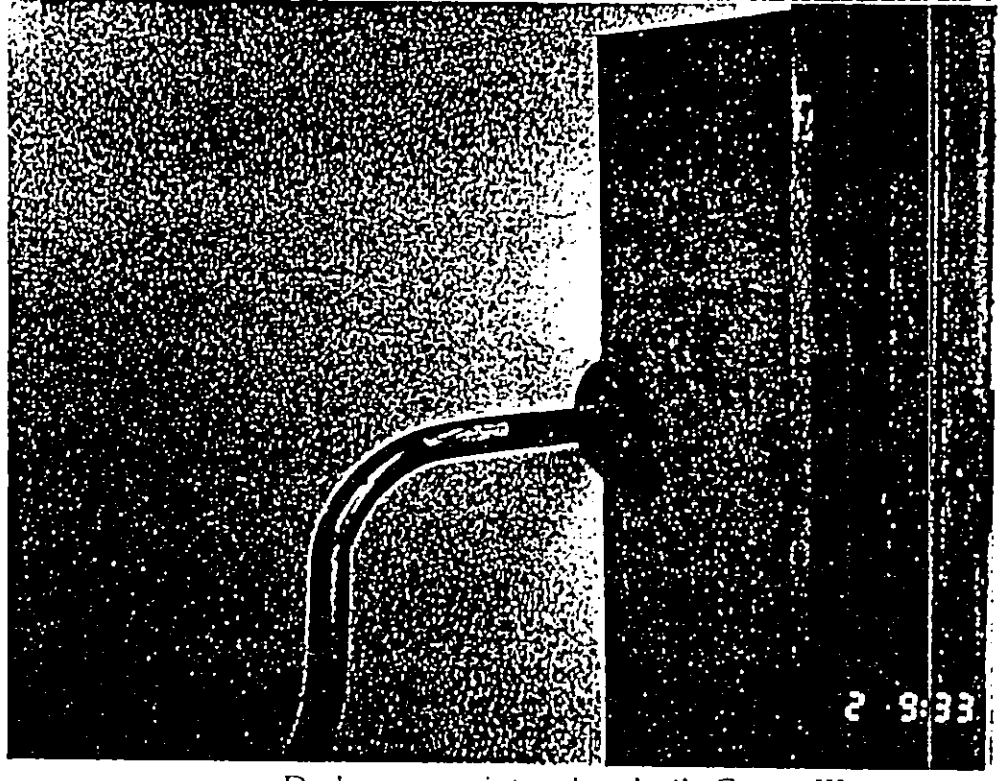


Light green paint on wood window frame - Group II

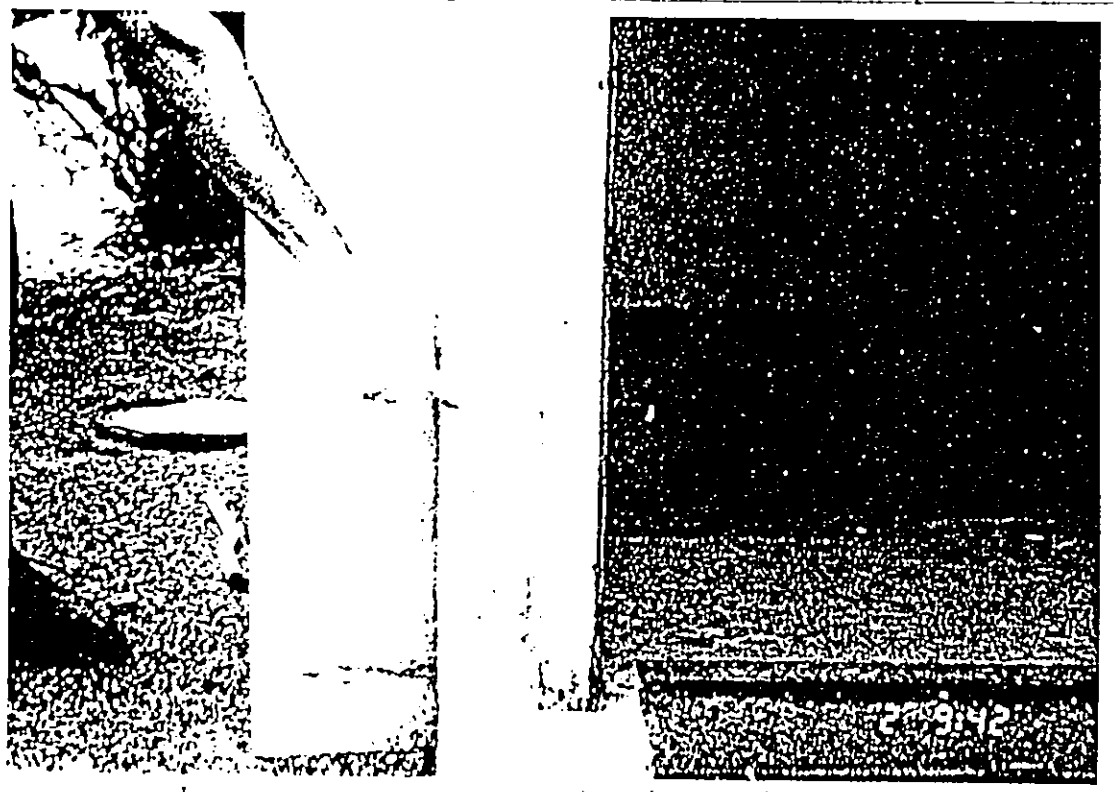
Plate 4: Site Photos Showing Areas of Lead Based Paint in Venturi Building

MASA FUJIOKA & ASSOCIATES

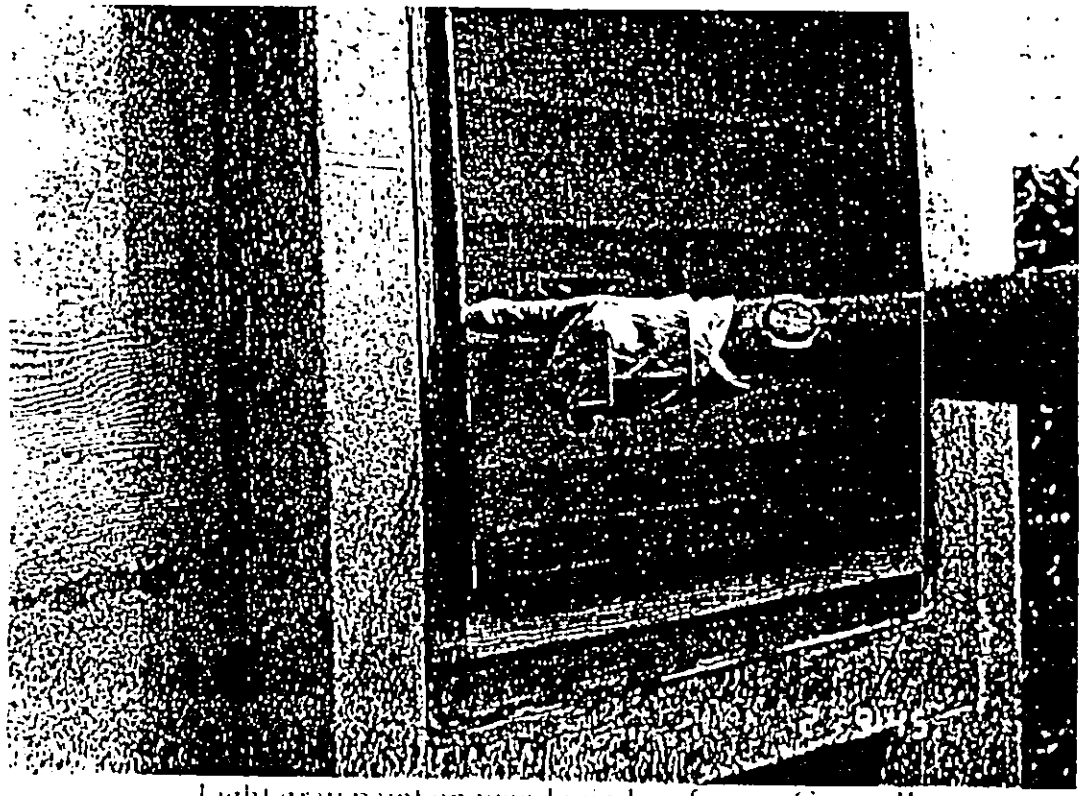
Light tan and dark brown paint on electrical conduit. Group II.



Dark green paint on handrail. Group III.



Light gray paint on steel door frame. Group II



Light gray paint on wood window frame. Group II

Plate 4: Site Photos Showing Areas of Lead Based Paint in Venturi Building

MASA FUJIOKA & ASSOCIATES

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APPENDIX C

LABORATORY TEST REPORTS

0000 0016 1874

Advanced Technology Laboratories

April 12, 1996

ELAP No.: 1838

Masa Fujioka & Associates
99-1205 Halawa Valley Street, Suite 302
Aiea, Hawaii 96701-3281

ATTN: Mr. Bill Lyon

Client's Project: NA
Lab No.: 10745-001/022

Gentlemen:

Enclosed are the results for sample(s) received by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

The samples for Asbestos-PLM analysis were subcontracted to CTL with DOHS Cert. #1492.

Thank you for the opportunity to service the needs of your company. Please feel free to call me at (310) 989 - 4045 if I can be of further assistance to your company.

Sincerely,

Edgar P. Caballero
Laboratory Director
EPC/ms

Enclosures

This cover letter is an integral part of this analytical report.

0000 00 16 1875

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POLARIZED LIGHT MICROSCOPY SUMMARY REPORT

CLIENT: Advanced Technology Laboratories. 1510 E. 33rd Street, Signal Hill, CA 90807

Client Project# : P.O. #6542 Location: Hart Street

CTL Lab# 112922 CTL Project # : SG96ATL999

Analytical Method: EPA/ 600/ R-93/ 116, July 1993

Client Sample # / CTL sample #	Sample Remarks Or Description	Total Asbestos %	Asbestos Type(s) present
ACMV-1 / 96-16537	10745-001 # of layers in sample = 6	Not detected	———
ACMV-2 / 96-16538	10745-002 # of layers in sample = 6	Not detected	———
ACMT-1 / 96-16539	10745—003 # of layers in sample = 4	Not detected	———
ACMT-2 / 96-16540	10745-004 # of layers in sample = 5	Not detected	———
ACMT-3 / 96-16541	10745-005 # of layers in sample = 6	Not detected	———
ACMT-4 / 96-16542	10745-006	Not detected	———
ACMT-5 / 96-16543	10745-007	Not detected	———
ACMT-6 / 96-16544	10745-008	Not detected	———
ACMT-7 / 96-16545	10745-009	15 %	chrysotile
ACMT-8 / 96-16546	10745-010	15 %	chrysotile

Supervisor Signature: Cristina Tibatt Date Received: 4/8/96

Analyst MZS Date Analyzed: 4/10/96

When a sample is "layered", the Total Asbestos % represents the composite percentage of all sample layers. If the asbestos percentage of an individual layer is required, the detailed lab report should be referenced, or the layer should be reanalyzed as a separate sample. Samples reported as Not detected, or less than 1% (<1%), are non-asbestos containing according to PLM method definitions.

0000 0016 1876

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POLARIZED LIGHT MICROSCOPY SUMMARY REPORT

CLIENT Advanced Technology Laboratories. 1510 E. 33rd Street, Signal Hill, CA 90807

Client Project# : P.O. #6542 Location: Hart

CTL Lab# 112922 CTL Project # : SG96ATL999

Analytical Method: EPA/ 600/ R-93/ 116, July 1993

Client Sample # / CTL sample #	Sample Remarks Or Description	Total Asbestos %	Asbestos Type(s) present
ACMT-9 / 96-16547	10745-011	15 %	chrysotile
ACMT-10 / 96-16548	10745-012	6 %	chrysotile
ACMT-11 / 96-16549	10745-013	6 %	chrysotile
ACMT-12 / 96-16550	10745-014	6 %	chrysotile
ACMT-13 / 96-16551	10745-015	Not detected	———
ACMT-14 / 96-16552	10745-016 # of layers in sample = 2	Not detected	———
ACMT-15 / 96-16553	10745-017	Not detected	———
ACMM-1 / 96-16554	10745-018	Not detected	———
ACMM-2 / 96-16555	10745-019	Not detected	———
ACMM-3 / 96-16556	10745-020	Not detected	———

Supervisor Signature: Cristina Tabatt Date Received: 4/8/96

Analyst MZS Date Analyzed: 4/10/96

When a sample is "layered", the Total Asbestos % represents the composite percentage of all sample layers. If the asbestos percentage of an individual layer is required, the detailed lab report should be referenced, or the layer should be reanalyzed as a separate sample. Samples reported as Not detected, or less than 1% (<1%), are non-asbestos containing according to PLM method definitions.

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POLARIZED LIGHT MICROSCOPY SUMMARY REPORT

CLIENT **Advanced Technology Laboratories. 1510 E. 33rd Street, Signal Hill, CA 90807**

Client Project# : P.O. 6542 Location: Hart

CTL Lab# **112922** CTL Project # : SG96ATL999

Analytical Method: *EPA/ 600/ R-93/ 116, July 1993*

Client Sample # / CTL sample #	Sample Remarks Or Description	Total Asbestos %	Asbestos Type(s) present
ACMM-4 96-16557	10745-021 # of layers in sample = 2	24 %	chrysotile
ACMM-5 96-16558	10745-022 # of layers in sample = 2	24 %	chrysotile

Supervisor Signature: Cynthia Tabatt Date Received: 4/8/96

Analyst MZC Date Analyzed: 4/10/96

When a sample is "layered", the Total Asbestos % represents the composite percentage of all sample layers. If the asbestos percentage of an individual layer is required, the detailed lab report should be referenced, or the layer should be reanalyzed as a separate sample. Samples reported as Not detected, or less than 1% (<1%), are non-asbestos containing according to PLM method definitions.

0000 00 16 1878

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POLARIZED LIGHT MICROSCOPY ANALYSIS REPORT

CLIENT: Advanced Technology Laboratories. 1510 E. 33rd Street, Signal Hill, CA 90807
Client Project# : P.O. #6542 Location: Hart Street
CTL Lab# 112922 CTL Project # : SG96ATL999
Analytical Method: *EPA/ 600/ R-93/ 116, July 1993*

SAMPLE NUMBER *CTL Sample #*	ASBESTOS FIBER CONTENT (Type & percentage)	NON-ASBESTOS Fibrous Content	NON-FIBROUS Matrix Content
ACMV-1 *96-16537*	TOTAL ASBESTOS = Not detected Remarks : 10745-001 Homogeneity : highly layered (blended) * Condition : non-friable Layer/area # / Vol.% / chrysotile / amosite / tremolite 1 / 100% / N.D. / N.D. / N.D.	Fibrous =30 % Color : black Texture : tar / bituminous Fibrous Materials: fiberglass / cellulose	Matrix approx.=70% MZS Analysis date: 4/10/96 Non-fibrous Matrix: tar / bituminous
ACMV-2 *96-16538*	TOTAL ASBESTOS = Not detected Remarks : 10745-002 Homogeneity : highly layered (blended) * Condition : non-friable Layer/area # / Vol.% / chrysotile / amosite / tremolite 1 / 100% / N.D. / N.D. / N.D.	Fibrous =30% Color : black Texture : tar / bituminous Fibrous Materials: fiberglass / cellulose	Matrix approx.=70% MZS Analysis date: 4/10/96 Non-fibrous Matrix: tar / bituminous
ACMT-1 *96-16539*	TOTAL ASBESTOS = Not detected Remarks : 10745--003 Homogeneity : highly layered (blended) * Condition : non-friable Layer/area # / Vol.% / chrysotile / amosite / tremolite 1 / 100% / N.D. / N.D. / N.D.	Fibrous =30% Color : black Texture : tar / bituminous Fibrous Materials: cellulose / synthetics	Matrix approx.=70% MZS Analysis date: 4/10/96 Non-fibrous Matrix: tar / bituminous
ACMT-2 *96-16540*	TOTAL ASBESTOS = Not detected Remarks : 10745-004 Homogeneity : highly layered (blended) * Condition : non-friable Layer/area # / Vol.% / chrysotile / amosite / tremolite 1 / 100% / N.D. / N.D. / N.D.	Fibrous =30% Color : black Texture : tar / bituminous Fibrous Materials: cellulose / synthetics	Matrix approx.=70% MZS Analysis date: 4/10/96 Non-fibrous Matrix: tar / bituminous
ACMT-3 *96-16541*	TOTAL ASBESTOS = Not detected Remarks : 10745-005 Homogeneity : highly layered (blended) * Condition : non-friable Layer/area # / Vol.% / chrysotile / amosite / tremolite 1 / 100% / N.D. / N.D. / N.D.	Fibrous =30% Color : black Texture : tar / bituminous Fibrous Materials: cellulose / synthetics	Matrix approx.=70% MZS Analysis date: 4/10/96 Non-fibrous Matrix: tar / bituminous

Supervisor Signature: Cynthia Tabatt Date Received: 4 / 8 / 96

Analyst : MZS

- *"Condition" is the sample friability as received by the laboratory.*
- *The EPA PLM method was designed for "qualitative" analysis of asbestos in "friable" materials. Non-detection of asbestos in certain types of "non-friable" resinous materials such as floor tiles can occur. Additional TEM analysis of samples determined to be "<1%" or "not detected" by the PLM method is recommended.*
- *Samples reported as Not detected (N.D.), or less than 1% (<1%), are non-asbestos containing according to limitations of the PLM method.*

0000 0016 1879

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POLARIZED LIGHT MICROSCOPY ANALYSIS REPORT

CLIENT: Advanced Technology Laboratories. 1510 E. 33rd Street, Signal Hill, CA 90807
Client Project# : P.O. #6542 Location: Hart Street
CTL Lab# : 112922 CTL Project # : SG96ATL999
Analytical Method: EPA/ 600/ R-93/ 116, July 1993

SAMPLE NUMBER / CTL Sample #	ASBESTOS FIBER CONTENT (Type & percentage)	NON-ASBESTOS Fibrous Content	NON-FIBROUS Matrix Content
ACMT-4 *96-16542*	TOTAL ASBESTOS = Not detected Remarks : 10745-006 Homogeneity : homogenous * Condition : non-friable Color : mottled gray Texture : resinous Layer/area # / Vol.% / chrysotile / amosite / tremolite: 1 / 100% / N.D. / N.D. / N.D.	Fibrous < 1% Fibrous Materials: cellulose	Matrix approx.=100% MZS Analysis date: 4/10/96 Non-fibrous Matrix: caulking, putty, or glue
ACMT-5 *96-16543*	TOTAL ASBESTOS = Not detected Remarks : 10745-007 Homogeneity : homogenous * Condition : non-friable Color : mottled gray Texture : resinous Layer/area # / Vol.% / chrysotile / amosite / tremolite: 1 / 100% / N.D. / N.D. / N.D.	Fibrous <1% Fibrous Materials: cellulose	Matrix approx.=100% MZS Analysis date: 4/10/96 Non-fibrous Matrix: caulking, putty, or glue
ACMT-6 *96-16544*	TOTAL ASBESTOS = Not detected Remarks : 10745-008 Homogeneity : homogenous * Condition : non-friable Color : mottled gray Texture : resinous Layer/area # / Vol.% / chrysotile / amosite / tremolite: 1 / 100% / N.D. / N.D. / N.D.	Fibrous <1% Fibrous Materials: cellulose	Matrix approx.=100% MZS Analysis date: 4/10/96 Non-fibrous Matrix: caulking, putty, or glue
ACMT-7 *96-16545*	TOTAL ASBESTOS = 15% Remarks : 10745-009 Homogeneity : homogenous * Condition : non-friable Color : black Texture : tar / bituminous Layer/area # / Vol.% / chrysotile / amosite / tremolite: 1 / 100% / 15% / N.D. / N.D.	Fibrous =1% Fibrous Materials: cellulose / synthetics	Matrix approx.=84% MZS Analysis date: 4/10/96 Non-fibrous Matrix: tar / bituminous
ACMT-8 *96-16546*	TOTAL ASBESTOS = 15% Remarks : 10745-010 Homogeneity : homogenous * Condition : non-friable Color : black Texture : tar / bituminous Layer/area # / Vol.% / chrysotile / amosite / tremolite: 1 / 100% / 15% / N.D. / N.D.	Fibrous =1% Fibrous Materials: cellulose / synthetics	Matrix approx.=84% MZS Analysis date: 4/10/96 Non-fibrous Matrix: tar / bituminous

Supervisor Signature: Cynthia Tabatt Date Received: 4 1 8 1 96
Analyst : MZS

- *"Condition" is the sample friability as received by the laboratory.*
- *The EPA PLM method was designed for "qualitative" analysis of asbestos in "friable" materials. Non-detection of asbestos in certain types of "non-friable" resinous materials such as floor tiles can occur. Additional TEM analysis of samples determined to be "<1%" or "not detected" by the PLM method is recommended.*
- *Samples reported as Not detected (N.D.), or less than 1% (<1%), are non-asbestos containing according to limitations of the PLM method.*

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POLARIZED LIGHT MICROSCOPY ANALYSIS REPORT

CLIENT: Advanced Technology Laboratories. 1510 E. 33rd Street, Signal Hill, CA 90807
Client Project# : P.O. #6542 Location: Hart
CTL Lab# 112922 CTL Project # : SG96ATL999
Analytical Method: EPA/ 600/ R-93/ 116, July 1993

SAMPLE NUMBER / CTL Sample #	ASBESTOS FIBER CONTENT (Type & percentage)	NON-ASBESTOS Fibrous Content	NON-FIBROUS Matrix Content
ACMT-9 *96-16547*	**TOTAL ASBESTOS = 15%** Remarks : 10745-011 Homogeneity : homogenous * Condition : non-friable Layer/area # 1 — Vol.% 100% — chrysotile 15% — amosite N.D. — tremolite N.D. Color : black Texture : tar / bituminous Fibrous Materials: cellulose / synthetics	Fibrous =1 %	Matrix approx.=84% MZS Analysis date: 4/10/96 Non-fibrous Matrix: tar / bituminous
ACMT-10 *96-16548*	**TOTAL ASBESTOS = 6%** Remarks : 10745-012 Homogeneity : homogenous * Condition : non-friable Layer/area # 1 — Vol.% 100% — chrysotile 6% — amosite N.D. — tremolite N.D. Color : mottled gray Texture : fibrous & resinous Fibrous Materials: cellulose	Fibrous <1%	Matrix approx.=94% MZS Analysis date: 4/10/96 Non-fibrous Matrix: paint
ACMT-11 *96-16549*	**TOTAL ASBESTOS = 6%** Remarks : 10745-013 Homogeneity : homogenous * Condition : non-friable Layer/area # 1 — Vol.% 100% — chrysotile 6% — amosite N.D. — tremolite N.D. Color : mottled gray Texture : fibrous & resinous Fibrous Materials: cellulose	Fibrous <1%	Matrix approx.=94% MZS Analysis date: 4/10/96 Non-fibrous Matrix: paint
ACMT-12 *96-16550*	**TOTAL ASBESTOS = 6%** Remarks : 10745-014 Homogeneity : homogenous * Condition : non-friable Layer/area # 1 — Vol.% 100% — chrysotile 6% — amosite N.D. — tremolite N.D. Color : mottled gray Texture : fibrous & resinous Fibrous Materials: cellulose	Fibrous <1%	Matrix approx.=94% MZS Analysis date: 4/10/96 Non-fibrous Matrix: paint
ACMT-13 *96-16551*	**TOTAL ASBESTOS = Not detected** Remarks : 10745-015 Homogeneity : homogenous * Condition : non-friable Layer/area # 1 — Vol.% 100% — chrysotile N.D. — amosite N.D. — tremolite N.D. Color : black Texture : fibrous & resinous Fibrous Materials: cellulose / synthetics	Fibrous =60%	Matrix approx.=40% MZS Analysis date: 4/10/96 Non-fibrous Matrix: caulking, putty, or glue

Supervisor Signature: Cynthia Tabatt Date Received: 4 1 8 1 96

Analyst : MZS

- *"Condition" is the sample friability as received by the laboratory.*
- *The EPA PLM method was designed for "qualitative" analysis of asbestos in "friable" materials. Non-detection of asbestos in certain types of "non-friable" resinous materials such as floor tiles can occur. Additional TEM analysis of samples determined to be "<1%" or "not detected" by the PLM method is recommended.*
- *Samples reported as Not detected (N.D.), or less than 1% (<1%), are non-asbestos containing according to limitations of the PLM method.*

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CTL ENVIRONMENTAL SERVICES • 2905 E. Century Blvd. • South Gate, CA 90280 • (213) 564-2642

POLARIZED LIGHT MICROSCOPY ANALYSIS REPORT

CLIENT: Advanced Technology Laboratories. 1510 E. 33rd Street, Signal Hill, CA 90807
Client Project# : P.O. #6542 Location: Hart
CTL Lab# : 112922 CTL Project # : SG96ATL999
Analytical Method: EPA/ 600/ R-93/ 116, July 1993

SAMPLE NUMBER / *CTL Sample #*	ASBESTOS FIBER CONTENT (Type & percentage)	NON-ASBESTOS Fibrous Content	NON-FIBROUS Matrix Content
ACMT-14 / *96-16552*	TOTAL ASBESTOS = Not detected	Fibrous < 1%	Matrix approx.=100%
	Remarks : 10745-016		
	Homogeneity : non-homogenous (blended)	Color : light brown	MZS
	* Condition : non-friable	Texture : powdery & granular	Analysis date: 4/10/96
	Layer/area # / Vol.% / chrysotile / amosite / tremolite	Fibrous Materials:	Non-fibrous Matrix:
	1 / 100% / N.D. / N.D. / N.D.	cellulose	quartz
ACMT-15 / *96-16553*	TOTAL ASBESTOS = Not detected	Fibrous <1%	Matrix approx.=100%
	Remarks : 10745-017		
	Homogeneity : homogenous	Color : gray	MZS
	* Condition : non-friable	Texture : powdery & granular	Analysis date: 4/10/96
	Layer/area # / Vol.% / chrysotile / amosite / tremolite	Fibrous Materials:	Non-fibrous Matrix:
	1 / 100% / N.D. / N.D. / N.D.	cellulose	quartz
ACMM-1 / *96-16554*	TOTAL ASBESTOS = Not detected	Fibrous <1%	Matrix approx.=100%
	Remarks : 10745-018		
	Homogeneity : homogenous	Color : light gray	MZS
	* Condition : non-friable	Texture : resinous	Analysis date: 4/10/96
	Layer/area # / Vol.% / chrysotile / amosite / tremolite	Fibrous Materials:	Non-fibrous Matrix:
	1 / 100% / N.D. / N.D. / N.D.	cellulose	caulking, putty, or glue
ACMM-2 / *96-16555*	TOTAL ASBESTOS = Not detected	Fibrous <1%	Matrix approx.=100%
	Remarks : 10745-019		
	Homogeneity : homogenous	Color : light gray	MZS
	* Condition : non-friable	Texture : resinous	Analysis date: 4/10/96
	Layer/area # / Vol.% / chrysotile / amosite / tremolite	Fibrous Materials:	Non-fibrous Matrix:
	1 / 100% / N.D. / N.D. / N.D.	cellulose	caulking, putty, or glue
ACMM-3 / *96-16556*	TOTAL ASBESTOS = Not detected	Fibrous <1%	Matrix approx.=100%
	Remarks : 10745-020		
	Homogeneity : homogenous	Color : light gray	MZS
	* Condition : non-friable	Texture : resinous	Analysis date: 4/10/96
	Layer/area # / Vol.% / chrysotile / amosite / tremolite	Fibrous Materials:	Non-fibrous Matrix:
	1 / 100% / N.D. / N.D. / N.D.	cellulose	caulking, putty, or glue

Supervisor Signature: Cynthia Tabatt Date Received: 4 / 8 / 96
Analyst : MZS

- *"Condition" is the sample friability as received by the laboratory.*
- *The EPA PLM method was designed for "qualitative" analysis of asbestos in "friable" materials. Non-detection of asbestos in certain types of "non-friable" resinous materials such as floor tiles can occur. Additional TEM analysis of samples determined to be "<1%" or "not detected" by the PLM method is recommended.*
- *Samples reported as Not detected (N.D.), or less than 1% (<1%), are non-asbestos containing according to limitations of the PLM method.*

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CTL ENVIRONMENTAL SERVICES • 2905 E. Century Blvd. • South Gate, CA 90280 • (213) 564-2642

POLARIZED LIGHT MICROSCOPY ANALYSIS REPORT

CLIENT Advanced Technology Laboratories. 1510 E. 33rd Street, Signal Hill, CA 90807
Client Project# : P.O. 6542 Location: Hart
CTL Lab# 112922 CTL Project # : SG96ATL999
Analytical Method: EPA/ 600/ R-93/ 116, July 1993

SAMPLE NUMBER *CTL Sample #*	ASBESTOS FIBER CONTENT (Type & percentage)	NON-ASBESTOS Fibrous Content	NON-FIBROUS Matrix Content
ACMM-4 *96-16557*	TOTAL ASBESTOS = 24%	Fibrous =2 %	Matrix approx.=74%
	Remarks : 10745-021		
	Homogeneity : non-homogenous	Color : mottled green	MZS
	* Condition : non-friable	Texture : vinyl tile or sheeting	Analysis date: 4/11/96
	Layer/area # / Vol.% / chrysotile / amosite / tremolite	Fibrous Materials:	Non-fibrous Matrix:
	1 / 60% / N.D. / N.D. / N.D.	cellulose	vinyl binder
	2 / 40% / 60%	celluiose	gypsum / carbonate
ACMM-5 *96-16558*	TOTAL ASBESTOS = 24%	Fibrous =2%	Matrix approx.=74%
	Remarks : 10745-022		
	Homogeneity : non-homogenous	Color : mottled green	MZS
	* Condition : non-friable	Texture : vinyl tile or sheeting	Analysis date: 4/11/96
	Layer/area # / Vol.% / chrysotile / amosite / tremolite	Fibrous Materials:	Non-fibrous Matrix:
	1 / 60% / N.D. / N.D. / N.D.	cellulose	vinyl binder
	2 / 40% / 60%	cellulose	gypsum / carbonate

Supervisor Signature: Cynthia Tibbett Date Received: 4 / 8 / 96

Analyst : MZC

- *"Condition" is the sample friability as received by the laboratory.*
- *The EPA PLM method was designed for "qualitative" analysis of asbestos in "friable" materials. Non-detection of asbestos in certain types of "non-friable" resinous materials such as floor tiles can occur. Additional TEM analysis of samples determined to be "<1%" or "not detected" by the PLM method is recommended.*
- *Samples reported as Not detected (N.D.), or less than 1% (<1%), are non-asbestos containing according to limitations of the PLM method.*

0000 00 16 1883

Advanced Technology Laboratories

April 12, 1996

ELAP No.: 1838

Masa Fujioka & Associates
99-1205 Halawa Valley Street, Suite 302
Aiea, Hawaii 96701-3281

ATTN: Mr. Bill Lyon

Client's Project: Hart St. WW Pump Station, 96096-12
Lab No.: 10746-001/029

Gentlemen:

Enclosed are the results for sample(s) received by Advanced Technology Laboratories and tested for the parameters indicated in the enclosed chain of custody.

The samples for Asbestos-PLM analysis were subcontracted to CTL with DOHS Cert. #1492.

Thank you for the opportunity to service the needs of your company. Please feel free to call me at (310) 989 - 4045 if I can be of further assistance to your company.

Sincerely,

Edgar P. Caballero
Laboratory Director
EPC/ms

Enclosures

This cover letter is an integral part of this analytical report.

0000 0016 1884

lient: Masa Fujioka & Associates
ttn: Mr. Bill Lyon

lient's Project: Hart St. WW Pump Station, 96096-012

ate Received: 04/05/96
ate Sampled: 04/02/96
ate Digested: 04/12/96
igestion Method: EPA 3050

Lab No.	Sample I.D.	Analysis	Date Analyzed	Results	Matrix, Units	MDL	DLR	Analyst Initials
746-001	LBPV-1	EPA 6010 (Lead)	04/12/96	0.0093	Paint Chips, %	0.0005	0.0022	DJM
746-002	LBPV-2	EPA 6010 (Lead)	04/12/96	0.1470	Paint Chips, %	0.0005	0.0037	DJM
746-003	LBPV-3	EPA 6010 (Lead)	04/12/96	11.65	Paint Chips, %	0.0005	0.1200	DJM
746-004	LBPV-4	EPA 6010 (Lead)	04/12/96	11.40	Paint Chips, %	0.0005	0.1500	DJM
746-005	LBPV-5	EPA 6010 (Lead)	04/12/96	0.1760	Paint Chips, %	0.0005	0.0051	DJM
746-006	LBPV-6	EPA 6010 (Lead)	04/12/96	0.0931	Paint Chips, %	0.0005	0.0088	DJM
746-007	LBPV-7	EPA 6010 (Lead)	04/12/96	0.1770	Paint Chips, %	0.0005	0.0028	DJM
746-008	LBPV-8	EPA 6010 (Lead)	04/12/96	0.1850	Paint Chips, %	0.0005	0.0325	DJM
746-009	LBPV-9	EPA 6010 (Lead)	04/12/96	ND	Paint Chips, %	0.0005	0.0279	DJM
746-010	LBPT-1	EPA 6010 (Lead)	04/12/96	1.19	Paint Chips, %	0.0005	0.0862	DJM
746-011	LBPT-2	EPA 6010 (Lead)	04/12/96	ND	Paint Chips, %	0.0005	0.0115	DJM
746-012	LBPT-3	EPA 6010 (Lead)	04/12/96	ND	Paint Chips, %	0.0005	1.3000	DJM
746-013	LBPT-4	EPA 6010 (Lead)	04/12/96	ND	Paint Chips, %	0.0005	0.0099	DJM
746-014	LBPT-5	EPA 6010 (Lead)	04/12/96	0.0093	Paint Chips, %	0.0005	0.0033	DJM
746-015	LBPT-6	EPA 6010 (Lead)	04/12/96	ND	Paint Chips, %	0.0005	0.0132	DJM
746-016	LBPT-7	EPA 6010 (Lead)	04/12/96	ND	Paint Chips, %	0.0005	0.0038	DJM
746-017	LBPT-8	EPA 6010 (Lead)	04/12/96	ND	Paint Chips, %	0.0005	0.0048	DJM

DL = Method Detection Limit
D = Not Detected (Below DLR)
F = Dilution Factor (DLR/MDL)

eviewed/Approved By: Cheryl De Los Reyes
Cheryl De Los Reyes
Department Supervisor

Date: 4/12/96

e cover letter is an integral part of this analytical report.

0000 00 16 1885

Client: Masa Fujioka & Associates
Attn: Mr. Bill Lyon

Client's Project: Hart St. WW Pump Station, 96096-012

Date Received: 04/05/96
Date Sampled: 04/02/96
Date Digested: 04/12/96
Digestion Method: EPA 3050

Lab No.	Sample I.D.	Analysis	Date Analyzed	Results	Matrix, Units	MDL	DLR	Analyst Initials
10746-018	LBPT-9	EPA 6010 (Lead)	04/12/96	0.0176	Paint Chips, %	0.0005	0.0048	DJM
10746-019	LBPM-1	EPA 6010 (Lead)	04/12/96	0.1640	Paint Chips, %	0.0005	0.0022	DJM
10746-020	LBPM-2	EPA 6010 (Lead)	04/12/96	0.1070	Paint Chips, %	0.0005	0.0025	DJM
10746-021	LBPM-3	EPA 6010 (Lead)	04/12/96	0.1390	Paint Chips, %	0.0005	0.0017	DJM
10746-022	LBPM-4	EPA 6010 (Lead)	04/12/96	0.7210	Paint Chips, %	0.0005	0.0150	DJM
10746-023	LBPM-5	EPA 6010 (Lead)	04/12/96	1.56	Paint Chips, %	0.0005	0.0205	DJM
10746-024	LBPM-6	EPA 6010 (Lead)	04/12/96	ND	Paint Chips, %	0.0005	0.0133	DJM
10746-025	LBPM-7	EPA 6010 (Lead)	04/12/96	0.2940	Paint Chips, %	0.0005	0.0048	DJM
10746-026	LBPM-8	EPA 6010 (Lead)	04/12/96	0.3540	Paint Chips, %	0.0005	0.0037	DJM
10746-027	LBPM-9	EPA 6010 (Lead)	04/12/96	0.3610	Paint Chips, %	0.0005	0.0053	DJM
10746-028	LBPM-10	EPA 6010 (Lead)	04/12/96	1.78	Paint Chips, %	0.0005	0.0203	DJM
10746-029	LBPM-11	EPA 6010 (Lead)	04/12/96	4.04	Paint Chips, %	0.0005	0.1650	DJM

MDL = Method Detection Limit
ND = Not Detected (Below DLR)
DF = Dilution Factor (DLR/MDL)

Reviewed/Approved By: Cheryl de los Reyes
Cheryl De Los Reyes
Department Supervisor

Date: 4/12/96

The cover letter is an integral part of this analytical report.

Advanced Technology
1510 E. 33rd Street, Signal Hill, CA 90807 Tel: 310 989-4045 Fax: 310 989-404

Spike Recovery and RPD Summary Report

Method: EPA 7420
Analyst: DJM
Data File: AA60412 - 2
QA File: 6103 - 2

Date Analyzed: 04/12/96
Date Digested: 04/12/96
Sample ID: 10596-042
Matrix: Soil

ANALYTE	UNITS	METH BLANK	SPL CONC	SPK ADDED	MS RESULT	MSD RESULT	%MS REC	%MSD REC	% REC Limit	RPD	RPD Limit	MDL
Lead	mg/kg	ND	4.5	5.0	10	9.9	110	108	54 - 124	2	24	5.0

Approved by: _____
Cheryl De Los Reyes
Inorganics Supervisor

Date: 4/17/96

Advanced Technology

APPENDIX D

COST ESTIMATE FOR ASBESTOS REMOVAL

ACM RMVL COST ESTIMATE

ACM Description	Location	Est. Amt.	Units	Cost	Total Cost
PUMPING STATION BUILDING:					
Linoleum sheet flooring (general)	Window sills; perimeter of building	200	sq.ft.	$4	$800
Transite ceiling panels (general)	Electrical room; ground floor ceiling	850	sq.ft.	$8	$6,749
Brown 12" x 12" vinyl floor tile with mastic	Electrical room; ground floor	400	sq.ft.	$5	$2,000
Transite partitions	Bathroom; ground floor	30	sq.ft.	$4	$120
Transite siding	Storage shed; adjacent to building	170	sq.ft.	$8	$1,360
TURBINE BUILDING:					
Silver paint	Exhaust stacks on turbines/roof	2	each	$200	$400
Gray caulking	On vertical shingles: roof	20	sq.ft.	$3	$50
				SUBTOTAL	$11,479
Air Monitoring Consultant		5	days	$560	$2,800
				TOTAL	$14,279

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APPENDIX E

COST ESTIMATE FOR LEAD-BASED PAINT REMOVAL

LBP Removal Estimate

LBP Description	Handling Recommendations	Est. Amt.	Units	Cost	Total Cost
PUMPING STATION:					
Vertical support column w/ yellow paint	Removal by Abatement Contractor	300	sq.ft.	$28.95	$8,685.00
	* includes LBP disposal cost				
All other Group I, II and III painted surfaces should be demolished or dismantled and thrown away as normal construction debris. A qualified air monitoring consultant should be on site during demolition of Group II and III painted surfaces to satisfy OSHA regulations.					
TURBINE BUILDING:					
All Group I and II painted surfaces should be demolished or dismantled and thrown away as normal construction debris. A qualified air monitoring consultant should be on site during demolition of Group II painted surfaces to satisfy OSHA regulations.					
Air Monitoring Consultant:	includes 5 air samples and analysis		per day	$710.00	
	for an 8 hour day				

APPENDIX D

0000 0016 1892

MFA MASA FUJIOKA & ASSOCIATES
A PROFESSIONAL PARTNERSHIP
ENVIRONMENTAL • GEOTECHNICAL • HYDROGEOLOGICAL CONSULTANTS
99-1205 HALAWA VALLEY STREET, SUITE 302 • AIEA, HAWAII 96701-3281
PHONE 808 484-5366 • FAX 808 484-0007

January 16, 1998
97096-015

Wilson Okamoto & Associates, Inc.
1907 S. Beretania Street
Honolulu, HI 96826

Attention: Mr. John Sakaguchi

Subject: **Letter Report**
Additional Subsurface Investigation
Hart Street Pump Station and Force Main
Honolulu, Oahu, Hawaii

Dear Mr. Sakaguchi:

Masa Fujioka & Associates (MFA) is pleased to submit this letter report which describes our additional subsurface investigation conducted near the City and County of Honolulu (City) Hart Street Waste Water Pump Station (WWPS).

INTRODUCTION

Our investigation targeted two areas near the WWPS. The first area is a strip of land, immediately adjacent to the pump station property, that may be acquired or leased by the City to accommodate pump station improvements. The second area is a possible force main entry pit location for the proposed Hart Street Force Main. The environmental subsurface investigation consisted of drilling three exploratory soil borings (borings AL-1, AL-2, and AL-3) in the proposed acquisition area, and drilling one soil boring (boring FME-1) near the proposed force main entry pit area. We obtained two soil samples in each boring, and installed a groundwater monitoring well and obtained a groundwater sample in boring FME-1.

SCOPE OF WORK

Our work was conducted in accordance with our proposal dated May 7, 1997. We performed the following tasks during our investigation:

1. Drilling of four exploratory soil borings;

2. Collection of two soil samples from each boring, one at 1 foot below ground surface (bgs) and one at the groundwater surface (approximately 4 to 5 feet bgs);

3. Analysis of the deeper soil sample from each boring for total petroleum hydrocarbons (TPH) as jet fuel, TPH as gasoline, TPH as diesel, the volatile organics benzene, toluene, ethylbenzene, and xylene (BTEX), polynuclear aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs); and analysis of the shallow soil sample from each boring for PCBs and fuel scan;

4. Installation of a groundwater monitoring well in boring FME-1;

5. Analysis of a groundwater sample from FME-1 for total petroleum hydrocarbons (TPH) as gasoline, TPH as diesel, BTEX, PAHs, PCBs, fecal coliform, and the water quality analytes required by the NPDES Form 2a list (total nitrogen, ammonia nitrogen, nitrate+nitrite, phosphorus, turbidity, total suspended solids, oil and grease, dissolved oxygen, pH, temperature, and salinity); and

6. Preparation of this letter report presenting field observations, analytical results and recommendations.

DESCRIPTION OF FIELD ACTIVITIES

Drilling and Soil Sampling

Field work was conducted from September 24 - 26, 1997. Borings AL-1, AL-2, and AL-3 were drilled to 5 feet bgs, and boring FME-1 was drilled to 10 feet bgs. Soil samples were collected from all four borings at 1 foot bgs and at the groundwater surface (approximately 4 to 5 feet bgs).

Soil samples were collected using a 12-pound slide hammer sampler. Samples were collected by driving the sampler into undisturbed soil at the bottom of the borehole. The sampler was fitted with removable brass sleeves in which the soil samples were obtained. The brass sleeves containing the soil samples were sealed by placing plastic caps with Teflon liners over the ends of the sleeves. The samples were labeled, placed in ziploc bags and stored in a cooler containing blue ice until delivered to the laboratory (Environmental Laboratory of the Pacific) at the end of the day. Chain-of-custody procedures were followed during the transfer of samples to the laboratory. Chain-of-custody records are attached to laboratory reports in Appendix A.

Sampling equipment was cleaned before and after collection of each sample to mitigate boring and crosshole contamination. Decontamination of the

sampling equipment was performed by washing in a solution of Liquinox and water, rinsing in clean water, and rinsing a second time in distilled water. In addition, drilling equipment was washed in a solution of Liquinox and water and rinsed in potable water before each boring to reduce the potential of crosshole contamination. Soil cuttings generated during drilling were back filled into the borings.

Measurements of total volatile organic vapor concentrations were taken during the drilling of the borings for use in selecting samples for analyses. To obtain the measurements, soil from one of the extra sampling rings was placed in a ziploc bag and sealed with an equal volume of air. The bagged samples were allowed to sit for at least 15 minutes to allow the vapor concentrations in the soil and air to come to equilibrium. A sample of the equilibrated air from the bagged sample was then drawn into a field photoionization detector (PID). The PID responses were recorded on the boring logs (Appendix B). Table 1 contains soil sample descriptions, depths, and field screening results.

TABLE 1. Soil Sample Descriptions

Sample #	Depth (ft bgs)	PID (ppm)	Description
AL-1-1	1.0	0	Gray sandy coral gravel, no petroleum odor
AL-1-2	5.0	>2,500	Gray sandy coral gravel, moderate to strong petroleum odor
AL-2-1	1.0	0	Gray sandy coral gravel, no petroleum odor
AL-2-2	4.0	>2,500	Gray sandy coral gravel, strong petroleum odor
AL-3-1	1.0	0	Gray to tan sandy coral gravel, no petroleum odor
AL-3-2	4.0	>2,500	Gray gravelly coral sand, strong petroleum odor
FME-1-1	1.0	180	Gray sandy coral gravel, moderate petroleum odor
FME-1-2	4.0	>2,500	Gray silty coral sand, strong to moderate petroleum odor

Hydrocarbon odors were noted by MFA personnel during drilling and collection of samples near the groundwater surface (4 to 5 feet bgs) in borings AL-

1, AL-2, and AL-3. Hydrocarbon odors were noted during drilling of FME-1 from approximately 6 inches bgs to below the groundwater surface.

Soil samples collected during this investigation were delivered to the Environmental Laboratory of the Pacific (ELP) for chemical testing. The deep sample from each boring was submitted to ELP for analysis of TPH as jet fuel, TPH as gasoline, TPH as diesel, BTEX, PAHs, and PCBs. The shallow soil sample from each boring was submitted to ELP for analysis of PCBs and a fuel scan. Shallower soils (around 6 inches bgs) in boring FME-1 were suspected to be contaminated with solvents, based on odor. Therefore, the shallower soil sample from this boring was also analyzed for halogenated volatile organic compounds (HVOCs). Soil test results are discussed in the following section.

Monitoring Well Installation and Groundwater Sampling

Upon completion of boring FME-1, a PVC well casing was installed in the boring. The casing consisted of 2-inch-diameter Schedule 40, PVC slotted screen (0.020-inch slot width) and 2-inch-diameter unslotted PVC casing. Pre-slotted, flush joint casing was used and a flush-threaded end cap was placed on the bottom of the slotted screen. Cements or adhesives were not used in any of the casing joints. Clean Monterey sand was placed in the annular space between the borehole and the PVC casing to at least one foot above the screened PVC. A bentonite seal, approximately 1.5-feet thick, was placed in the annulus above the sand, and the remaining annular space, from the top of the bentonite seal to ground surface, was filled with a cement/bentonite grout. A locking cap and traffic vault were placed on the top of the well. A well construction diagram is presented in conjunction with the boring log for FME-1 (Appendix B).

Prior to sampling, the well was purged of 5 well-casing volumes of groundwater. Samples were collected using a dedicated, clean, disposable polyethylene bailer. A bottom-emptying device was used to transfer water to sample containers provided by the laboratory. Decontamination water and purged water were spread on the concrete for solar evaporation. No free-phase product was observed on the purged and/or sampled groundwater.

The groundwater sample was placed in a cooler with frozen blue-ice, and submitted to ELP for analysis of TPH as gasoline, TPH as diesel, BTEX, PAHs, PCBs, fecal coliform, and the water quality analytes required by the NPDES Form 2a list (total nitrogen, ammonia nitrogen, nitrate+nitrite, phosphorus, turbidity, total suspended solids, oil and grease, dissolved oxygen, pH, temperature, and salinity). Groundwater test results are discussed in the following section.

RESULTS

DOH Action levels discussed in this section are taken from DOH's "Risk-Based Corrective Action and Decision Making at Sites with Contaminated Soil and Groundwater" (December 1995), and are applicable to sites with less than 200 cm of rainfall per year and where a drinking water source is not threatened. This category is appropriate as the site receives approximately 60 cm of rainfall per year, and is located makai of the underground injection control (UIC) line.

Proposed Acquisition Area

A summary of chemical test results for soil samples from borings AL-1, AL-2, and AL-3 is presented in Table 2. Laboratory reports of the chemical testing and chain-of-custody records are contained in Appendix A.

The laboratory reported motor-oil-range hydrocarbon concentrations of 55 mg/kg and 130 mg/kg for two of the three shallow soil samples. PCBs were reported at concentrations of 0.031 mg/kg and 0.044 mg/kg for these two samples. The reported concentrations of motor oil and PCBs are well below the Tier 1 Action Levels of 5,000 mg/kg for motor oil and 1.0 mg/kg for PCBs. TPH-gasoline, TPH-diesel, TPH-jet fuel, BTEX, and PAHs (acenaphthene, benzo(a)pyrene, fluoranthene, and naphthalene) were reported as not detected above acceptable method reporting limits (MRLs) for the three shallow samples.

Petroleum hydrocarbon contamination was reported for the deeper soil samples, obtained near the groundwater surface, from all three borings. Concentrations range from 250 mg/kg to 630 mg/kg for gasoline-range hydrocarbons and 530 mg/kg to 1,200 mg/kg for jet fuel. Gasoline and jet fuel concentrations were below the DOH Tier 1 Action Levels of 2,000 mg/kg and 5,000 mg/kg, respectively, for gasoline and middle distillates (including jet fuel). Total xylenes were reported at a concentration of 1.7 mg/kg in one of the deeper soil samples, well below the DOH Tier 1 Action Level of 23 mg/kg. Ethylbenzene was reported at concentrations of 0.67 mg/kg and 0.14 mg/kg for two of the deeper soil samples. The reported concentration of 0.67 mg/kg is slightly above the DOH Tier 1 Action Level of 0.50 mg/kg for ethylbenzene.

Benzene, toluene, acenaphthene, fluoranthene, naphthalene, and PCBs were reported as not detected above acceptable MRLs for the three deeper soil samples. Benzo(a)pyrene was reported as not detected above an elevated MRL of 3.3 mg/kg for two samples, and 6.6 mg/kg for the third sample. These MRLs are elevated due to dilution of the samples required by the high concentrations of jet fuel, and are above the Tier 1 Action Level of 1.0 mg/kg for benzo(a)pyrene.

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TABLE 2
Soil Sample Analytical Results (mg/kg) for Proposed Acquisition Area

Sample ID	AL-1-1	AL-1-2	AL-2-1	AL-2-2	AL-3-1	AL-3-2	DOH Action Level$^{\Delta}$
TPH as Gasoline	ND (<1.0)	480$^{\Diamond}$	ND (<1.0)	250$^{\Diamond}$	ND (<1.0)	630	2,000
TPH as Diesel	NI (<2.0)	NI (<40)	NI (<2.0)	NI (<40)	NI (<2.0)	NI (<20)	5,000
TPH as Jet Fuel	NI (<2.0)	1,200	NI (<2.0)	890	NI (<2.0)	530	5,000
TPH Motor Oil	NI (<20)	NI (<400)	56	NI (<400)	130	NI (<200)	5,000
Benzene	NR	ND (<0.4)	NR	ND (<0.4)	NR	ND (<1.0)	1.7
Toluene	NR	ND (<0.4)	NR	ND (<0.4)	NR	ND (<1.0)	34
Ethylbenzene	NR	0.67	NR	ND (<0.4)	NR	0.14*	0.50
Total Xylenes	NR	1.7	NR	ND (<0.8)	NR	ND (<2.0)	23
Acenaphthene	NR	ND (<6.6)	NR	ND (<3.3)	NR	ND (<3.3)	18
Benzo(a)-pyrene	NR	ND (<6.6)$^{¥}$	NR	ND (<3.3)$^{¥}$	NR	ND (<3.3)$^{¥}$	1.0
Fluoranthene	NR	ND (<6.6)	NR	ND (<3.3)	NR	ND (<3.3)	11
Naphthalene	NR	ND (<6.6)	NR	ND (<3.3)	NR	ND (<3.3)	41
PCBs	ND (<0.033^{+1})	ND (<0.033^{+1})	0.031*	ND (<.33^{+2})	0.044	ND (<0.033^{+1})	1.0

$^{\Delta}$ Tier 1 Action Level for soil in area with rainfall ≤ 200 cm/year & drinking water source not threatened
ND Not Detected above method reporting limit (MRL)
$^{\Diamond}$ Laboratory reports an unidentified hydrocarbon chromatogram pattern
NI Not Identified above reporting limit in fuel scan
NR Not Requested
* Estimated concentration below the MRL, but above the method detection limit (MDL)
+1 MRL is 0.033 mg/kg, except for PCB 1221 with MRL of 0.066 mg/kg
+2 MRL is 0.33 mg/kg, except for PCB 1221 with MRL of 0.66 mg/kg
¥ Laboratory reports that MRL raised due to dilution required to minimize matrix interferences; which places the MRL above the Tier 1 Action Level for this analyte

Proposed Force Main Entry Pit Area

A summary of chemical test results for soil samples from boring FME-1 is presented in Table 3. Laboratory reports of the chemical testing and chain-of-custody records are contained in Appendix A.

The laboratory reported gasoline and jet fuel contamination of both the shallow and deeper samples from this boring. Concentrations of 470 mg/kg gasoline and 4,900 mg/kg jet fuel were reported for the sample obtained at 1 foot bgs in this boring, and concentrations of 1,300 mg/kg gasoline and 1,700 mg/kg jet fuel were reported for the sample obtained at 4 feet bgs. The reported concentrations are below the applicable Tier 1 Action Levels of 2,000 mg/kg for gasoline and 5,000 mg/kg for middle distillates (including jet fuel).

PCBs were reported as not detected above acceptable MRLs for both the shallow and deep samples from boring FME-1. BTEX and PAHs were analyzed for the deeper sample only. Ethylbenzene was reported at a concentration of 0.39 mg/kg (below the DOH Tier 1 Action Level of 0.50 mg/kg) for the deeper sample. Benzene, toluene, xylenes, acenaphthene, fluoranthene, and naphthalene were reported as not detected above acceptable MRLs for the deeper soil sample.

Benzo(a)pyrene was reported as not detected for the deeper soil sample. However, the sample had to be diluted due to matrix interference from the high concentrations of jet fuel in the sample, so the method reporting limit was elevated to 3.3 mg/kg, above the DOH Tier 1 Action Level of 1.0 mg/kg. HVOCs were also reported as not detected, but the MRLs were elevated above the Tier 1 Action Levels for some of the analytes (Table 3).

A summary of chemical test results for the groundwater sample from FME-1 is presented in Table 4. Laboratory reports of the chemical testing and chain-of-custody records are contained in Appendix A.

The laboratory reported gasoline- and diesel-range contamination in the groundwater sample, but reported that the chromatogram pattern was for an unidentified hydrocarbon. BTEX and PCBs were reported as not detected above method reporting limits.

The laboratory data for the NPDES analytes are also presented in Table 4. Oil and grease (EPA 413.1) was reported at a concentration of 5.3 mg/L. NPDES permits usually set a limit of 15 mg/L for oil and grease in dewatering discharge. The reported concentrations of nutrients (nitrogens and phosphorus) appear to

be acceptable based on those typically imposed by NPDES permits. The other water quality parameters would also likely be acceptable for an NPDES permit.

TABLE 3
Soil Sample Analytical Results (mg/kg) for Proposed Force Main Entry Pit Area

Sample ID	FME-1-1	FME-1-2	DOH Action Level$^{\Delta}$
TPH as Gasoline	470$^{\Diamond}$	1,300$^{\Diamond}$	2,000
TPH as Diesel	NI (<200)	NI (<100)	5,000
TPH as Jet Fuel	4,900	1,700	5,000
TPH Motor Oil	NI (<2,000)	NI (<1,000)	5,000
Benzene	NR	ND (<1.0)	1.7
Toluene	NR	ND (<1.0)	34
Ethylbenzene	NR	0.39*	0.50
Total Xylenes	NR	ND (<2.0)	23
Acenaphthene	NR	ND (<3.3)	18
Benzo(a)-pyrene	NR	ND (<3.3)¥	1.0
Fluoranthene	NR	ND (<3.3)	11
Naphthalene	NR	ND (<3.3)	41
PCBs	ND (<0.66)	ND (<0.033^{+})	1.0
Carbon Tetrachloride	ND (<0.10)	NR	1.9
Chlorobenzene	ND (<0.10)	NR	0.08
Chloroform	ND (<0.10)	NR	2.8
1,1-Dichloroethene	ND (<0.10)	NR	0.47
Methylene chloride	ND (<1.0)	NR	0.003
Tetrachloroethene	ND (<0.10)	NR	5.0
1,1,1-Trichloroethane	ND (<0.10)	NR	3.0
Trichloroethene	ND (<0.10)	NR	1.5
Vinyl Chloride	ND (<0.20)	NR	0.18

Δ Tier 1 Action Level for soil in area with rainfall ≤ 200 cm/year & drinking water source not threatened
ND Not Detected above reporting limit
◊ Laboratory reports an unidentified hydrocarbon chromatogram pattern
NI Not Identified above reporting limit in fuel scan
NR Not Requested
* Estimated concentration below the method reporting limit (MRL), but above the method detection limit (MDL)
+ MRL is 0.033 mg/kg, except for PCB 1221 with MRL of 0.066 mg/kg
¥ Laboratory reports that MRL raised due to dilution required to minimize matrix interferences; which places the MRL above the Tier 1 Action Level for this analyte

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TABLE 4
Groundwater Sample Analytical Results (mg/kg)
for Proposed Force Main Entry Pit Area

Sample ID	FME-1-GW	DOH Action Level[Δ]
TPH as Gasoline	1.5[◊]	NS
TPH as Diesel	72[◊]	NS
Benzene	ND (<0.01)	1.7
Toluene	ND (<0.01)	2.1
Ethylbenzene	ND (<0.01)	0.14
Total Xylenes	ND (<0.02)	10
PCBs	ND (<0.01-0.02)[+]	0.002
Oil and Grease	5.3	NA
Nitrogen, Ammonia	5.1	NA
Nitrogen, Nitrate+Nitrite	ND (<0.050)	NA
Nitrogen, Total	1.1	NA
Dissolved Oxygen	0.91	NA
pH (units)	7.0	NA
Total Phosphorus	1.6	NA
Salinity	18	NA
Total Suspended Solids	1,900	NA
Turbidity (NTU)	34	NA
Fecal Coliform (MPN/100mL)	2.0	NA

ND Not Detected above reporting limit
- MRL is 0.01, except for PCB 1221 with MRL of 0.02
Δ DOH Tier 1 Action Level for groundwater in area with rainfall ≤ 200 cm/year and drinking water source not threatened
NS No standard Action Level
NA No applicable Action Level
◊ Laboratory reports an unidentified hydrocarbon chromatogram pattern

CONCLUSIONS AND DISCUSSION

Proposed Acquisition Area

Low concentrations (well below Tier 1 Action Levels) of motor-oil-range petroleum hydrocarbons and PCBs in two of the three shallow samples indicate that some PCB contamination has occurred in the acquisition area. This area was formerly part of the Chevron Kapalama East facility, which was turned over to the State, following the cleanup of a leak of polychlorinated biphenyls (PCBs) from a transformer. The cleanup was performed to levels acceptable to the State, according to Chevron personnel and DOH documents (documented in MFA's report, "Hazardous Waste / Hazardous Material Survey, Hart Street Force Main, Honolulu, Oahu, Hawaii", dated June 30, 1997).

Petroleum hydrocarbon contamination was reported for the deeper soil samples, obtained near the groundwater surface, from all three borings drilled in the proposed acquisition area. Reported concentrations, however, were all below applicable DOH Tier 1 Action Levels, with the exception of ethylbenzene. Ethylbenzene was reported at a concentration of 0.67 mg/kg, just above the DOH Tier 1 Action Level, in one sample.

The occurrence of groundwater contamination and soil contamination near the groundwater surface in the area of the proposed acquisition area suggests that area-wide contamination, previously documented to affect the Hart Street Pump Station property, extends south beneath the proposed acquisition area. Area-wide contamination of soil and groundwater in the Iwilei area is well-documented. We previously discussed the impact of area-wide contamination on the Hart Street Pump Station site in our report "Letter Report, Subsurface Investigation, Hart Street Wastewater Pump Station, Pier 35, Honolulu, Oahu, Hawaii".

Based on the findings of this investigation (i.e., only one analyte reported at a concentration slightly above Tier 1 Action Levels), and the fact that area-wide contamination is likely the origin of the contamination encountered near the groundwater surface, it is unlikely that DOH would require cleanup of the proposed acquisition area. DOH's position is confirmed by a conversation with Mr. Bryce Hataoka of DOH's Hazard Evaluation & Emergency Response (HEER) Office, documented in an October 15, 1997 letter from the City and County Department of Wastewater Management (DWWM) to Mr. Hataoka (see Appendix C). The letter states that DOH would not require a remediation plan to address the contamination.

Although DOH is unlikely to require cleanup of the petroleum hydrocarbon contamination in this area, excavation and dewatering work should consider the presence of contamination of the soil and groundwater. In addition, contaminated soil that cannot be used as fill material may be treated and/ or disposed of according to applicable local and State requirements. Based on laboratory results obtained during this investigation, such soil could likely be disposed of at a local treatment and disposal facility, such as the Nanakuli Soil Reclamation (bioremediation) Facility. Additional testing of the soil may be required prior to treatment/disposal.

Proposed Force Main Entry Pit Area

Our investigation encountered petroleum hydrocarbon contamination of the shallow soil column in the area of the proposed force main entry pit, indicating that soil contamination may not be limited to the area-wide contamination migrating by groundwater. The most likely source of the shallow contamination in this area is the nearby fuel pipeline(s).

Our soil and groundwater samples in this area did not contain contaminants above DOH Tier 1 Action Levels. In addition, analysis of a groundwater sample for typical NPDES permit requirements indicates that the groundwater may be acceptable for dewatering discharge with respect to chemical concentrations of contaminants. However, physical quality parameters, such as petroleum odor or turbidity, may preclude discharge of dewatering effluent from a pit excavated in this area.

DOH Guidance

Two DOH guidance documents are applicable to the contamination encountered during our investigation. DOH's letter, dated April 1, 1991 and entitled "General Guidelines for Taking Action in the Course of Encountering Petroleum Contamination during Public Works Activities in Hawaii" describes basic guidelines for planned public works projects, including sampling of soil and groundwater prior to the start of excavation. The document also requests that the results of sampling and analysis be reported to DOH's HEER Office.

In particular, Item 2 of the April 1, 1991 document states that, generally, contaminated soils should not be redeposited into any excavated areas, and that excavations should be backfilled only with clean soils unless it can be demonstrated that clean soils will be recontaminated. In that scenario, the area

where contamination of the fill would occur can be backfilled with the contaminated material which was originally excavated.

Item 3 of the DOH April 1, 1991 letter states that if the activity undertaken requires dewatering, any contaminated ground water pumped out must be treated, stored, or disposed of in accordance with all applicable State and Federal requirements.

A DOH HEER document, dated December 1996 and entitled "Guidance Fact Sheet for Use When Petroleum Contamination is Encountered during Subsurface Soil Excavation", also contains guidance applicable to the site. The 1996 guidance states that "(e)xcavated soils may be stored under cover and redeposited into an excavation provided that a cover of clean soil or a cap of asphalt or concrete is provided once the work has been completed. Contaminated soil that cannot be used as fill material will need to be treated and/or disposed of according to applicable local and State requirements." The 1996 document also specifies that HEER is to be notified immediately after discovery of contamination during excavation, that the project may be continued to completion with appropriate air monitoring initiated, and that detailed records of all investigative work and clean up activities be maintained.

RECOMMENDATIONS

We recommend that the guidelines in DOH's April 1, 1991 letter and December 1996 guidance be followed with respect to mitigating contamination. During excavation, contaminated soil should be segregated from clean soil under the guidance of an environmental consultant. Excavated contaminated soil may be stored on site under cover during construction work, and then redeposited into the excavation. A cover of clean soil or a cap of asphalt or concrete should be provided to cover the redeposited contaminated soil.

Segregated contaminated soils can be stored in a plastic-lined, bermed, soil management unit (SMU) until re-use, disposal or treatment options are determined. Appropriate areas for temporary stockpiling should be identified prior to the excavation work to minimize construction delays.

While groundwater may meet the chemical water quality limits, physical water quality considerations, such as petroleum odor or turbidity, would likely necessitate treatment of dewatering effluent prior to discharge to receiving waters. The dewatering treatment design should address the occurrence and treatment of petroleum contamination.

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Subsurface petroleum contamination may also provide a risk to human health after completion of construction. Hydrocarbon vapors may enter buildings where they may be inhaled by workers, or may provide an explosive risk. These factors should be considered in the construction of any buildings on the proposed acquisition area.

We further recommend the following health and safety measures for work involving excavation at the site:

1) Preparation of a site specific health and safety plan (SSHP) addressing the potential hazards associated with the excavation activities on the property. The SSHP should incorporate the information regarding the subsurface conditions in the work area, including the risks due to inhalation and contact with petroleum products, and the risks of explosion due to petroleum volatiles and methane.

2) Performance of on-site soil monitoring during excavation activities by heavy equipment, particularly for excavation at or below the groundwater table. All mass excavated soils should be investigated and screened for the presence of organic vapors, to assess the extent of volatile hydrocarbon contamination and to initially segregate contaminated soils from clean soils. Trenches and other excavations should be monitored for explosion hazard and for organic vapors, as determined appropriate by the SSHP.

3) On site worker health & safety monitoring for the presence of organic vapors should be performed in the worker breathing zones of all site personnel while excavation or work in trenches is in progress.

4) Equipment operators working with excavated soils should have appropriate hazardous waste training as specified by Federal and State occupational safety and health regulations.

-oOo-

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The following attachments complete this report:

Figure 1	Site Plan
Appendix A	Laboratory Reports and Chain-of-Custody Documentation
Appendix B	Boring Logs
Appendix C	October 15, 1997 letter from City and County DWWM to DOH HEER Office

It has been a pleasure to prepare this report for you. Please contact us at 484-5366 if you have questions regarding this report.

Respectfully submitted,

MASA FUJIOKA & ASSOCIATES
A Professional Partnership

Janice C. Marsters, Ph.D.
Associate

JCM: jbg

Three (3) copies submitted

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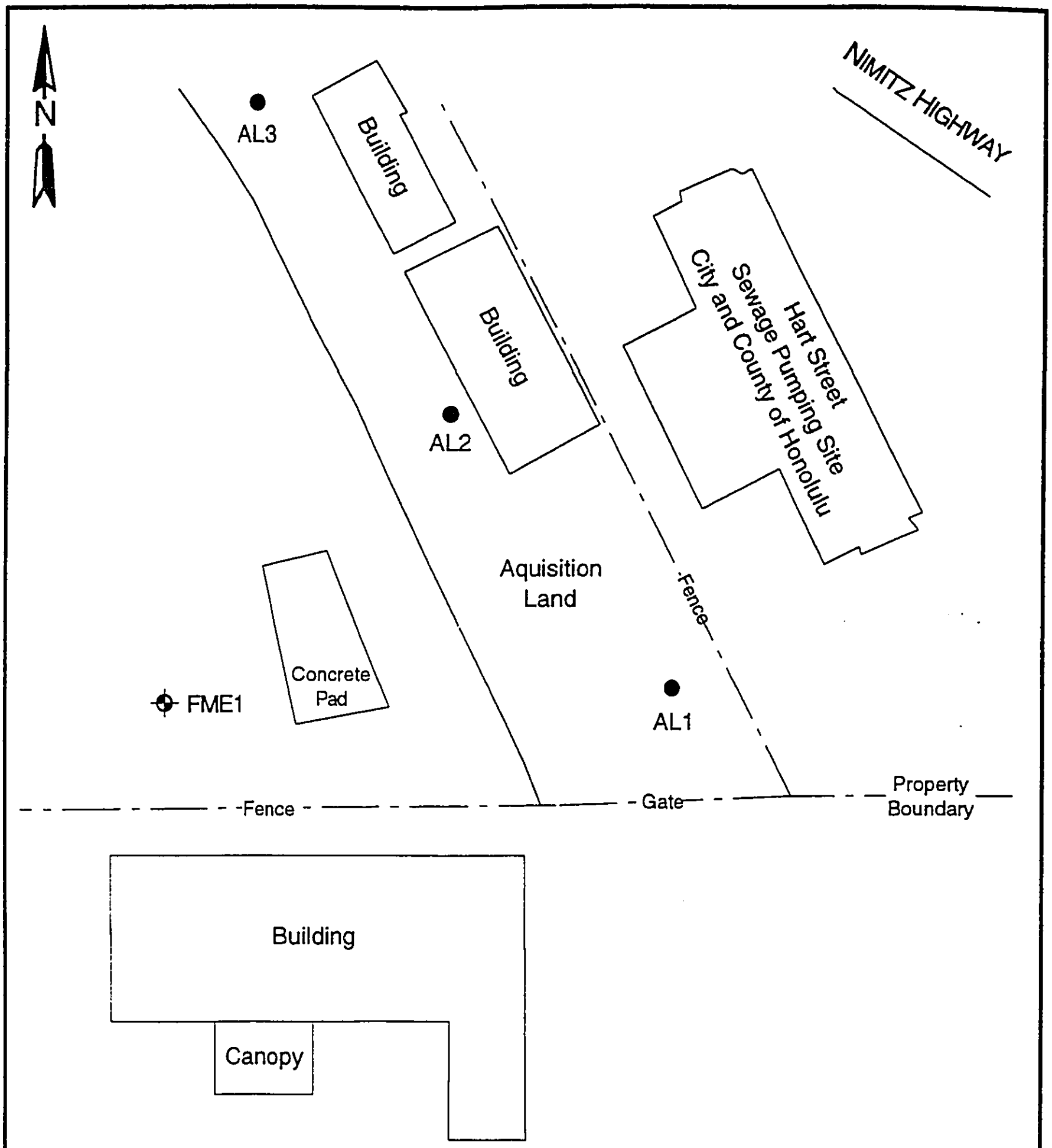

LEGEND:

FME1 Monitoring Well Location, ID

AL1 Soil Boring Location, ID

0 35 70

Scale In Feet

Project No.	97096-015
Drawing No.	001
Approved By:	JCM
Drawn By:	VK/WES
Rev:	01
Date:	10-6-97
Scale:	1"=35'

Figure 1
SITE PLAN
Hart Street Sewage Pumping Site
Honolulu, HI

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APPENDIX A

Laboratory Reports
and
Chain-of-Custody Documentation

0000 00 16 1908

Environmental Laboratory of the Pacific

An Oceanic Analytical Laboratory

930 Macunacuna Street, Suite 100 Honolulu, Hawaii 96819
Telephone: (808)831-3090 Fax: (808)831-3098 E-mail: ELPacific@acl.com

Laboratory Report

Masa Fujioka & Assoc.
99-1205 Halawa Valley St., #302
Aiea, HI 96701
Attention: Janice Marsters

Client Project ID: Hart St., Land Aquisition, 97096-015
Sample Matrix: Soil
Analysis Method: EPA 5030/8015 Mod./8020
Work Order #: 9709156

Sampled: Sep 24, 1997
Received: Sep 24, 1997
Reported: Oct 6, 1997

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/Kg	Sample I.D. 97090381 AL-1-1	Sample I.D. 97090382 AL-1-2	Sample I.D. 97090383 AL-2-1	Sample I.D. 97090384 AL-2-2	Sample I.D. 97090385 AL-3-1	Sample I.D. 97090386 AL-3-2
Purgeable Hydrocarbons	1.0	N.D.	480	N.D.	250	N.D.	630
Benzene	0.020	*NR*	N.D.	*NR*	N.D.	*NR*	N.D.
Toluene	0.020	*NR*	N.D.	*NR*	N.D.	*NR*	N.D.
Ethyl Benzene	0.020	*NR*	0.67	*NR*	N.D.	*NR*	0.14 J
Total Xylenes	0.040	*NR*	1.7	*NR*	N.D.	*NR*	N.D.
Chromatogram Pattern:		--	Unidentified Hydrocarbons	--	Unidentified Hydrocarbons	--	--
Quality Control Data							
Report Limit Multiplication Factor:		1.0	20 b	1.0	20 b	1.0	50 b
Date Extracted:		9/26/97	9/26/97	9/26/97	9/26/97	9/26/97	9/26/97
Date Analyzed:		9/26/97	9/30/97	9/30/97	9/30/97	9/30/97	9/30/97
Instrument Identification:		GC-4	GC-4	GC-4	GC-4	GC-4	GC-4
Surrogate Recovery, %: Trifluorotoluene (Limits 70-130)		88	91	87	90	86	89

Purgeable Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

E. L. PACIFIC

Brenda Nuding
Project Manager

Please Note: *NR* - Not requested.
b MRL raised due to dilution required to minimize matrix interferences.
j Estimated concentration reported that is below the MRL, but above the MDL (Method Detection Limit).
NR - Not requested.
Revised report - 10/14/97.

0000 00 16 1909

Environmental Laboratory of the Pacific

An Oceanic Analytical Laboratory

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Laboratory Report

Masa Fujioka & Assoc.
99-1205 Halawa Valley St., #302
Aiea, HI 96701
Attention: Janice Marsters

Client Project ID: Hart St., Land Aquisition, 97096-015
Sample Matrix: Soil
Analysis Method: EPA 5030/8015 Mod./8020
Work Order #: 9709156

Sampled: Sep 24, 1997
Received: Sep 24, 1997
Reported: Oct 6, 1997

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit mg/Kg	Sample I.D. 97090387 FME-1-1	Sample I.D. 97090388 FME-1-2
Purgeable Hydrocarbons	1.0	**470**	**1,300**
Benzene	0.020	*NR*	N.D.
Toluene	0.020	*NR*	N.D.
Ethyl Benzene	0.020	*NR*	0.39 J
Total Xylenes	0.040	*NR*	N.D.
Chromatogram Pattern:		Unidentified Hydrocarbons	Unidentified Hydrocarbons

Quality Control Data

Report Limit Multiplication Factor:	20 **b**	50 **b**
Date Extracted:	9/26/97	9/26/97
Date Analyzed:	9/26/97	9/30/97
Instrument Identification:	GC-4	GC-4
Surrogate Recovery, %: Trifluorotoluene (Limits 70-130)	89	81

Purgeable Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

E. L. PACIFIC

for

Brenda Nuding
Project Manager

Please Note:
b MRL raised due to dilution required to minimize matrix interferences.
j Estimated concentration reported that is below the MRL, but above the MDL (Method Detection Limit).
NR - Not requested.
Revised report - 10/14/97.

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Environmental Laboratory of the Pacific

a Division of Analytical Laboratory

939C Mapunapuna Street, Suite 100 Honolulu, Hawaii 96819
Telephone: (808)831-3090 Fax (808)831-3098 E-mail: ELPacific@aol.com

Laboratory Report

Masa Fujioka & Assoc.	Client Project ID:	Hart St., Land Aquisition, 97096-015	Sampled: Sep 24, 1997
99-1205 Halawa Valley St., #302	Sample Description:	Soil	Received: Sep 24, 1997
Aiea, HI 96701	Analysis Method:	EPA 3550/8015 Modified	Reported: Oct 6, 1997
Attention: Janice Marsters	Work Order #:	9709156	

FUEL FINGERPRINT (EPA 3550/8015 MODIFIED)

Analyte	Reporting Limit mg/Kg	Sample I.D. 97090381 AL-1-1	Sample I.D. 97090382 AL-1-2	Sample I.D. 97090383 AL-2-1	Sample I.D. 97090384 AL-2-2	Sample I.D. 97090385 AL-3-1	Sample I.D. 97090386 AL-3-2
Diesel (C10-C22)	2.0	N.I.	N.I.	N.I.	N.I.	N.I.	N.I.
Jet Fuel (C10-C16)	2.0	N.I.	**1,200**	N.I.	**890**	N.I.	**530**
Motor Oil (>C16)	20	N.I.	N.I.	**56**	N.I.	**130**	N.I.

Quality Control Data

Report Limit Multiplication Factor:	1.0	20 a	1.0	20 a	1.0	10 a
Date Extracted:	9/28/97	9/28/97	9/28/97	9/28/97	9/28/97	9/28/97
Date Analyzed:	9/30/97	10/1/97	9/30/97	10/1/97	9/30/97	10/1/97
Instrument Identification:	GC2R	GC2R	GC2R	GC2R	GC2R	GC2F
Surrogate Recovery, %: C28 (25-162)	87	82	80	79	118	82

Unidentified Extractable Hydrocarbons are quantitated against a fresh diesel standard.
Analytes reported as N.I. (None Identified) were not detected above the stated reporting limit.

E. L. PACIFIC

Brenda Nuding
Project Manager

Please Note:
a MRL raised to achieve compound quantitation within the method calibration range.

Revised report - 10/14/97.

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Environmental Laboratory of the Pacific

An Oceanic Analytical Laboratory

930 Mapunapuna Street, Suite 100 Honolulu, Hawaii 96819
Telephone: (808)831-3090 Fax: (808)831-3098 E-mail: ELPacific@aol.com

Laboratory Report

Masa Fujioka & Assoc.
99-1205 Halawa Valley St., #302
Aiea, HI 96701
Attention: Janice Marsters

Client Project ID: Hart St., Land Aquisition, 97096-015
Sample Description: Soil
Analysis Method: EPA 3550/8015 Modified
Work Order #: 9709156

Sampled: Sep 24, 199
Received: Sep 24, 199
Reported: Oct 6, 199

FUEL FINGERPRINT (EPA 3550/8015 MODIFIED)

Analyte	Reporting Limit mg/Kg	Sample I.D. 97090387 FME-1-1	Sample I.D. 97090388 FME-1-2
Diesel (C10-C22)	2.0	N.I.	N.I.
Jet Fuel (C10-C16)	2.0	4,900	1,700
Motor Oil (>C16)	20	N.I.	N.I.

Quality Control Data

Report Limit Multiplication Factor:	100 a	50 a
Date Extracted:	9/28/97	9/28/97
Date Analyzed:	10/1/97	10/1/97
Instrument Identification:	GC2F	GC2F
Surrogate Recovery, %: C28 (25-162)	g	g

Unidentified Extractable Hydrocarbons are quantitated against a fresh diesel standard.
Analytes reported as N.I. (None Identified) were not detected above the stated reporting limit.

E. L. PACIFIC

Brenda Nuding
Project Manager

Please Note:
a MRL raised to achieve compound quantitation within the method calibration range.
g Due to dilution required for sample analysis, surrogate amounts were diluted below detectable levels and could not be quantitated or reported.
Revised report - 10/14/97.

0000 0016 1912

Environmental Laboratory of the Pacific

An Oceanic Analytical Laboratory

930 Mapunapuna Street, Suite 100 Honolulu, Hawaii 96819
Telephone: (808)831-3090 Fax: (808)831-3098 E-mail: ELPacific@aol.com

Laboratory Report

Masa Fujioka & Assoc.
99-1205 Halawa Valley St., #302
Aiea, HI 96701
Attention: Janice Marsters

Client Project ID: Hart St., Land Aquisition, 97096-015
Sample Matrix/Description: Soil, FME-1-1
Lab Sample ID: 97090387
Work Order #: 9709156

Sampled: Sep 24, 1997
Received: Sep 24, 1997
Analyzed: Sep 25, 1997
Reported: Oct 6, 1997

QC Batch Number: GC092597801005EXA

HALOGENATED VOLATILE ORGANICS (EPA 5030/8010)

Analyte	Reporting Limit [b] mg/Kg	Sample Results mg/Kg
Bromodichloromethane	0.10	N.D.
Bromoform	0.10	N.D.
Bromomethane	0.20	N.D.
Carbon tetrachloride	0.10	N.D.
Chlorobenzene	0.10	N.D.
Chloroethane	0.20	N.D.
2-Chloroethylvinyl ether	0.20	N.D.
Chloroform	0.10	N.D.
Chloromethane	0.20	N.D.
Dibromochloromethane	0.10	N.D.
1,2-Dichlorobenzene	0.10	N.D.
1,3-Dichlorobenzene	0.10	N.D.
1,4-Dichlorobenzene	0.10	N.D.
1,1-Dichloroethane	0.10	N.D.
1,2-Dichloroethane	0.10	N.D.
1,1-Dichloroethene	0.10	N.D.
cis-1,2-Dichloroethene	0.10	N.D.
trans-1,2-Dichloroethene	0.10	N.D.
1,2-Dichloropropane	0.10	N.D.
cis-1,3-Dichloropropene	0.10	N.D.
trans-1,3-Dichloropropene	0.10	N.D.
Methylene chloride	1.0	N.D.
1,1,2,2-Tetrachloroethane	0.10	N.D.
Tetrachloroethene	0.10	N.D.
1,1,1-Trichloroethane	0.10	N.D.
1,1,2-Trichloroethane	0.10	N.D.
Trichloroethene	0.10	N.D.
Trichlorofluoromethane	0.10	N.D.
Vinyl chloride	0.20	N.D.

Surrogate	Control Limit %		% Recovery
Bromochloromethane	50	150	94
1-Chloro,2-Fluorobenzene	50	150	98
4-Bromofluorobenzene	50	150	93

Analytes reported as N.D. were not present above the stated reporting limit.

E. L. PACIFIC

Brenda Nuding
Project Manager

Please Note:
b MRL raised due to dilution required to minimize matrix interferences.

Revised report - 10/14/97.

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Environmental Laboratory of the Pacific

An Oceanic Analytical Laboratory

930 Mapunapuna Street, Suite 100 Honolulu, Hawaii 96819
Telephone: (808)831-3090 Fax: (808)831-3098 E-mail: ELPacific@aol.com

Laboratory Report

Masa Fujioka & Assoc.
99-1205 Halawa Valley St., #302
Aiea, HI 96701
Attention: Janice Marsters

Client Project ID: Hart St., Land Aquisition, 97096-015
Sample Matrix: Soil
Analysis Method: EPA 3550/8080
Work Order #: 9709156

Sampled: Sep 24, 199
Received: Sep 24, 199
Reported: Oct 6, 199

POLYCHLORINATED BIPHENYLS (EPA 3550/8080)

Analyte	Reporting Limit mg/Kg	Sample I.D. 97090381 AL-1-1	Sample I.D. 97090382 AL-1-2	Sample I.D. 97090383 AL-2-1	Sample I.D. 97090384 AL-2-2	Sample I.D. 97090385 AL-3-1	Sample I.D. 97090386 AL-3-2
PCB 1016	0.033	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
PCB 1221	0.066	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
PCB 1232	0.033	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
PCB 1242	0.033	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
PCB 1248	0.033	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
PCB 1254	0.033	N.D.	N.D.	N.D.	N.D.	N.D.	N.D.
PCB 1260	0.033	N.D.	N.D.	**0.031 j**	N.D.	**0.044**	N.D.

Quality Control Data

Report Limit Multiplication Factor:	1.0	1.0	1.0	10 **b**	1.0	1.0
Date Extracted:	9/26/97	9/26/97	9/26/97	9/26/97	9/26/97	9/26/97
Date Analyzed:	9/27/97	9/27/97	9/27/97	9/27/97	9/27/97	9/27/97
Instrument Identification:	GC3F	GC3F	GC3F	GC3F	GC3F	GC3F
Surrogate, % Recovery: Decachlorobiphenyl (Control Limits 50-150%)	68	77	71	80	75	73

Analytes reported as N.D. were not detected above the stated reporting limit.

E. L. PACIFIC

Brenda Nuding
Project Manager

Please Note:
b MRL raised due to dilution required to minimize matrix interferences.
j Estimated concentration reported that is below the MRL, but above the MDL (Method Detection Limit).
Revised report - 10/14/97.

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Environmental Laboratory of the Pacific

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Laboratory Report

Masa Fujioka & Assoc.
99-1205 Halawa Valley St., #302
Aiea, HI 96701
Attention: Janice Marsters

Client Project ID: Hart St., Land Aquisition, 97096-015
Sample Matrix: Soil
Analysis Method: EPA 3550/8080
Work Order #: 9709156

Sampled: Sep 24, 1997
Received: Sep 24, 1997
Reported: Oct 6, 1997

POLYCHLORINATED BIPHENYLS (EPA 3550/8080)

Analyte	Reporting Limit mg/Kg	Sample I.D. 97090388 FME-1-2
PCB 1016	0.033	N.D.
PCB 1221	0.066	N.D.
PCB 1232	0.033	N.D.
PCB 1242	0.033	N.D.
PCB 1248	0.033	N.D.
PCB 1254	0.033	N.D.
PCB 1260	0.033	N.D.

Quality Control Data

Report Limit Multiplication Factor:	1.0
Date Extracted:	9/26/97
Date Analyzed:	9/27/97
Instrument Identification:	GC3F
Surrogate, % Recovery: Decachlorobiphenyl (Control Limits 50-150%)	76

Analytes reported as N.D. were not detected above the stated reporting limit.

E. L. PACIFIC

Brenda Nuding
Project Manager

Please Note:
b MRL raised due to dilution required to minimize matrix interferences.

Revised report - 10/14/97.

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Environmental Laboratory of the Pacific

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Laboratory Report

Masa Fujioka & Assoc.
99-1205 Halawa Valley St., #302
Aiea, HI 96701
Attention: Janice Marsters

Client Project ID: Hart St., Land Aquisition, 97096-015
Sample Matrix: Soil
Analysis Method: EPA 3550/8080
Work Order #:

Sampled: Sep 24, 199
Received: Sep 24, 199
Reported: Oct 6, 199

POLYCHLORINATED BIPHENYLS (EPA 3550/8080)

Analyte	Reporting Limit mg/Kg	Sample I.D. 97090387 FME-1-1
PCB 1016	0.033	N.D.
PCB 1221	0.033	N.D.
PCB 1232	0.033	N.D.
PCB 1242	0.033	N.D.
PCB 1248	0.033	N.D.
PCB 1254	0.033	N.D.
PCB 1260	0.033	N.D.

Quality Control Data

Report Limit Multiplication Factor:	20 b
Date Extracted:	9/26/97
Date Analyzed:	9/27/97
Instrument Identification:	GC3F
Surrogate, % Recovery: Decachlorobiphenyl (Control Limits 50-150%)	80

Analytes reported as N.D. were not detected above the stated reporting limit.

E. L. PACIFIC

Brenda Nuding
Project Manager

Please Note:
b MRL raised due to dilution required to minimize matrix interferences.

Revised report - 10/14/97.

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Laboratory Report

Masa Fujioka & Assoc.
99-1205 Halawa Valley St., #302
Aiea, HI 96701
Attention: Janice Marsters

Client Project ID: Hart St., Land Aquisition, 97096-015
Sample Matrix: Soil
Analysis Method: EPA 3550/8270
Work Order #: 9709156

Sampled: Sep 24, 1997
Received: Sep 24, 1997
Reported: Oct 6, 1997

QC Batch Number: SP0929978270EXA

POLYNUCLEAR AROMATIC HYDROCARBONS (EPA 3550/8270)

Analyte	Reporting Limit mg/Kg	Sample I.D. 97090382 AL-1-2	Sample I.D. 97090384 AL-2-2	Sample I.D. 97090386 AL-3-2	Sample I.D. 97090388 FME-1-2
Acenaphthene	0.33	N.D.	N.D.	N.D.	N.D.
Benzo(a)pyrene	0.33	N.D.	N.D.	N.D.	N.D.
Fluoranthene	0.33	N.D.	N.D.	N.D.	N.D.
Naphthalene	0.33	N.D.	N.D.	N.D.	N.D.

Surrogates	Limits, %	% Recovery	% Recovery	% Recovery	% Recovery
Nitrobenzene-d5	23-120	g	g	g	g
2-Fluorobiphenyl	30-115	g	g	g	g
Terphenyl-d14	18-137	g	g	g	g

Quality Control Data

Report Limit Multiplication Factor:	20 b	10 b	10 b	10 b
Date Extracted:	9/29/97	9/29/97	9/29/97	9/29/97
Date Analyzed:	10/1/97	10/1/97	10/1/97	10/1/97
Instrument Identification:	MSD-3	MSD-3	MSD-3	MSD-3

Analytes reported as N.D. were not detected above the stated reporting limit.

E. L. PACIFIC

Brenda Nuding
Project Manager

Please Note:
b MRL raised due to dilution required to minimize matrix interferences.
g Due to dilution required for sample analysis, surrogate amounts were diluted below detectable levels and could not be quantitated or reported.
Revised report - 10/14/97.

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Laboratory Report

Masa Fujioka & Assoc.
99-1205 Halawa Valley St., #302
Aiea, HI 96701
Attention: Janice Marsters

Client Project ID: Hart St., Land Aquisition, 97096-015
Matrix: Soil

QC Sample Group: 97090381-0388

Reported: Oct 6, 199

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gasoline	Diesel
QC Batch#:	GC092597	GC092597	GC092597	GC092597	GC092597	SP092897
Analy. Method:	8020EXA EPA 8020	8020EXA EPA 8020	8020EXA EPA 8020	8020EXA EPA 8020	8020EXA EPA 8015M	8015EXA EPA 8015M
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 3550
Analyst:	SL	SL	SL	SL	SL	AS
MS/MSD #:	97090425	97090425	97090425	97090425	-	97090373
Samp. Conc. (mg/Kg):	N.D.	N.D.	N.D.	N.D.	-	4.7
Prepared Date:	09/25/97	09/25/97	09/25/97	09/25/97	-	09/28/97
Analyzed Date:	09/25/97	09/25/97	09/25/97	09/25/97	-	09/29/97
Instrument I.D.#:	GC-4	GC-4	GC-4	GC-4	-	GC2R
onc. Spiked (mg/Kg):	0.40	0.40	0.40	1.20	-	33
Result (mg/Kg):	0.29	0.32	0.34	1.01	-	33
MS % Recovery:	73	80	85	84	-	86
Dup. Result (mg/Kg):	0.29	0.32	0.34	1.00	-	32
MSD % Recov.:	73	80	85	83	-	83
RPD:	0.0	0.0	0.0	1.0	-	3.1
RPD Limit:	0-25	0-25	0-25	0-25	-	0-50
LCS #:	LCS092597	LCS092597	LCS092597	LCS092597	LCS092597	LCS092897
Prepared Date:	09/25/97	09/25/97	09/25/97	09/25/97	09/25/97	09/28/97
Analyzed Date:	09/25/97	09/25/97	09/25/97	09/25/97	09/25/97	09/29/97
Instrument I.D.#:	GC-4	GC-4	GC-4	GC-4	GC-4	GC2R
onc. Spiked (mg/Kg):	0.40	0.40	0.40	1.20	5.0	33
LCS Result (mg/Kg):	0.38	0.41	0.42	1.26	4.6	33
LCS % Recov.:	95	103	105	105	92	100
MS/MSD	60-140	60-140	60-140	60-140		50-150
LCS	70-130	70-130	70-130	70-130	60-140	60-140
Control Limits						

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

E. L. PACIFIC

Brenda Nuding
Project Manager

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Environmental Laboratory of the Pacific

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Laboratory Report

Masa Fujioka & Assoc.
9-1205 Halawa Valley St., #302
Aiea, HI 96701
Attention: Janice Marsters

Client Project ID: Hart St., Land Aquisition, 97096-015
Matrix: Soil

QC Sample Group: 97090387

Reported: Oct 6, 1997

QUALITY CONTROL DATA REPORT

Analyte:	1,1-Dichloro-ethene	Trichloro-ethene	Chloro-benzene
QC Batch#:	GC092597 8010EXA	GC092597 8010EXA	GC092597 8010EXA
Analy. Method:	EPA 8010	EPA 8010	EPA 8010
Prep. Method:	EPA 5030	EPA 5030	EPA 5030
Analyst:	SL	SL	SL
MS/MSD #:	97090387	97090387	97090387
Amp. Conc. (mg/Kg):	N.D.	N.D.	N.D.
Prepared Date:	09/25/97	09/25/97	09/25/97
Analyzed Date:	09/25/97	09/25/97	09/25/97
Instrument I.D.#:	GC-5	GC-5	GC-5
Conc. Spiked (mg/Kg):	0.50	0.50	0.50
Result (mg/Kg):	h	h	h
MS % Recovery:	h	h	h
Dup. Result (mg/Kg):	h	h	h
MSD % Recov.:	h	h	h
RPD:	N.A.	N.A.	N.A.
RPD Limit:	0-25	0-25	0-25
LCS #:	LCS092597	LCS092597	LCS092597
Prepared Date:	09/25/97	09/25/97	09/25/97
Analyzed Date:	09/25/97	09/25/97	09/25/97
Instrument I.D.#:	GC-5	GC-5	GC-5
Conc. Spiked (mg/Kg):	0.20	0.20	0.20
LCS Result (mg/Kg):	0.172	0.190	0.206
LCS % Recov.:	86	95	103
MS/MSD Control Limits	60-140	60-140	60-140
LCS Control Limits	65-135	70-130	70-130

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference
h Due to dilution required for sample analysis, matrix spike compound amounts were diluted below levels and could not be quantitated or reported.

. L. PACIFIC

Brenda Nuding
Project Manager

0000 0016 1919

Environmental Laboratory of the Pacific

An Oceanic Analytical Laboratory

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Laboratory Report

Masa Fujioka & Assoc.
99-1205 Halawa Valley St., #302
Aiea, HI 96701
Attention: Janice Marsters

Client Project ID: Hart St., Land Aquisition, 97096-015
Matrix: Soil

QC Sample Group: 97090381-0388

Reported: Oct 6. 19

QUALITY CONTROL DATA REPORT

Analyte:	PCB 1260	Naphthalene	Acenaph-thene	Fluoranthene	Benzo(a) Pyrene
QC Batch#:	SP092697	SP092997	SP092997	SP092997	SP092997
	8080EXA	8270EXA	8270EXA	8270EXA	8270EXA
Analy. Method:	EPA 8080	EPA 8270	EPA 8270	EPA 8270	EPA 8270
Prep. Method:	EPA 3580	EPA 3550	EPA 3550	EPA 3550	EPA 3550
Analyst:	AS	DLL	DLL	DLL	DLL
MS/MSD #:	97090233	97090166	97090166	97090166	97090166
Samp. Conc. (µg/Kg):	N.D.	N.D.	N.D.	N.D.	N.D.
Prepared Date:	09/17/97	09/16/97	09/16/97	09/16/97	09/16/97
Analyzed Date:	09/17/97	09/16/97	09/16/97	09/16/97	09/16/97
Instrument I.D.#:	GC3F	MSD-3	MSD-3	MSD-3	MSD-3
Conc. Spiked (µg/Kg):	167	3333	3333	3333	3333
Result (µg/Kg):	174	2254	2454	2100	2333
MS % Recovery:	104	68	74	63	70
Dup. Result (µg/Kg):	180	2319	2603	2136	2559
MSD % Recov.:	108	70	78	64	77
RPD:	3.4	2.8	5.9	1.7	9.2
RPD Limit:	0-50	0-29	0-29	0-29	0-29
LCS #:	LCS092697	LCS092997	LCS092997	LCS092997	LCS092997
Prepared Date:	09/26/97	09/29/97	09/29/97	09/29/97	09/29/97
Analyzed Date:	09/26/97	09/29/97	09/29/97	09/29/97	09/29/97
Instrument I.D.#:	GC3F	MSD-3	MSD-3	MSD-3	MSD-3
Conc. Spiked (µg/Kg):	167	3333	3333	3333	3333
LCS Result (µg/Kg):	160	2635	2765	2485	2788
LCS % Recov.:	96	79	83	75	84
MS/MSD LCS Control Limits	40-140	31-137	31-137	31-137	31-137

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

E. L. PACIFIC

Brenda Nuding
Project Manager

0000 0016 1920

CHAIN OF CUSTODY RECORD

Boring or Well Number	Sample Number	Date of Collection	Time	Sample Type	Depth	Container Type	TPH-Gas/BTEX	TPH-Diesel	~~TRPH (418.1)~~ extd TPH	PCBs	PAHs	~~8010/8020~~ fuel scan	8240/624	8270/625	Total Lead	Total Cadmium	Asbestos	TCLP Metals	TCLP Volatiles	TCLP Semi-Vols	TCLP Pesticides	Reactivity	Corrosivity	Ignitability	NOTES:	Total Number
AL-1	AL-1-1				1'					✓		✓													97090381	1
AL-1	AL-1-2						✓	✓	✓	✓	✓														382	1
AL-2	AL-2-1				1'					✓		✓													383	1
AL-2	AL-2-2						✓	✓	✓	✓	✓														384	1
AL-3	AL-3-1				1'					✓		✓													385	1
AL-3	AL-3-2						✓	✓	✓	✓	✓														386	1

RELINQUISHED BY: (Signature) [signature] DATE/TIME 9/24/97 2:39 RECEIVED BY: (Signature) [signature] DATE/TIME 9/24/97 2:30p

RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature) DATE/TIME

RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature) DATE/TIME

ANALYTICAL LABORATORY: E.L. Pacific

LABORATORY CONTACT:

MFA CONTACT: Janice Marsters

LABORATORY NOTES:

PCB

JOB NO: 97096-015 SHEET 1 OF 2

PROJECT Hart St. Land aquisition

LOCATION Hart St. WWPS

COLLECTOR SBG, Bull DATE OF COLLECTION 9/24/97

MASA FUJIOKA & ASSOCIATES

99-1205 Halawa Valley Street, Suite 302

Aiea, Hawaii 96701-3281

Phone 808 484-5366 • Fax 808 484-0007

CHAIN-OF-CUSTODY RECORD

#16, #4 9709156

Boring or Well Number	Sample Number	Date of Collection	Time	Sample Type	Depth	Container Type	TPH-Gas/BTEX	TPH-Diesel extended range	~~TPH (418.1)~~ TPH-jet fuel	PCBs	PAHs	~~8010/601~~ fuel scan	8240/624	8270/625	Total Lead	Total Cadmium	Asbestos	TCLP Metals	TCLP Volatiles	TCLP Semi-Vols	TCLP Pesticides	Reactivity	Corrosivity	Ignitability	NOTES:	Total Number Of Containers
ME-1	FME-1-1				1'					✓		✓													97090387	1
	FME-1-2						✓	✓	✓	✓	✓														↓ 388	1

RELINQUISHED BY: (Signature) [signature] DATE/TIME 9/24/97 2:30p RECEIVED BY: (Signature) Elucan Elucan DATE/TIME 9/24/97 230p

RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature) DATE/TIME

RELINQUISHED BY: (Signature) DATE/TIME RECEIVED BY: (Signature) DATE/TIME

ANALYTICAL LABORATORY: EL PACIFIC

LABORATORY CONTACT:

MFA CONTACT: JANICE MARSTERS

LABORATORY NOTES:

PCB

JOB NO: 97096-015 SHEET 2 OF 2

PROJECT HART ST. LAND AQUISITION

LOCATION HART ST. WWPS

COLLECTOR JBG, BRL DATE OF COLLECTION 9/24/97

MASA FUJIOKA & ASSOCIATES

99-1205 Halawa Valley Street, Suite 302

Aiea, Hawaii 96701-3281

Phone 808-484-5366 • Fax 808-484-0007

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Environmental Laboratory of the Pacific

An Oceanic Analytical Laboratory

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Telephone: (808)831-3030 Fax: (808)831-3098 E-mail: ELPacific@aol.com

Laboratory Report

Masa Fujioka & Assoc.	Client Project ID: Hart St., 97096-015	Sampled: Sep 26, 1997
99-1205 Halawa Valley St., #302	Sample Matrix: Water	Received: Sep 26, 1997
Aiea, HI 96701	Analysis Method: EPA 5030/8015 Mod./8020	Reported: Oct 10, 1997
Attention: Janice Marsters	Work Order #: 9709172	

TOTAL PURGEABLE PETROLEUM HYDROCARBONS with BTEX DISTINCTION

Analyte	Reporting Limit µg/L	Sample I.D. 97090440 FMEI-GW
Purgeable Hydrocarbons	50	1,500
Benzene	1.0	N.D.
Toluene	1.0	N.D.
Ethyl Benzene	1.0	N.D.
Total Xylenes	2.0	N.D.
Chromatogram Pattern:		Unidentified Hydrocarbons

Quality Control Data

Report Limit Multiplication Factor:	10 a
Date Extracted:	10/3/97
Date Analyzed:	10/3/97
Instrument Identification:	GC-4
Surrogate Recovery, %: Trifluorotoluene (Limits 70-130)	91

Purgeable Hydrocarbons are quantitated against a gasoline standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

E. L. PACIFIC

Brenda Nuding
Project Manager

Please Note:
a MRL raised to achieve compound quantitation within the method calibration range.

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Environmental Laboratory of the Pacific

A Oceanic Analytical Laboratory

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Telephone: (808)831-3090 Fax: (808)831-3098 E-mail: ELPacific@aol.com

Laboratory Report

Masa Fujioka & Assoc.	Client Project ID: Hart St., 97096-015	Sampled: Sep 26, 1
99-1205 Halawa Valley St., #302	Sample Matrix: Water	Received: Sep 26, 1
Aiea, HI 96701	Analysis Method: EPA 3510/8015 Mod.	Reported: Oct 10, 1
Attention: Janice Marsters	Work Order #: 9709172	

TOTAL EXTRACTABLE PETROLEUM HYDROCARBONS

Analyte	Reporting Limit µg/L	Sample I.D. * 97090440 FMEI-GW
Extractable Hydrocarbons as Diesel	50	72,000

Chromatogram Pattern: Unidentified Hydrocarbons

Quality Control Data

Report Limit Multiplication Factor:	1.0
Date Extracted:	9/29/97
Date Analyzed:	10/1/97
Instrument Identification:	GC2R
Surrogate Recovery, %: C28 (26-152)	64

Extractable Hydrocarbons are quantitated against a diesel standard.
Analytes reported as N.D. were not detected above the stated reporting limit.

E. L. PACIFIC

Brenda Nuding
Project Manager

0000 00 16 1924

Environmental Laboratory of the Pacific

a Joseph Vertical Laboratory

330 Makunapuna Street, Suite 100 Honolulu, Hawaii 96819
Telephone: (808)831-3090 Fax: (808)831-3098 E-mail: ELPacific@aol.com

Laboratory Report

Masa Fujioka & Assoc.	Client Project ID: Hart St., 97096-015	Sampled: Sep 26, 1997
99-1205 Halawa Valley St., #302	Sample Matrix: Water	Received: Sep 26, 1997
Aiea, HI 96701	Analysis Method: EPA 3510/8080	Reported: Oct 10, 1997
Attention: Janice Marsters	Work Order #: 9709172	

POLYCHLORINATED BIPHENYLS (EPA 3510/8080)

Analyte	Reporting Limit µg/L	Sample I.D. 97090440 FMEI-GW
PCB 1016	1.0	N.D.
PCB 1221	2.0	N.D.
PCB 1232	1.0	N.D.
PCB 1242	1.0	N.D.
PCB 1248	1.0	N.D.
PCB 1254	1.0	N.D.
PCB 1260	1.0	N.D.

Quality Control Data

Report Limit Multiplication Factor:	10 b
Date Extracted:	10/3/97
Date Analyzed:	10/4/97
Instrument Identification:	GC3F
Surrogate. % Recovery: Decachlorobiphenyl (Control Limits 50-150%)	54*

Analytes reported as N.D. were not detected above the stated reporting limit.

E.L. PACIFIC

Brenda Nuding
Project Manager

Please Note:
* Secondary surrorgate recovery, Tetrachloro-m-xylene.
b MRL raised due to dilution required to minimize matrix interferences.

0000 00 16 1925

Environmental Laboratory of the Pacific

An Oceanic Analytical Laboratory

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Telephone: (808)831-3090 Fax: (808)831-3098 E-mail: ELPacific@aol.com

Laboratory Report

Masa Fujioka & Assoc.	Client Project ID: Hart St., 97096-015	Sampled: Sep 26, 19
99-1205 Halawa Valley St., #302	Sample Matrix: Water	Received: Sep 26, 19
Aiea, HI 96701	Analysis Method: EPA 413.1 (Gravimetric)	Reported: Oct 10, 19
Attention: Janice Marsters	Work Order #: 9709172	

TOTAL OIL & GREASE

Analyte	Reporting Limit mg/L	Sample I.D. 97090440 FMEI-GW
Oil & Grease	1.0	5.3

Quality Control Data

Report Limit Multiplication Factor:	1.0
Date Extracted:	10/3/97
Date Analyzed:	10/3/97
Instrument Identification:	Manual

Analytes reported as N.D. were not detected above the stated reporting limit.

E. L. PACIFIC

Brenda Nuding
Project Manager

0000 00 16 1926

Environmental Laboratory of the Pacific

A Division of Analytical Laboratory

93C Mapunapuna Street, Suite 100 Honolulu, Hawaii 96819
Telephone: (808)831-3090 Fax: (808)831-3098 E-mail: ELPacific@aol.com

Laboratory Report

Masa Fujioka & Assoc.
99-1205 Halawa Valley St., #302
Aiea, HI 96701
Attention: Janice Marsters

Client Project ID: Hart St., 97096-015
Sample Matrix/Description: Water, FMEI-GW
Lab Sample ID: 97090440
Work Order #: 9709172

Sampled: Sep 26, 1997
Received: Sep 26, 1997
Reported: Oct 10, 1997

LABORATORY ANALYSIS

Analyte	Method	Units	Reporting Limit	Date Analyzed	Sample Results
Nitrogen, Ammonia	EPA 350.1	mg/L	2.5 a	9/29/97	5.1
Nitrogen, Nitrate+Nitrite	EPA 353.2	mg/L	0.050	10/1/97	N.D.
Nitrogen, Total	SM 4500	mg/L	0.75	10/9/97	1.1
Oxygen, Dissolved	EPA 360.1	mg/L	0.10	9/26/97	0.91
pH	EPA 150.1	units	0.010	9/26/97	7.0
Phosphours, Total	EPA 365.4	mg/L	0.10	10/7/97	1.6
Salinity	SM 2520	ppt	5.0 a	10/6/97	18
Total Suspended Solids	EPA 160.2	mg/L	1.0	9/30/97	1,900
Turbidity	EPA 180.1	NTU	0.10	9/26/97	34
Fecal Coliform*	SMWW 18,9221 E	MPN/100 mL	2.0	9/26/97	2.0

Analytes reported as N.D. were not present above the stated reporting limit.

E.L. PACIFIC

Brenda Nuding
Project Manager

Please Note:
* Analysis performed by Food Quality.

0000 0016 1927

Environmental Laboratory of the Pacific

A Clean Analytical Laboratory

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Telephone: (808)831-3090 Fax: (808)831-3098 E-mail: ELPacific@aol.com

Laboratory Report

Masa Fujioka & Assoc.
99-1205 Halawa Valley St., #302
Aiea, HI 96701
Attention: Janice Marsters

Client Project ID: Hart St., 97096-015
Matrix: Water
QC Sample Group: 97090440
Reported: Oct 10, 199

QUALITY CONTROL DATA REPORT

Analyte:	Benzene	Toluene	Ethyl Benzene	Xylenes	Gasoline	Diesel	PCB 1260
QC Batch#:	GC100397 802004A	GC100397 802004A	GC100397 802004A	GC100397 802004A	GC100397 802004A	SP092997 8015EXA	SP100397 8080EXA
Analy. Method:	EPA 8020	EPA 8020	EPA 8020	EPA 8020	EPA 8015M	EPA 8015M	EPA 8080
Prep. Method:	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 5030	EPA 3510	EPA 3510
Analyst:	SL	SL	SL	SL	SL	AS	AS
MS/MSD #:	97100001	97100001	97100001	97100001	-	97090260	100397
Samp. Conc. (µg/L):	N.D.	N.D.	N.D.	N.D.	-	2606	N.D.
Prepared Date:	10/03/97	10/03/97	10/03/97	10/03/97	-	09/22/97	10/03/97
Analyzed Date:	10/03/97	10/03/97	10/03/97	10/03/97	-	09/23/97	10/03/97
Instrument I.D.#:	GC-4	GC-4	GC-4	GC-4	-	GC2R	GC3F
Conc. Spiked (µg/L):	20	20	20	60	-	1000	5.0
Result (µg/L):	18.4	18.2	18.1	52.9	-	3962	6.4
MS % Recovery:	92	91	91	88	-	136	128
Dup. Result (µg/L):	18.1	17.8	17.6	52.8	-	3928	6.3
MSD % Recov.:	91	89	88	88	-	132	126
RPD:	1.6	2.2	2.8	0.19	-	0.86	1.6
RPD Limit:	0-25	0-25	0-25	0-25	-	0-50	0-50
LCS #:	LCS100397	LCS100397	LCS100397	LCS100397	LCS100397	LCS092997	LCS100397
Prepared Date:	10/03/97	10/03/97	10/03/97	10/03/97	10/03/97	09/29/97	10/03/97
Analyzed Date:	10/03/97	10/03/97	10/03/97	10/03/97	10/03/97	10/01/97	10/03/97
Instrument I.D.#:	GC-4	GC-4	GC-4	GC-4	GC-4	GC2R	GC3F
Conc. Spiked (µg/L):	20	20	20	60	500	1000	5.0
LCS Result (µg/L):	20.2	20.2	20.3	58.8	419	946	6.0
LCS % Recov.:	101	101	102	98	84	95	120
MS/MSD Control Limits	60-140	60-140	60-140	60-140		50-150	
LCS Control Limits	70-130	70-130	70-130	70-130	60-140	60-140	40-140

E. L. PACIFIC

Brenda Nuding
Project Manager

Please Note:
The LCS is a control sample of known, interferent-free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

** MS=Matrix Spike, MSD=MS Duplicate, RPD=Relative % Difference

0000 0016 1928

Environmental Laboratory of the Pacific

A Division of Analytical Laboratory

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Telephone: (808)831-3090 Fax (808)831-3096 E-mail: ELPacific@aol.com

Laboratory Report

Masa Fujioka & Assoc.
99-1205 Halawa Valley St., #302
Aiea, HI 96701
Attention: Janice Marsters

Client Project ID: Hart St., 97096-015
Matrix: Water
QC Sample Group: 97090440

Reported: Oct 10, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Total Oil & Grease	Nitrogen, Ammonia	Nitrogen, Nitrate+Nitrite	Nitrogen, Total	Phosphorus, Total	Total Susp. Solids
QC Batch#:	IN100397	IN092997	IN100197	IN100997	N100797	IN092997
	413100A	350I1A	353211A	351211A	365-I1A	160200A
Analy. Method:	EPA 413.1	EPA 350.1	EPA 353.2	EPA 351.2	EPA 365.4	EPA 160.2
Prep. Method:	EPA 413.1	EPA 350.1	EPA 353.2	EPA 351.2	EPA 365.4	EPA 160.2
Analyst:	AJS	AJS	AJS	AJS	AJS	MNM
MS/MSD #:	100397	97090267	97090392	97090510	97090510	97090379
Samp. Conc. (mg/L):	N.D.	N.D.	0.282	N.D.	N.D.	42
Prepared Date:	10/03/97	09/29/97	10/01/97	10/09/97	10/07/97	09/29/97
Analyzed Date:	10/03/97	09/29/97	10/01/97	10/09/97	10/07/97	09/30/97
Instrument I.D.#:	Manual	Lachat-1	Lachat-1	Lachat-1	Lachat-1	Sartorius
Conc. Spiked (mg/L):	50	0.10	1.0	5.0	1.0	667
Result (mg/L):	41.7	0.082	1.349	6.225	0.940	673
MS % Recovery:	83	82	107	125 f	94	95
Dup. Result (mg/L):	42.3	0.076	1.269	6.099	0.935	656
MSD % Recov.:	85	76	99	122 f	94	92
RPD:	1.4	7.6	6.1	2.0	0.5	2.6
RPD Limit:	0-20	0-20	0-20	0-20	0-20	0-20

LCS #:	LCSW100397	LCSW092997	LCSW100197	LCSW100997	LCSW100797	LCS092997
Prepared Date:	10/03/97	09/29/97	10/01/97	10/09/97	10/07/97	09/29/97
Analyzed Date:	10/03/97	09/29/97	10/01/97	10/09/97	10/07/97	09/30/97
Instrument I.D.#:	Manual	Lachat-1	Lachat-1	Lachat-1	Lachat-1	Sartorius
Conc. Spiked:	50	0.10	1.0	5.0	1.0	1000
LCS Result (mg/L):	46.6	0.082	1.03	4.792	0.97	989
LCS % Recov.:	93	82	103	96	97	99

MS/MSD	75-125					
LCS	80-120	80-120	80-120	80-120	80-120	80-120
Control Limits						

E.L. PACIFIC

Brenda Nuding
Project Manager

Please Note:
The LCS is a control sample of known, interferent free matrix that is analyzed using the same reagents, preparation, and analytical methods employed for the samples. The matrix spike is an aliquot of sample fortified with known quantities of specific compounds and subjected to the entire analytical procedure. If the recovery of analytes from the matrix spike does not fall within specified control limits due to matrix interference, the LCS recovery is to be used to validate the batch.

f Matrix spike compound recoveries are outside method established limits due to matrix effects.

0000 0016 1929

Environmental Laboratory of the Pacific

An Oceanic Analytical Laboratory

930 Mapunapuna Street, Suite 100 Honolulu, Hawaii 96819
Telephone: (808)831-3090 Fax: (808)831-3099 E-mail: ELPacific@aol.com

Laboratory Report

Masa Fujioka & Assoc.
99-1205 Halawa Valley St., #302
Aiea, HI 96701
Attention: Janice Marsters

Client Project ID: Hart St., 97096-015
Matrix: Water
QC Sample Group: 97090440

Reported: Oct 10, 1997

QUALITY CONTROL DATA REPORT

Analyte:	Turbidity	pH	Oxygen, Dissolved	Salinity
QC Batch#:	IN092697 180100A	IN092697 150100A	IN092697 360100A	IN100697 252000A
Analy. Method:	EPA 180.1	EPA 150.1	EPA 360.1	SM 2520
Prep. Method:	EPA 180.1	EPA 150.1	EPA 360.1	SM 2520
Analyst:	MNM	MNM	MNM	AJS
Date Analyzed:	9/26/97	9/26/97	9/26/97	10/6/97
Instrument I.D.#:	Turb-3	Orion-1	Orion-1	DigTit-1
Units:	NTU	pH units	mg/L	ppt
Sample #:	97090441	97090441	97090440	97090511
Sample Result:	17.45	7.71	0.91	2.6
Sample Duplicate Result:	17.50	7.73	0.92	2.6
RPD:	0.29	0.26	1.09	0.0
RPD Control Limits:	0-20	0-20	0-20	0-20

E. L. PACIFIC

Brenda Nuding
Project Manager

0000 0016 1930

DEPARTMENT OF WASTEWATER MANAGEMENT
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

3A4T-02
10/20/97
RH
FILE

JEREMY HARRIS
MAYOR

KENNETH E. SPRAGUE, P.E., Ph
DIRECTOR

CHERYL K. OKUMA-SEPE
DEPUTY DIRECTOR

WPP 97-641

October 15, 1997

Mr. Bryce Hataoka
Hazard Evaluation & Emergency
Response Office
State Department of Health
919 Ala Moana Boulevard, Room 206
Honolulu, Hawaii 96814

RECEIVED
OCT 17 1997

WILSON OKAMOTO & ASSOC

Dear Mr. Hataoka:

Subject: Hazardous Materials Found at Hart Street Wastewater Pump Station (WWPS)

Our sub-consultant, Masa Fujioka & Associates, encountered petroleum hydrocarbon contamination while drilling soil borings on September 24, 1997 near the Hart Street WWPS (see attachment). The contamination was encountered at the groundwater surface and is likely the result of area-wide contamination previously documented for this area.

Per the telephone conversation between you and Mr. Kumar Bhagavan of our department, a remediation plan of the soil is not required at this time. The Department of Wastewater Management understands that the, "General Guidelines for Taking Action in the Course of Encountering Petroleum Contamination During Public Works Activities in Hawaii", provided to Mr Sam Callejo, dated April 1, 1991, are still applicable. Therefore, unless informed otherwise by the Department of Health, we will comply with these guidelines as well.

Should there be any questions, please contact Mr. Kumar Bhagavan of the Division of Planning & Service Control at 527-5158.

Sincerely,

CHERYL K. OKUMA-SEPE

KENNETH E. SPRAGUE
Director

Attachment

cc: WOA-John Sakaguchi
CC: MFA

0000 0016 1931

APPENDIX C

October 15, 1997 Letter
from City and County DWWM to DOH HEER Office

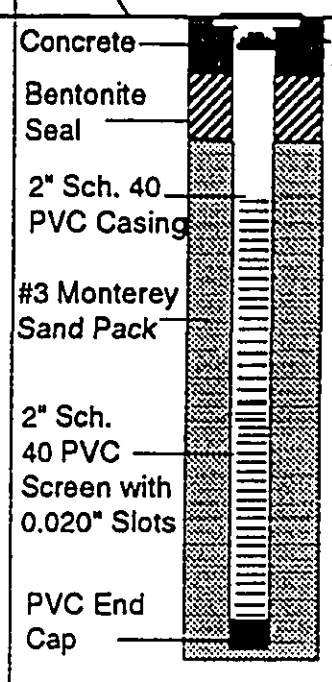
0000 00 16 1932

BORING/WELL:FME-1

DRILLING DATE:September 24, 1997
SAMPLING METHOD: Slide Hammer
DRILLING METHOD: 4" O.D. Solid Stem Auger
HAMMER TYPE: Slide)
STATIC WATER LEVEL: 4.0' below grade

Depth (ft)	SAMPLE DATA: Blows/12"	Organic Vapor Reading (ppm)	Sample Depth (ft)	Sample ID	SOIL TYPE: Symbols	USCS	Description
0							0 to 10' Gray sandy coral gravel.
1		180	1.0	FME1 -1		GM	6" petroleum odor
2							2' becoming more sandy
3							
4							4' Gray silty coral sand, strong to moderate petroleum odor
5		>2,500	4.0	FME1 -2			
6							
7							
8							
9							
10							
11							Total Depth = 11.0'
12							
13							
14							
15							
16							
17							
18							
19							
20							Note: Classification based on visual observations

WELL SCHEMATIC



BORING LOG
Hart Street Waste Water Pump Station
Pier 35
Honolulu, Oahu, Hawaii
Job # 97096-015

MFA MASA FUJIOKA & ASSOCIATES
ENVIRONMENTAL • GEOTECHNICAL • HYDROGEOLOGICAL CONSULTA

0000 0016 1933

BORING: AL-3

DRILLING DATE: September 24, 1997
SAMPLING METHOD: Drive Sampler/ Hand Auger
DRILLING METHOD: Solid Stem Auger
HAMMER TYPE: Slide

Depth (ft)	SAMPLE DATA: Blows/ 6"	SAMPLE DATA: Oraganic Vapor Reading (ppm)	SAMPLE DATA: Sample Depth (ft)	SAMPLE DATA: Sample ID	SOIL TYPE: Symbols	SOIL TYPE: USCS	Description
0							0 to 2.5' Gray to tan sandy coral gravel, dry, no petroleum odor.
1		0	1.0	AL3-1		GM	
2							
3						SP	2.5' to 5.0' Gray gravelly coral sand
4		> 2,500	4.0	AL3-2		▽	4.0' strong petroleum odor
5							Total Depth = 5.0 '
6							
7							
8							
9							
10							
11							
12							
13							
14							

Note: Classifications based on visual observations.

BORING LOG
Hart Street Waste Water Pump Station
Pier 35
Honolulu, Oahu, Hawaii
Job # 97096-015

MFA MASA FUJIOKA & ASSOCIATES
ENVIRONMENTAL • GEOTECHNICAL • HYDROGEOLOGICAL CONSULTANTS

0000 0016 1934

BORING: AL-2

DRILLING DATE: September 24, 1997
SAMPLING METHOD: Drive Sampler/ Hand Auger
DRILLING METHOD: Solid Stem Auger
HAMMER TYPE: Slide

Depth (ft)	SAMPLE DATA: Blows/ 6"	SAMPLE DATA: Oraganic Vapor Reading (ppm)	SAMPLE DATA: Sample Depth (ft)	SAMPLE DATA: Sample ID	SOIL TYPE: Symbols	SOIL TYPE: USCS
0						
1		0	1.0	AL2-1		
2						GM
3						
4						▽
5		> 2,500	4.0	AL2-2		
6						
7						
8						
9						
10						
11						
12						
13						
14						

Description

0' to 3.5' Gray sandy coral gravel, dry, medium dense, no petroleum odor

3.5' Becomes more sandy and moisture increases.

4.0' Gray sandy coral gravel with strong petroleum odor, very moist.

Total Depth = 5.0 '

Note: Classifications based on visual observations.

BORING LOG
Hart Street Waste Water Pump Station
Pier 35
Honolulu, Oahu, Hawaii
Job # 97096-015

MFA MASA FUJIOKA & ASSOCIATES
ENVIRONMENTAL • GEOTECHNICAL • HYDROGEOLOGICAL CONSULTANTS

0000 00 16 1935

BORING: AL-1

DRILLING DATE: September 24, 1997
SAMPLING METHOD: Drive Sampler/ Hand Auger
DRILLING METHOD: Solid Stem Auger
HAMMER TYPE: Slide

Depth (ft)	SAMPLE DATA				SOIL TYPE		Description
	Blows/ 6"	Oraganic Vapor Reading (ppm)	Sample Depth (ft)	Sample ID	Symbols	USCS	
0							
1		0	1.0	AL1-1		GM	0' to 5.0' Gray sandy coral gravel, dry, medium dense, no petroleum odor
2							
3							3.5' Becomes more silty and moisture increases
4							4.0' petroleum odor.
5		> 2,500	5.0	AL1-2		▽	5.0' Saturated after 5.0 , moderate to strong petroleum odor.
							Total Depth = 5.0 '
6							
7							
8							
9							
10							
11							
12							
13							
14							

Note: Classifications based on visual observations.

BORING LOG
Hart Street Waste Water Pump Station
Pier 35
Honolulu, Oahu, Hawaii
Job # 97096-015

MFA MASA FUJIOKA & ASSOCIATES
ENVIRONMENTAL • GEOTECHNICAL • HYDROGEOLOGICAL CONSULTANTS

0000 0016 1936

APPENDIX B

Boring Logs

0000 0016 1937

Environmental Laboratory of the Pacific

An Oceanic Analytical Laboratory

930 Mapunapuna Street, Suite 100, Honolulu, Hawaii 96819
Telephone: (808) 831-3090 Fax: (808) 831-3098 Email: ELPacific@aol.com

LABORATORY USE ONLY
LAB JOB NO. 9709172
LOCATION #16, SC-4
CONTAINERS

Chain of Custody / Analysis Request Form

Report To	Janice M.
Company Name	MFA
Address	1205 Halawa Valley Rd
City / State / ZIP	Aiea / HI / 96701
Phone	484-5366
Fax	484 0007
Sampler	JBG
# of Samples in Shipment	1

Project Idenification

Job Name	Hart St.
Job Number	97096-015
P.O. Number	97096-015
Date of Sample Shipment	9/26/97
Date Results Needed	

Indicate Analysis Requested: BTEX; PAHs; PCBs; Fecal Coliform; enterococci; Oil+Grease 413.1; total Nitrogen (TPH as) 8015-D 8015-G; Ammonia nitrogen; nitrate/nitrite; phosphorus; turbidity, TSS; Dissolved O2, pH, salinity

Item No.	Client Sample I.D.	COMP	GRAB	Water	Soil	Wastewater	Drinking water	Sludge	Liquid	Solid	Oil	Other	Preservation Method	Sampling Date	Sampling Time	Number of Containers	BTEX	PAHs	PCBs	Fecal Coliform	enterococci	Oil+Grease	total Nitrogen (TPH as)	Ammonia nitrogen	nitrate/nitrite	phosphorus / turbidity / TSS / Dissolved O2, pH, salinity	Laboratory No.
1	FME1-GW			X										9/26/97	11:10		X	X	X	X	X	X	X	X	X	X	97090440 A-L
2																											
3																											
4																											
5																											
6																											
7																											
8																											
9																											
10																											

Released by (Print/Signature)	Date / Time Released	Delivery Method	Received by (Print/Signature)	Company / Agency Affiliation	Date / Time Received	Condition Noted
James DeGrace	9/26/97 / 11:50	HAWD	SHARRYMAN AW	ELP	9/26/97 1150	GOOD/21-23°C
	/				/	
	/				/	

Comments:

Please Check Box
☐ Dispose by Lab
☐ Return to Client
☐ Archive

0000 0016 1938

10/07/97 12:26 NO.536 P001

3441-02

MASA FUJIOKA & ASSOCIATES
Environmental, Geotechnical, and Hydrogeological Consultants
99-1205 Halawa Valley Street, Suite 302
Aiea, Hawaii 96701-3281
Telephone: (808) 484-5366 Facsimile: (808) 484-0007

FACSIMILE MEMORANDUM

TO: **John Sakaguchi** **Wilson Okamoto & Associates** Fax No.: **946-2253**	MFA PROJECT NO: 97096-015
FROM: **Janice Marsters**	DATE: **October 7, 1997**
SUBJECT: **DOH Notification**	
COPY TO:	
No. of pages, including this sheet: 2	Operator: MLQ
The document [ ] Will follow via: [ ] U.S. Mail [ ] Messenger [X] Will not follow	

Dear Mr. Sakaguchi:

We recommend that the City and County of Honolulu notify the State of Hawaii Department of Health (DOH) Office of Hazard Evaluation and Emergency Response (HEER) that we encountered petroleum hydrocarbon contamination while drilling soil borings on September 24, 1997 near the Hart Street Pump Station. The attached map shows the boring locations.

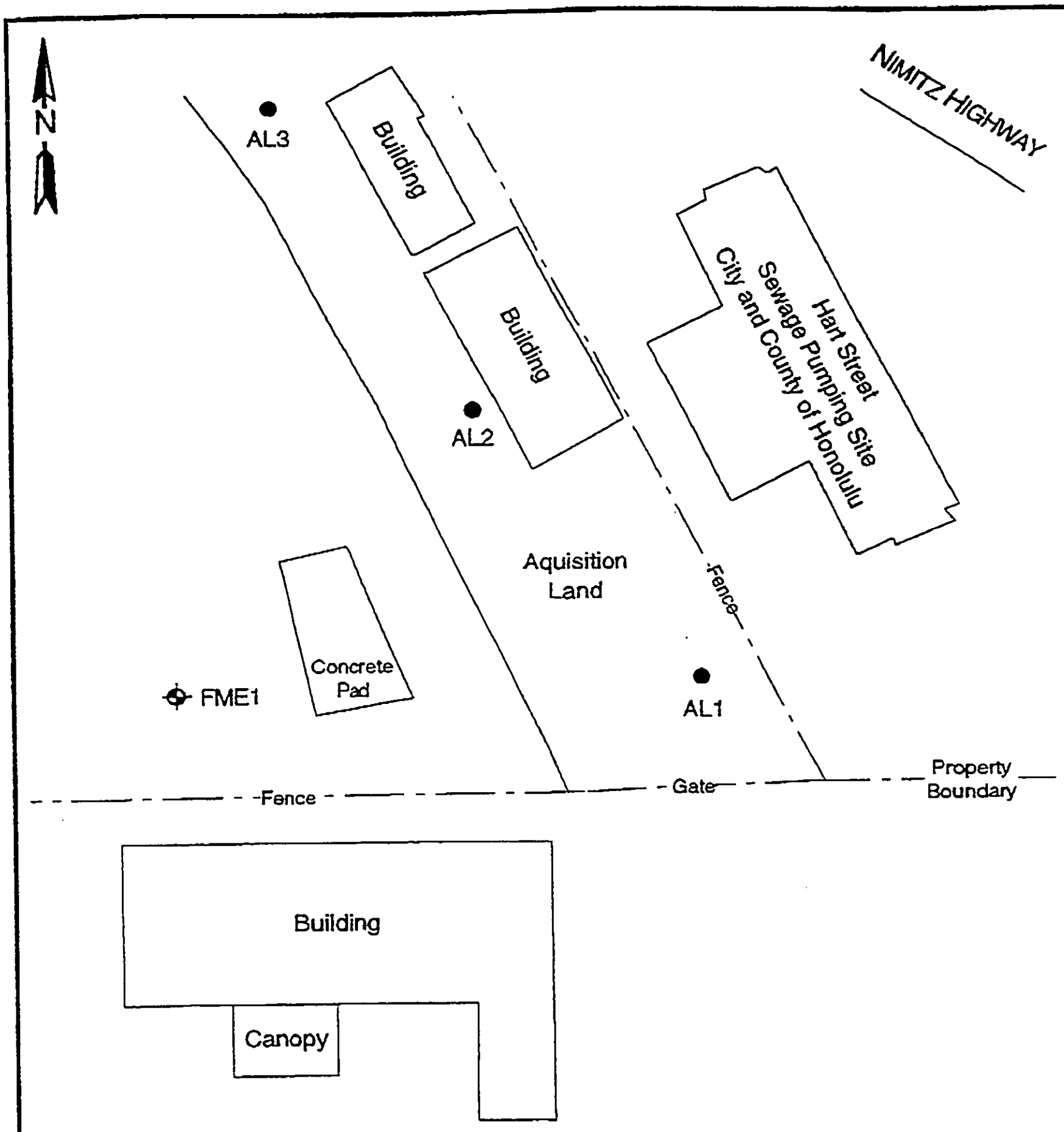
The contamination was encountered at the groundwater surface and is likely the result of area-wide contamination previously documented in this area. It is unlikely that DOH would require remediation of the contamination, based on their "General Guidelines for Taking Action in the Course of Encountering Petroleum Contamination During Public Works Activities in Hawaii". However, the guidelines do request that DOH HEER be notified when such contamination is encountered.

Please contact me if you have any questions.

Janice

CC: WWM, VIA FAX 10/7/97

0000 00 16 1939



LEGEND:

FME1 Monitoring Well Location, ID

AL1 Soil Boring Location, ID

0 35 70

Scale In Feet

Project No.	97096-015
Drawing No.	001
Approved By:	JCM
Drawn By:	VK/WES
Rev:	01
Date:	10-6-97
Scale:	1"=35'

Figure 1
SITE PLAN
Hart Street Sewage Pumping Site
Honolulu, HI

MFA MASA FUJIOKA & ASSOCIATES
ENVIRONMENTAL • GEOTECHNICAL • HYDROGEOLOGICAL CONSULTANT

0000 0016 1940

APPENDIX E

0000 0016 1941

DEPARTMENT OF PLANNING
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 8TH FLOOR • HONOLULU, HAWAII 96813-3017
PHONE: (808) 523-4711 • FAX: (808) 523-4950

3447-01 JS

RYF

5/15/97

JEREMY HARRIS
MAYOR

PATRICK T. ONISHI
CHIEF PLANNING OFFICER

DONA L. HANAIKE
DEPUTY CHIEF PLANNING OFFICER

TH 5/97-1031

May 13, 1997

Mr. John L. Sakaguchi, Senior Planner
Wilson Okamoto and Associates, Inc.
P.O. Box 3530
Honolulu, Hawaii 96811

RECEIVED
1 5 1997
WILSON OKAMOTO & ASSOC., INC.

Dear Mr. Sakaguchi:

Request for Determination for a Development Plan
Public Facilities Map Amendment for the Hart Street
(New) Wastewater Pump Station Project

In response to your letter of May 1, 1997, we have reviewed the information you provided and offer the following response.

In 1993, the Planning Department processed a Development Plan (DP) Public Facilities Map amendment for the Hart Street Wastewater Pump Station (WWPS), 93/PUC-1002(IC) for the Department of Wastewater Management (WWM). Amendment 93/PUC-1002(IC) was to add a "Sewage Pump Station/Modification" (SPS/M) symbol, publicly funded, site determined, within six years to the Primary Urban Center DP Public Facilities Map. This amendment was approved by the Honolulu City Council in 1993 and adopted by Ordinance 93-37, and is identified by Map Number "516" on the Primary Urban Center DP Public Facilities Map.

In their effort to rehabilitate the Hart Street WWPS, the WWM intends to either purchase or lease approximately 14,370 square feet of State land adjacent to the WWPS, identified as Tax Map Key: 1-5-34: 21. The additional land will allow slightly more room to site certain structures such as the new odor control facility, venturi meter, and diversion pump, as well as improve access to the WWPS from Nimitz Highway. The additional land will not permit expansion of the facility but is intended to meet the existing minimum operational, regulatory, safety, and storage requirements.

CC: B+C, VIA FAX 5/15/97

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Based on this information, the Planning Department has determined that the proposed acquisition of approximately 14,370 square feet of State land, identified as TMK: 1-5-34: 21 is considered "minor" and will not require the WWM to submit a DP Public Facilities Map amendment. In accordance with Section 24-1.2(i)(2) DP Common Provisions, as amended, the land acquisition if successful, will not: significantly increase system capacity; expand the service area; change the function of the existing WWPS; significantly impact the surrounding area; or significantly expand the existing facility.

Should you have any questions, please contact Tim Hata of our staff at 527-6070.

Yours very truly,

PATRICK T. ONISHI
Chief Planning Officer

PTO:js

c: Mr. Kumar Bhagavan, P.E., Department of Wastewater Management

0000 0016 1943

3441-01
May 1, 1997

RT
FILE

Mr. Patrick Onishi, Director
Department of Planning
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Subject: Hart Street (New) Wastewater Pump Station
Acquisition of State Land
Development Plan Public Facilities Map
Request for Determination

Dear Mr. Onishi:

This letter is to follow-up conversations with Gary Okino of your staff regarding the Hart Street (New) Wastewater Pump Station (WWPS) project. Wilson Okamoto & Associates, Inc. is under contract to the City and County of Honolulu Department of Wastewater Management (WWM) to prepare a Preliminary Engineering Report (PER) for the Hart Street (New) WWPS project.

As a result of the completed studies and plans for rehabilitation of the WWPS, WWM has indicated their intention to purchase or lease land owned by the State of Hawaii Department of Transportation Harbors Division to operate and maintain the new odor control facility, venturi meter, and diversion pump station. The additional area will also provide access to the Nimitz Highway end of the WWPS and will meet minimum operational, regulatory, safety, and storage requirements.

The Hart Street WWPS is located on TMK: 1-5-34:6. The adjacent State land is identified as TMK: 1-5-34:21. The area to be acquired by the City is approximately 266 feet long by 46 feet wide and comprises about 14,370 square feet. The Harbors Division land lies immediately adjacent to the west of the City-owned parcel occupied by the WWPS. See the attachments.

This letter is to request a determination by the Department of Planning as to the need for an amendment to the Development Plan Public Facilities Map for this land acquisition.

If you or your staff have any questions or would like to meet to discuss this information, please call me at 946-2277.

Sincerely,

John L. Sakaguchi, Senior Planner

Attachments

cc: K. Bhagavan, WWM

PICR 37

PLAT 46

1 D 34

TRUE NORTH

State of Hawaii (Dept. of Transportation, Highways Division) PICR 36

22 State of Hawaii

24 State of Hawaii (Hawaii Hotel Realty Co.)

25 State of Hawaii

28

29

PICR 36

PLAT 36

Easement

PLAT 35

Por. LD 477

State of Hawaii

Hart St. Sewage Pumping Sta.

NIMITZ HIGHWAY

LAND TO BE ACQUIRED

PLAT 14

W.O.A. 4/28/97

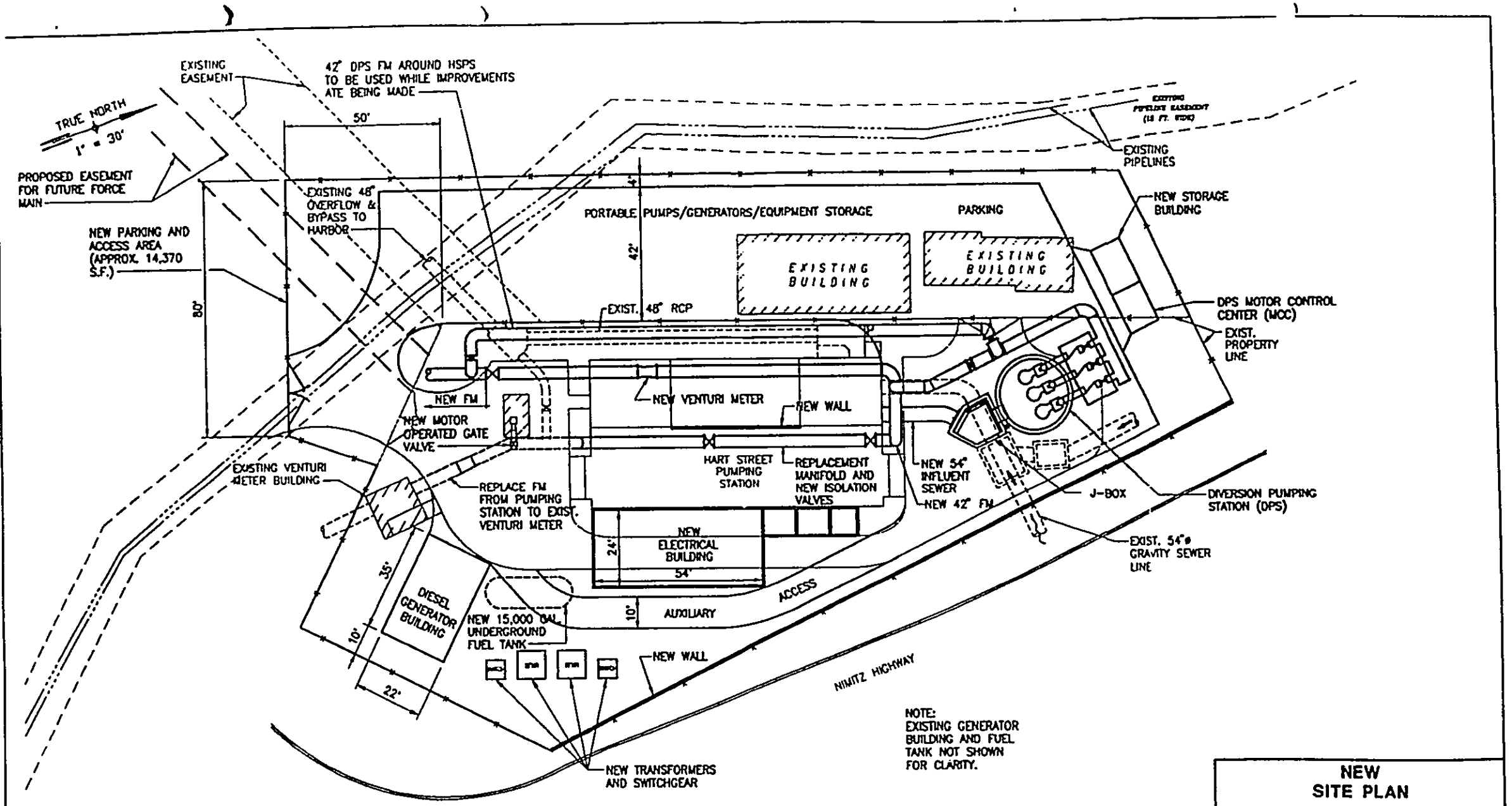
SUBJECT TO CHANGE

TAXATION MAPS BUREAU
TERRITORY OF HAWAII
TAX MAP
FIRST DIVISION

ZONE	SEC.	PLAT
1	5	34

CONTAINING PARCELS

SCALE: 1 IN. = 80 FT.



NOTE:
EXISTING GENERATOR BUILDING AND FUEL TANK NOT SHOWN FOR CLARITY.

SITE PLAN: REPLACEMENT DISCHARGE MANIFOLD AND NEW FORCEMAIN, JUNCTION BOX, AND DIVERSION PUMPING STATION

SCALE: 1"=30'

NEW SITE PLAN

Prepared for:
City & County of Honolulu
Dept. of Wastewater Management

Prepared by:
Wilson Okamoto & Associates, Inc.

HART STREET (NEW) WASTEWATER PUMP STATION
Preliminary Engineering Report

0000 0016 1946

APPENDIX F

0000 0016 1947

3441-02
January 29, 1998

WILSON
KAMOTO
ASSOCIATES, INC.

GINEERS
ANNERS
S. BERETANIA STREET
OLULU, HAWAII 96826
(808) 946-2277
: (808) 946-2253

Mr. Patrick T. Onishi, Chief Planning Officer
Department of Planning
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Subject: Environmental Assessment, Pre-Assessment Consultation, Hart Street (New) Wastewater Pump Station Project, Honolulu, Oahu, Hawaii

Dear Mr. Onishi:

Thank you for your November 24, 1997 letter regarding the Environmental Assessment for the Hart Street (New) Wastewater Pump Station Project. We will incorporate your response in the Draft Environmental Assessment.

Should you have any questions, please call me at 946-2277.

Sincerely,

John L. Sakaguchi
Senior Planner

JLS/ry

cc: Mr. K. Bhagavan, Department of Wastewater Management

0000 0016 1948

3141-02

1/29/98

DEPARTMENT OF WASTEWATER MANAGEMENT
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

JEREMY HARRIS
MAYOR

KENNETH E. SPRAGUE, P.E
DIRECTOR

CHERYL K. OKUMA-SEPI
DEPUTY DIRECTOR

WPP 98-42

3141

January 26, 1998

Mr. Thomas T. Fujikawa, Chief
Harbors Division
Department of Transportation
State of Hawaii
79 South Nimitz Highway
Honolulu, Hawaii 96813

RECEIVED
JAN 29 1998
WILSON OKAMOTO & ASSOC., INC

RH
PS

Dear Mr. Fujikawa:

Subject: Hart Street (New) Wastewater Pump Station (WWPS)
Permanent Land Acquisition for Access/Staging/Storage/Parking
on Department of Transportation Property

This letter is a follow-up to the December 1997 meeting, attended by Fred Pasqua and Chris Dasch from your Department and Kumar Bhagavan from our Department, and to your letter of December 12, 1997 regarding the above referenced subject matter. It should be noted that the rehabilitation and upgrading of the existing WWPS is urgently required to meet future wastewater flow requirements and to phase in with the Sand Island Wastewater Treatment Plant expansion.

Attached is a revised site plan layout for the Hart Street WWPS. As discussed at the meeting, we have reduced our access entrance area to accommodate the turnaround ingress/egress area for your proposed Domestic Commercial Fishing Village.

In response to your request for justifying the twelve parking stalls, the stalls will be used for:

Storage of motors, rotating elements, pump impellers, emergency portable pumps, and valves (sized 4" to 18").

Work area for complete pump replacements.

Work space for a large hoist truck.

Parking stalls for five staff vehicles.

One visitor parking stall.

One handicap parking stall.

The areas adjacent to the parking area are required for the odor control unit, the diversion pump station motor control center, staging, and general access to the WWPS.

We are aware of your concerns over noise and dust and we will take the proper measures to minimize these during construction. We will try to incorporate your idea of providing a high buffer-landscaping around our pump station to shield our pump station from the surrounding users. Furthermore, we understand that our proposed land acquisition may impact your harbor operations and the proposed Fishing Village. Therefore, look forward to developing an agreement that is mutually beneficial to both parties.

Once your Department has reviewed the attached site plan, a follow-up meeting can be arranged to discuss both of our Departments' land requirements. Should there be any questions, please contact Mr. Kumar Bhagavan of the Division of Planning & Service Control at 527-5158.

Sincerely,

CHERYL K. OKUMA-SEPE

for KENNETH E. SPRAGUE
Director

Attachment

cc: ✓Richard Harada - Wilson Okamoto & Associates
Wes Yokoyama - Engineering & Construction

0000 00 16 1950

(3441-02) U

BENJAMIN J. CAYETANO
GOVERNOR

KAZU HAYASHIDA
DIRECTOR
DEPUTY DIRECTORS
GLENN M. OKIMOTO
BRIAN E. MINAAI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HARBORS DIVISION
79 SO. NIMITZ HWY. • HONOLULU, HAWAII 96813-4898

IN REPLY REFER TO:
12/16/9
HAR-ED
1530.98

December 12, 1997

RECEIVED
DEC 16 1997
WILSON OKAMOTO & ASSOC INC

Mr. John L. Sakiguchi, Senior Planner
Wilson Okamoto and Associates, Inc.
1907 South Beretania Street
Honolulu Hawaii 96826

Dear Mr. Sakiguchi:

Subject: Domestic Commercial Fishing Village, Subdivision Improvements
Piers 36-38, Honolulu Harbor, Oahu, Hawaii - Job H. C. 1983

Thank you for the opportunity to review your pre-assessment consultation package concerning the Environmental Assessment for the Hart Street (New) Wastewater Pump Station Project. The following reflects comments generated from our Division in relation to impacts your project will have on harbor operations and on-going projects within the general area.

The proposed area to be acquired has significant impacts on our harbor operations. As shown, the proposed expansion area protrudes into the ingress/egress area to Pier 36 from Pier 35. Furthermore, the proposed improvement area is in direct conflict with the secondary access and parking for the domestic commercial fishing village, shown in the attached rendering.

Please justify the need for the twelve stalls located adjacent to the landscaped areas on the Ewa end of the parcel. It appears that through utilization of existing open area adjacent to the diesel generating building, the number of stalls could be reduced.

Landscaping should be minimized. However, a high buffer landscape should be provided within Department of Wastewater Management (WWM) fence-lined areas to shield improvements from surrounding users.

During construction, noise and dust abatement is required to minimize impact on the neighboring domestic fishing village. Mitigation measures should be provided for odors generated during and after construction.

Although a construction staging requirement is identified, the exact location of this area has not been disclosed. The area needs to be better defined in order to determine the severity of impact it will have on harbor operations.

Overall, although the proposed improvements conflict with operations and surrounding proposed harbor improvements, we understand the need for the expansion work. Consequently, we are willing and have been working with WWM to arrive at an amiable solution. Exact areas to be leased to WWM are being negotiated, and we trust that we can arrive at a situation benefitting to all parties.

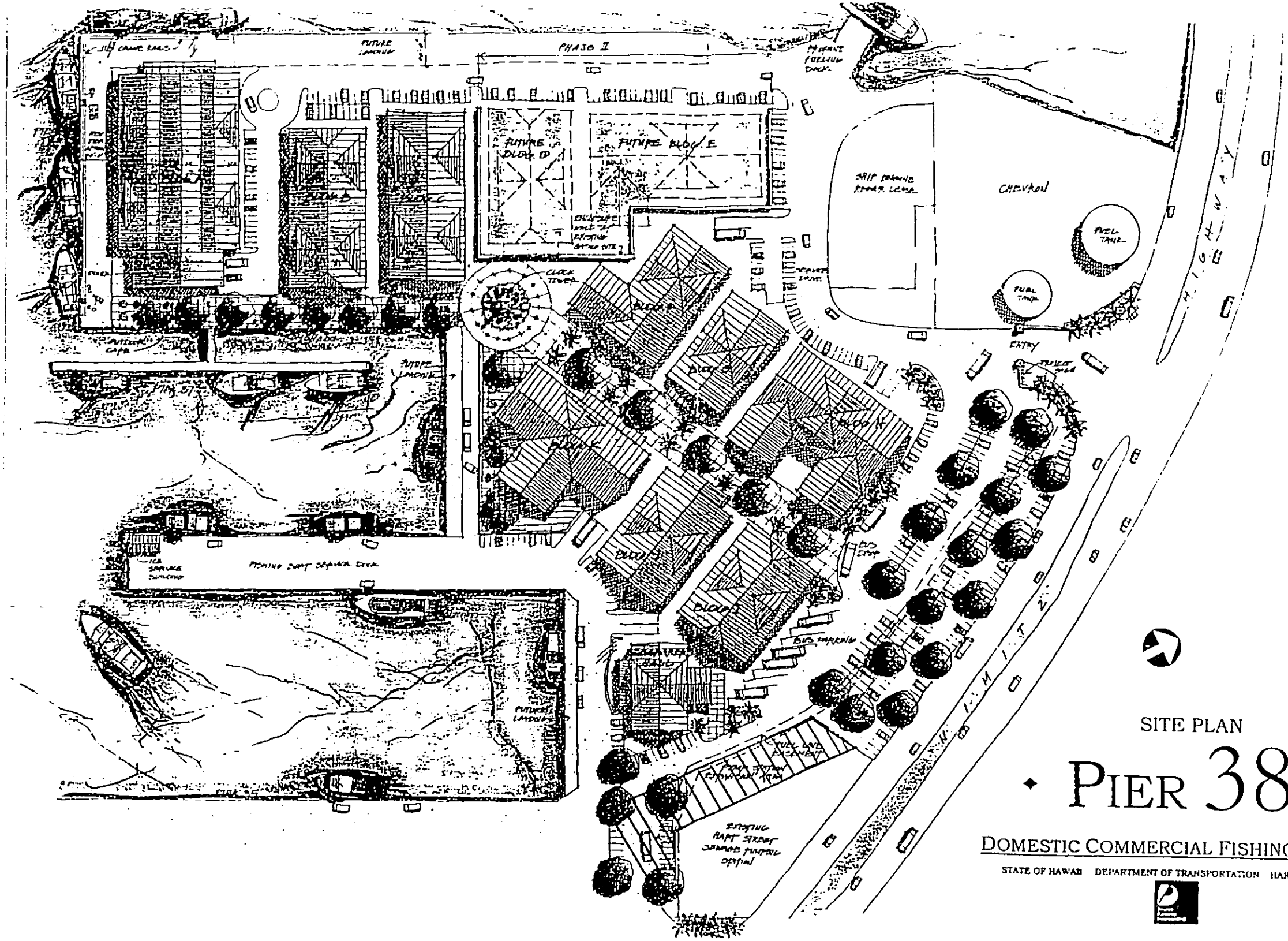
We look forward to continued discussions with WWM. Should you have any questions, please contact Mr. Larry Cobb, Property Manager, at 587-1943, or Mr. Fred Pascua, Project Engineer, at 587-1958.

Very truly yours

Harry H. Murakami
Engineering Program Manager

Att:

c: Mr. Patrick Onishi, Chief Planning Officer Department of Planning
Mr. Kumar Bhagavan, Department of Wastewater Management



SITE PLAN

• PIER 38 •

DOMESTIC COMMERCIAL FISHING VILLAGE

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HARBORS DIVISION

0000 0016 1953

3441-02

RH ✓

11/26/97

cc: WWM

PLANNING DEPARTMENT
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 8TH FLOOR • HONOLULU, HAWAII 96813-3017
PHONE: (808) 523-4711 • FAX: (808) 523-4950

JEREMY HARRIS
MAYOR

PATRICK T. ONISHI
CHIEF PLANNING OFFICER

DONA L. HANAIKE
DEPUTY CHIEF PLANNING OFFICER

TH 11/97-2231

November 24, 1997

JS

RECEIVED
NOV 26 1997
WILSON OKAMOTO & ASSOC., INC.

Mr. John L. Sakaguchi, Senior Planner
Wilson Okamoto & Associates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Sakaguchi:

Environmental Assessment, Pre-Assessment Consultation for the Proposed
Hart Street (New) Wastewater Pump Station Project, Honolulu, Oahu, Hawaii

In response to your letter of November 13, 1997, we have reviewed the information provided and offer the following comments.

The project site is currently designated Public and Quasi-Public on the Primary Urban Center Development Plan (DP) Land Use Map. We concur that the proposed rehabilitation and improvements to the Hart Street Wastewater Pump Station are considered minor and will not require an amendment to the Primary Urban Center DP Public Facilities Map.

Thank you for the opportunity to comment on this matter. Should you have any questions, please contact Tim Hata of our staff at 527-6070.

Yours very truly,

PATRICK T. ONISHI
Chief Planning Officer

PTO:ft

0000 0016 1954

3441-02
November 13, 1997

Mr. Patrick Onishi, Chief Planning Officer
Department of Planning
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Subject: Environmental Assessment, Pre-Assessment Consultation, Hart Street (New) Wastewater Pump Station Project, Honolulu, Oahu, Hawaii

Dear Mr. Onishi:

The City and County of Honolulu Department of Wastewater Management (WWM) has contracted Wilson Okamoto & Associates, Inc. to prepare an Environmental Assessment for the Hart Street (New) Wastewater Pump Station project. A project summary sheet and related maps are enclosed for your information.

As part of the pre-assessment consultation process, we are soliciting comments you may have on the proposed project. Please submit your comments to:

Wilson Okamoto & Associates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96286
Attention: John L. Sakaguchi

We would appreciate your comments by December 1, 1997.

If you have any questions, please call me at 946-2277 or fax to 946-2253.

Sincerely,

John L. Sakaguchi, Senior Planner

Enclosures

cc: DOT Harbors Division
K. Bhagavan, WWM

0000 0016 1955

PROJECT SUMMARY SHEET
Hart Street (New) Wastewater Pump Station

1. Introduction

The City and County of Honolulu Department of Wastewater Management (WWM) is proposing to rehabilitate and to construct improvements to the Hart Street Wastewater Pump Station (WWPS). The proposed rehabilitation and improvements are based on findings set forth in the Hart Street (New) WWPS Preliminary Engineering Report (PER).

2. Project Site Location and Ownership

The proposed project site will encompass a total of 0.910 acres which consists of the existing Hart Street WWPS, Tax Map Key 1-5-34:6, an area of about 0.568 acres, and about 14,370 square feet of an adjacent parcel (TMK: 1-5-34:21) owned by the State of Hawaii and controlled by the Department of Transportation Harbors Division. The WWPS site and adjacent force main easement are available to the City and County of Honolulu under State of Hawaii Executive Order No. 1345 (dated January 1, 1950) which set aside the land for use as a pumping station and force mains. Since April 1996, use of the State-owned parcel has been the subject of discussions between WWM and the Harbors Division. To date, these discussions are still being pursued. (Note, lands adjacent to the 14,370 square-foot area are identified as a domestic fishing village in the Oahu Commercial Harbors 2020 Master Plan.)

3. Proposed Action

The proposed rehabilitation and improvements include constructing a new electrical building adjacent to the east, or Nimitz Highway, side of the existing pump station and constructing a new emergency generator building with above ground fuel tanks. The proposed rehabilitation also involves installing new electrical switchgear and motor controls, installing new motors and drives, replacing the existing emergency generators, changing the operating voltage from 4160V to 480V, and dividing the wet well into three sections so that operations can continue during a variety of maintenance activities.

The State-owned parcel, about 14,370 square feet (0.33 acres), will be permanently acquired to provide required operational and maintenance areas, to maneuver heavy equipment, to remove and replace WWPS equipment, to access the back, or north side, of the WWPS, and to provide an area for parking City-owned and personnel vehicles. Once this access has been constructed, the existing access driveway would be used for auxiliary access purposes, when necessary.

PROJECT SUMMARY SHEET
Hart Street (New) Wastewater Pump Station

WWM plans are for construction and rehabilitation activities at the WWPS to occur after the Hart Street WWPS Replacement Force Main has been constructed and made operational.

A diversion pump station (DPS) with flows directed to the Replacement Force Main will be constructed upstream of the existing pump station to allow for complete diversion of the existing WWPS during normal flow periods. This will mitigate the need for shutdowns of the pump station during rehabilitation and construction.

During the construction period, it will be necessary to have temporary access from the adjacent land currently controlled by the State of Hawaii Department of Transportation, Harbors Division. An area of about 1.0 to 1.5 acres of the makai adjacent parcel will be needed to stage material and equipment and to provide access to the wet well area of the WWPS.

4. Land Use Designation

The project site is classified as Urban district according to the State Land Use District map.

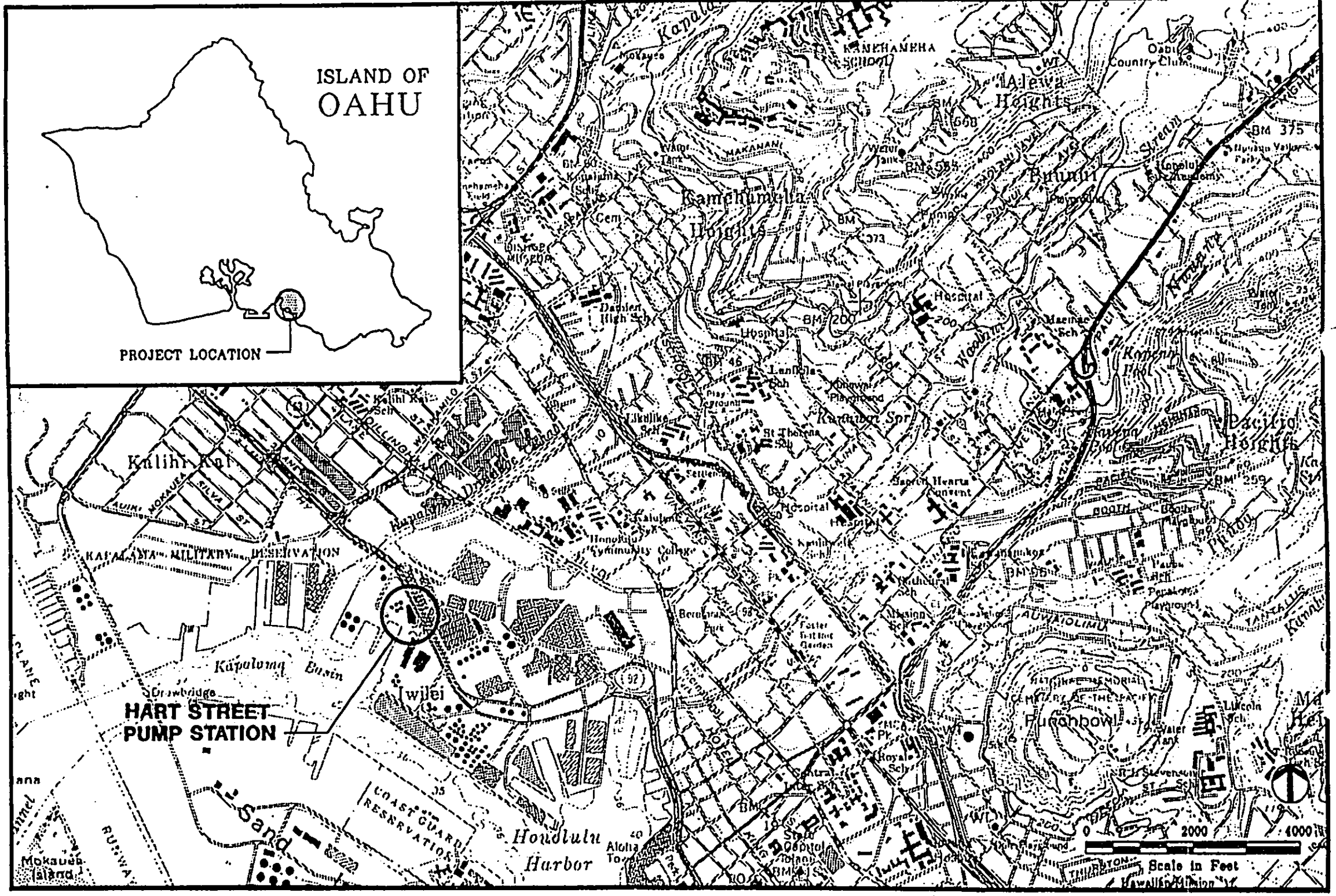
The existing Hart Street WWPS parcel is designated as Public Facility in the Development Plan Public Facilities Map (DPFF) for the Primary Urban Area. The Department of Planning has determined that the proposed acquisition of the State-owned parcel is considered minor and that a DPFF amendment will not be required.

The Hart Street WWPS project site is zoned I-3, Waterfront Industrial.

The Hart Street WWPS project site is not located with the Special Management Area (SMA).

4. Anticipated Impacts

Construction work related to the rehabilitation and improvements will have short-term noise and air quality impacts to the surrounding area. No significant adverse impacts are anticipated from the proposed project.



HART STREET (NEW) WASTEWATER PUMP STATION Environmental Assessment	Fig. 1 LOCATION MAP	Prepared for : City & County of Honolulu Dept. of Wastewater Management Prepared by: Wilson Okamoto & Associates, Inc.

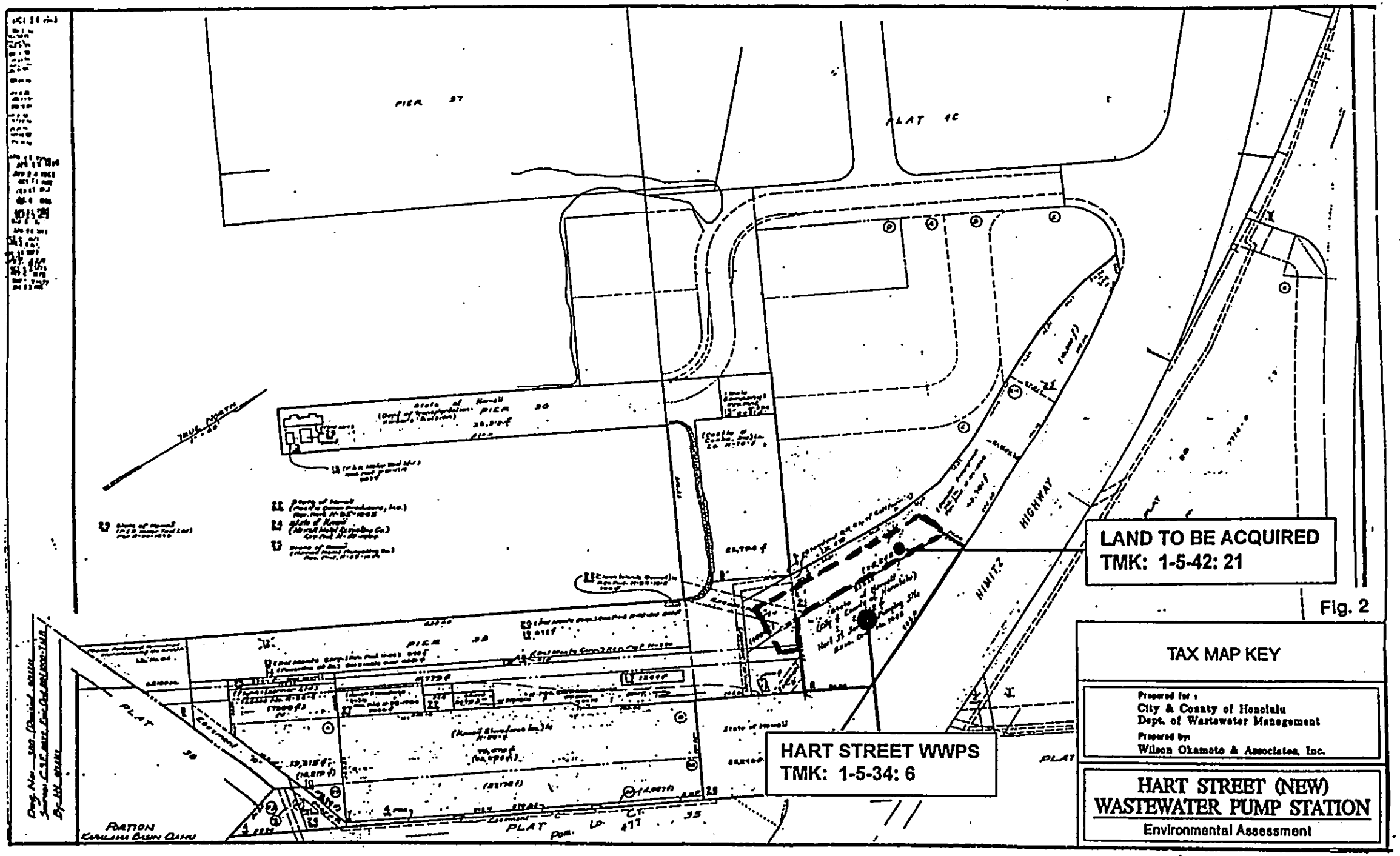


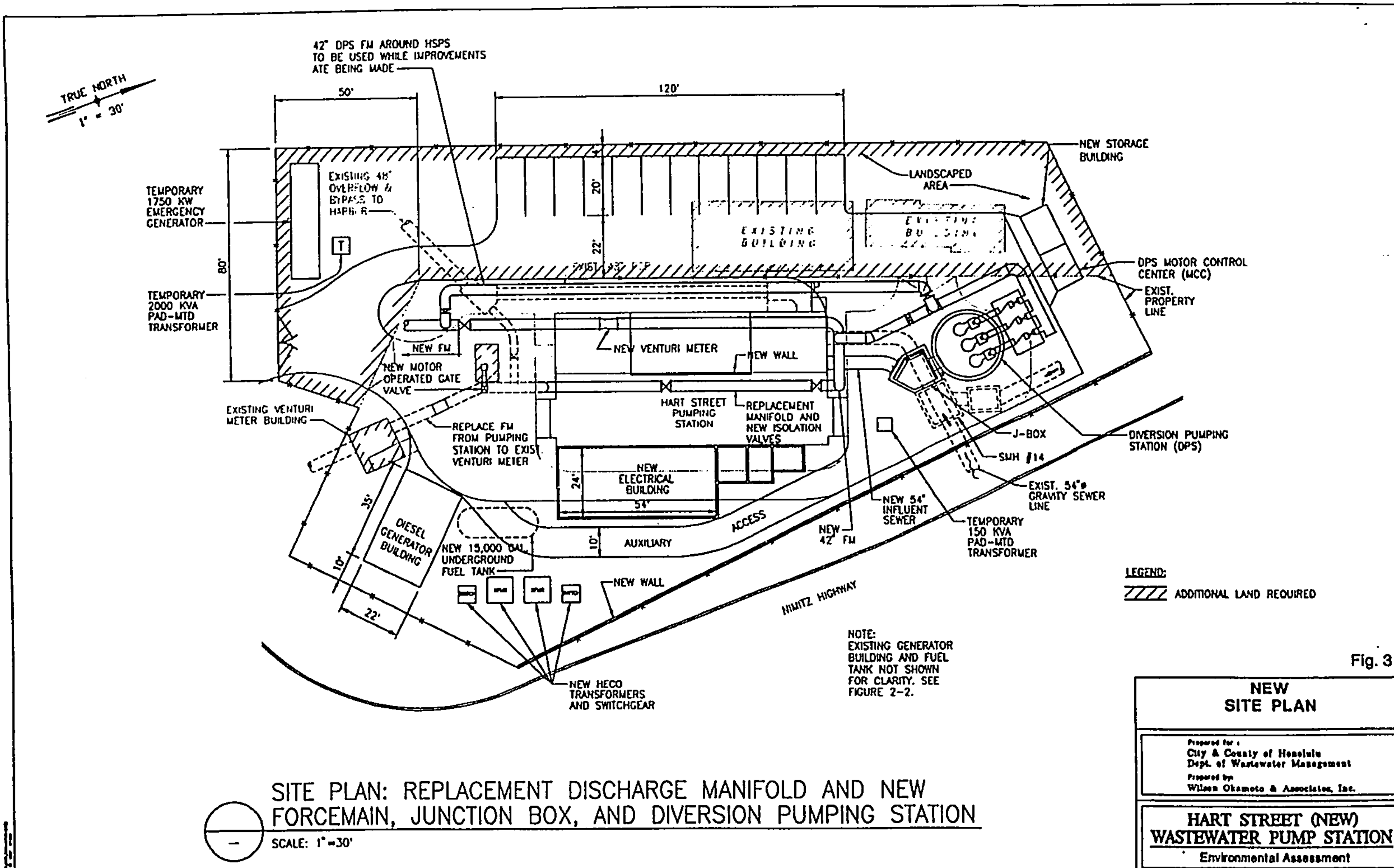
Fig. 2

TAX MAP KEY

Prepared for :
City & County of Honolulu
Dept. of Wastewater Management

Prepared by
Wilson Okamoto & Associates, Inc.

HART STREET (NEW)
WASTEWATER PUMP STATION
Environmental Assessment



SITE PLAN: REPLACEMENT DISCHARGE MANIFOLD AND NEW FORCEMAIN, JUNCTION BOX, AND DIVERSION PUMPING STATION

SCALE: 1"=30'

Fig. 3

NEW SITE PLAN

Prepared for:
City & County of Honolulu
Dept. of Wastewater Management
Prepared by:
Wilson Okamoto & Associates, Inc.

HART STREET (NEW) WASTEWATER PUMP STATION

Environmental Assessment