

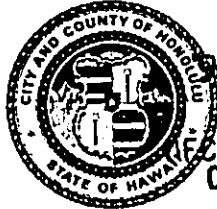
*Public Baths Force Main Replacement*

DEPARTMENT OF WASTEWATER MANAGEMENT  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813

RECEIVED

JEREMY HARRIS  
MAYOR



96 MAR 21 P3:12

FELIX B. LIMTIACO, P.E.  
DIRECTOR

CHERYL K. OKUMA-SEPE, ESQ.  
DEPUTY DIRECTOR

WEP 96-151

March 19, 1996

Mr. Gary Gill, Director  
Office of Environmental Quality Control  
State of Hawaii  
220 South King Street, 4th Floor  
Honolulu, Hawaii 96813

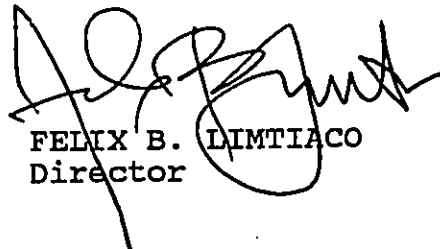
Dear Mr. Gill:

Subject: Final Environmental Assessment (EA) for  
Public Baths Force Main Replacement,  
Waikiki, Oahu, Hawaii

The City and County of Honolulu, Department of Wastewater Management, has reviewed the final environmental assessment for the subject project, and made a negative declaration determination. Please publish a Notice of Negative Declaration Determination for this project in the March 23, 1996 OEQC Bulletin.

We have enclosed a completed OEQC Bulletin Publication Form and four copies of the final EA. Should you have any questions, please contact Mr. Wesley Yokoyama at 527-5152.

Very truly yours,

  
FELIX B. LIMTIACO  
Director

Attachment

- 1996-04-08-OA-*FEA-Public Baths Force Main Replacement*

APR 8 1996  
**FILE COPY**

**PUBLIC BATHS FORCE MAIN REPLACEMENT**

**WAIKIKI, OAHU, HAWAII**

**FINAL ENVIRONMENTAL ASSESSMENT**

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

**PROPOSING AGENCY:**

Department of Wastewater Management  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

UFC, OF ENVIRONMENTAL  
QUALITY CONTROL

96 MAR 21 P3:12

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**PREPARED BY:**

**BELT COLLINS HAWAII**  
680 Ala Moana Boulevard, First Floor  
Honolulu, Hawaii 96813  
Phone: (808) 521-5361

**MARCH 1996**

**PUBLIC BATHS FORCE MAIN REPLACEMENT**

**WAIKIKI, OAHU, HAWAII**

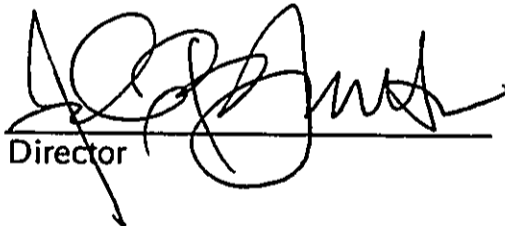
**FINAL ENVIRONMENTAL ASSESSMENT**

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

**PROPOSING AGENCY:**

Department of Wastewater Management  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

**RESPONSIBLE OFFICIAL:**

  
\_\_\_\_\_  
Director

3/18/96  
Date

---

**PREPARED BY:**

**BELT COLLINS HAWAII**  
680 Ala Moana Boulevard, First Floor  
Honolulu, Hawaii 96813  
Phone: (808) 521-5361

**MARCH 1996**

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## CHAPTER ONE SUMMARY AND RECOMMENDATIONS

### 1.1 Project Background

The East Mamala Bay Wastewater Facilities Plan (December 1993), using flow modeling, identified the Public Baths Wastewater Pump Station (WWPS) and force main as having inadequate capacity to handle existing and future projected sewage flows. In addition, the plan also revealed that sewer lines and manholes receiving the discharge from the existing force main had been experiencing back ups and overflows in recent years.

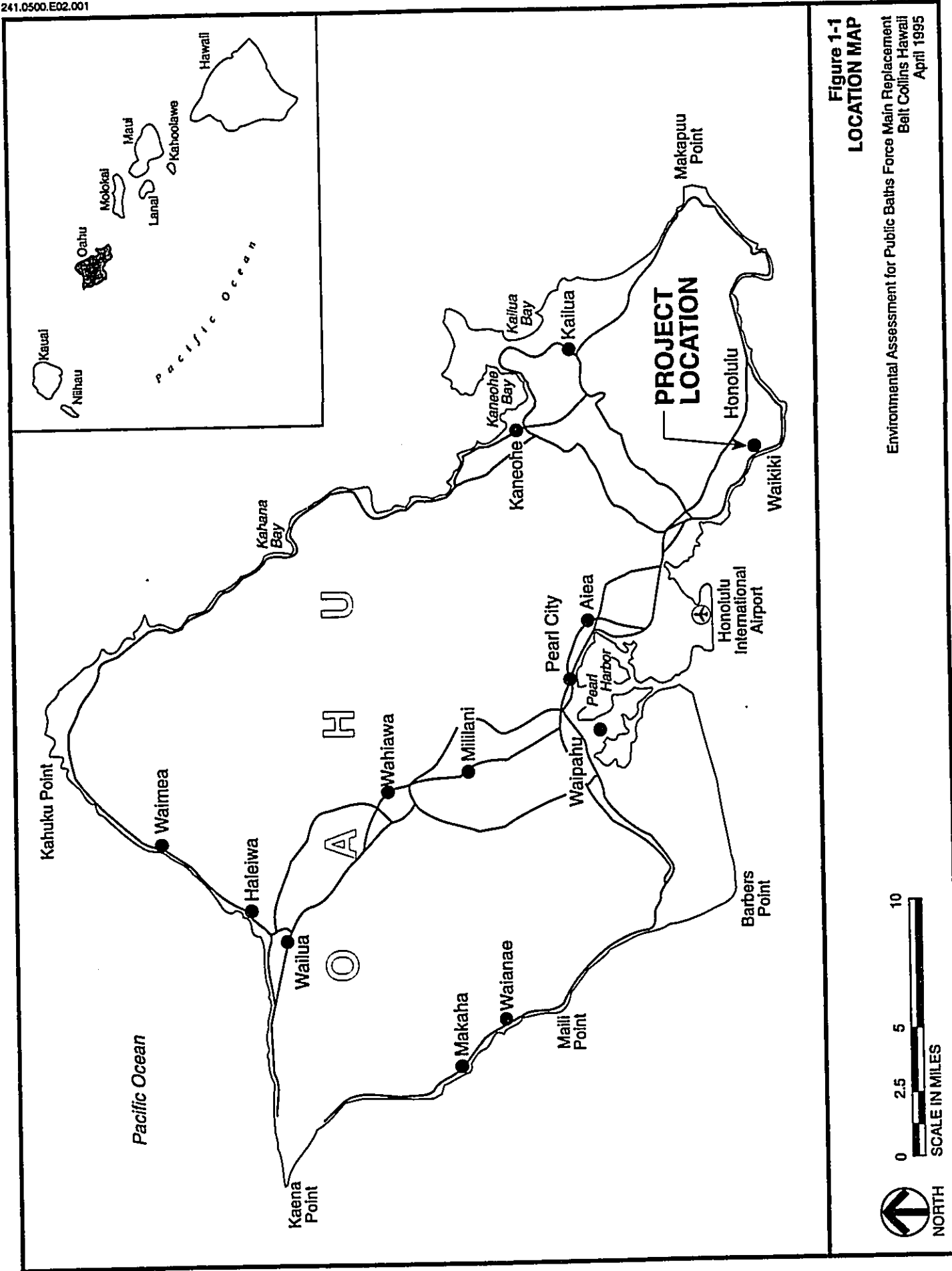
To remedy this situation, the City and County of Honolulu, Department of Wastewater Management (DWWM) is proposing to replace the existing 12-inch sewer force main with a new 18-inch force main. The existing 12-inch force main will be retained for possible future use during repair and maintenance of the new force main.

### 1.2 Identification of Document

The purpose of this environmental assessment is to identify the potential environmental impacts associated with installation and operation of the proposed force main, and to determine whether the anticipated impacts constitute a significant effect in the context of Chapter 343, Hawaii Revised Statutes and Hawaii Administrative Rules, 11-200-12. The proposing and accepting agency is the Department of Wastewater Management, City and County of Honolulu.

### 1.3 Site and Project Description

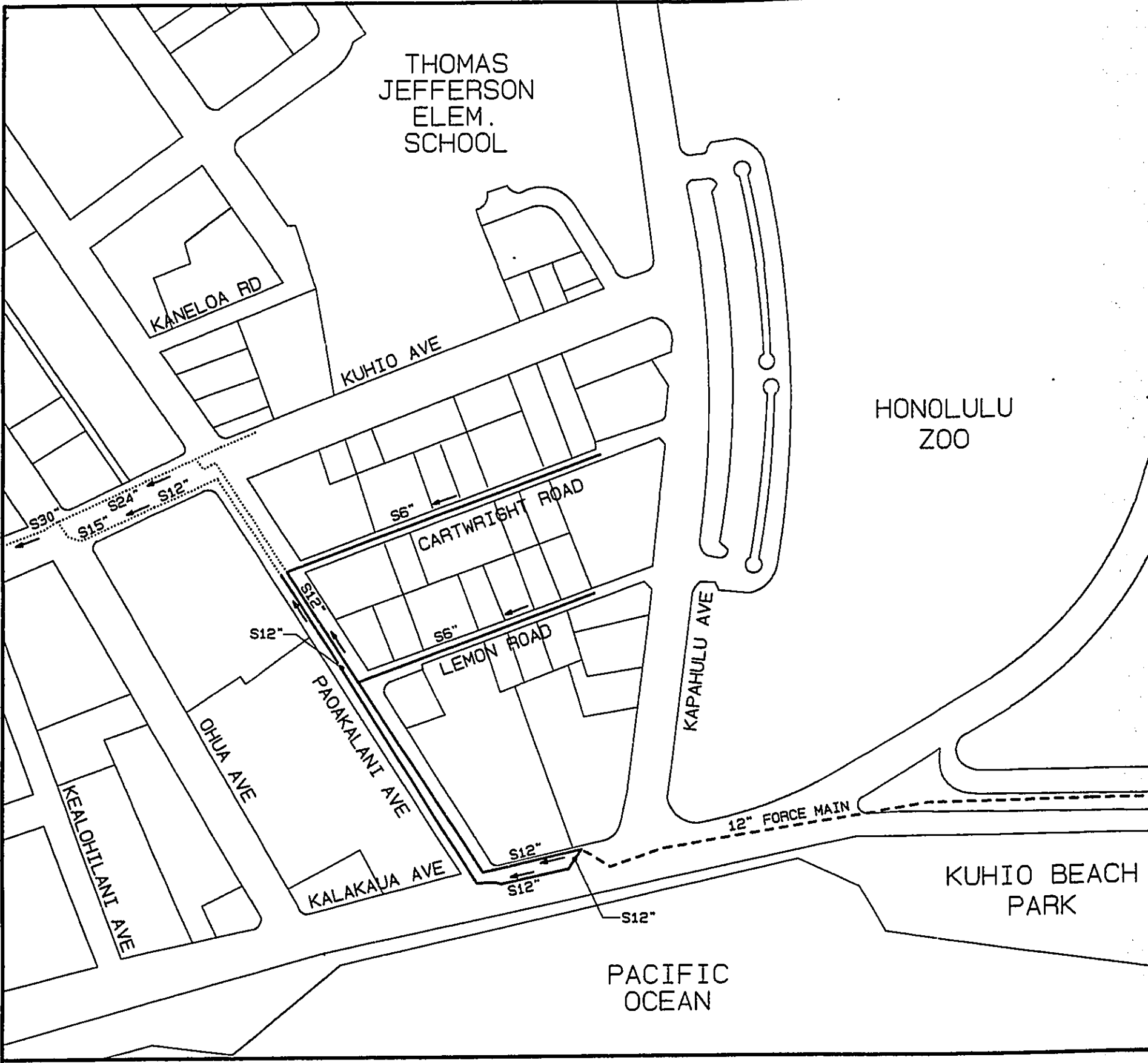
The proposed project area is in the Waikiki district on the south shore of Oahu (see Figure 1-1). The existing sewer force main begins at the Public Baths WWPS, runs north along Kalakaua Avenue, and discharges into a manhole near the intersection of Kalakaua and Kapahulu Avenues (see Figure 1-2). The proposed sewer force main will begin at the Public Baths WWPS, run north along Kalakaua Avenue to the intersection of Kalakaua and Ohua Avenues, run northeast along Ohua Avenue, and discharge into a proposed transition manhole in Ohua Avenue. A proposed 27-inch gravity sewer will carry the flow from the transition manhole to a proposed new manhole built on an existing 30-inch sewer line in the intersection of Ohua and Kuhio Avenues. Chapter Two contains detailed descriptions of the proposed actions and alternatives. Chapter Four discusses alternatives considered.



**Figure 1-1**  
**LOCATION MAP**

Environmental Assessment for Public Baths Force Main Replacement  
Belt Collins Hawaii  
April 1995





THOMAS  
JEFFERSON  
ELEM.  
SCHOOL

KANELOA RD

KUHIO AVE

HONOLULU  
ZOO

CARTWRIGHT ROAD

LEMON ROAD

KAPAEHULU AVE

12" FORCE MAIN

KUHIO BEACH  
PARK

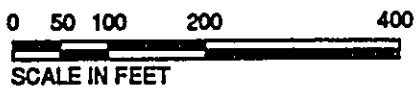
PACIFIC  
OCEAN

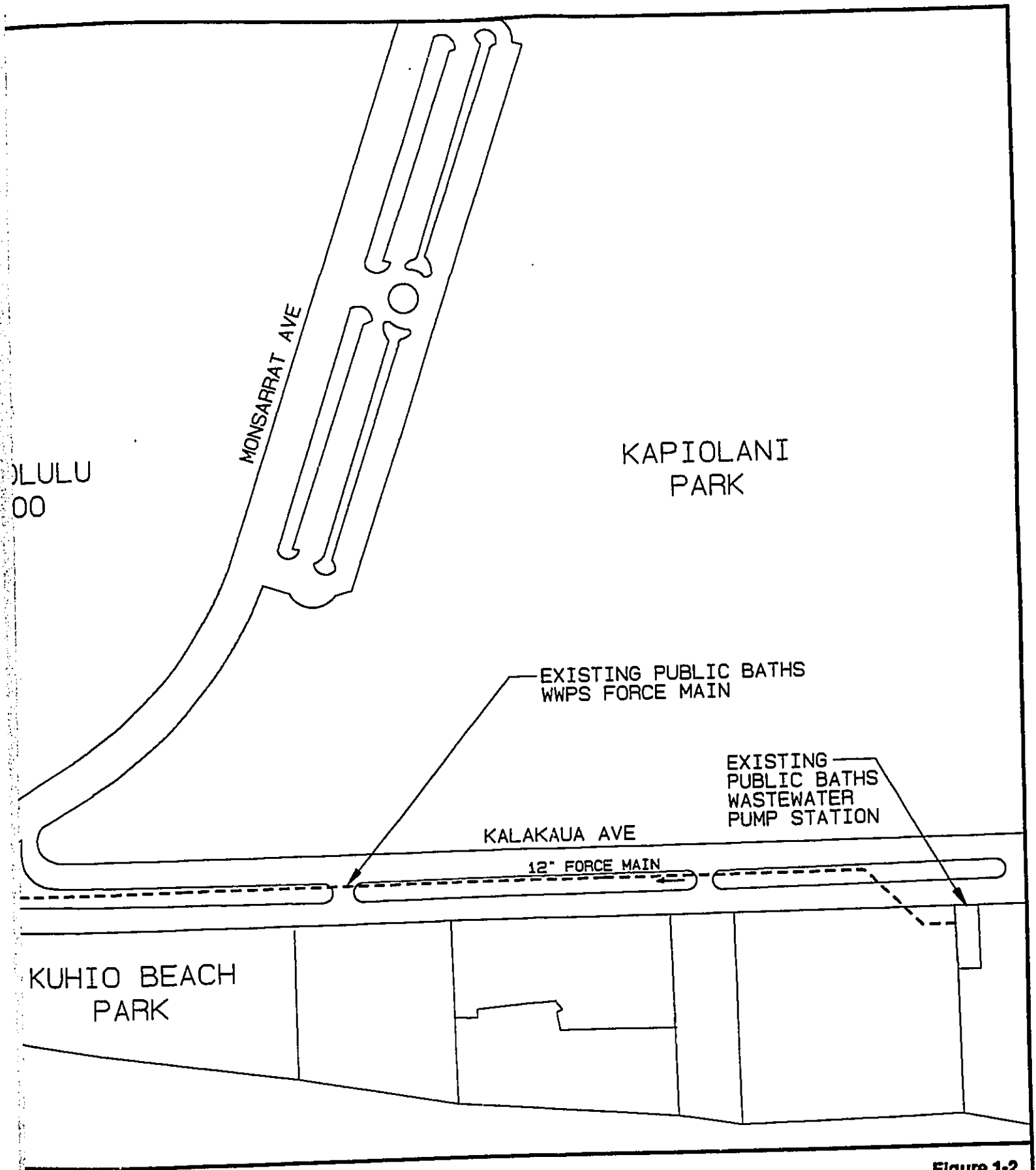
**LEGEND**

- ..... EXISTING GRAVITY SEWER
- SEWERLINE SEGMENT EXPERIENCING BACK UPS & MH OVERFLOWS



NORTH





**Figure 1-2**  
**EXISTING PROJECT AREA MAP**

Environmental Assessment for Public Baths Force Main Replacement  
Belt Collins Hawaii  
April 1995

PS & MH OVERFLOWS IN RECENT YEARS

## 1.4 Purpose and Need for Project

The purpose of the proposed action is to economically install a properly sized wastewater force main to efficiently handle the present and forecast wastewater flow from the Public Baths Wastewater Pump Station. The need for the project is evidenced by sewers connected to the Paoakalani sewer main backing up and overflowing. This potentially causes real and potential health problems and possible contamination of nearshore waters in the Waikiki area.

## 1.5 Potential Impacts and Mitigation Measures

The proposed installation and realignment of a new sewer force main will not cause any significant long-term environmental impacts. However, there will be localized temporary impacts associated with the excavation and installation of the force main during the construction period. Potential temporary impacts and mitigation measures include:

- Localized alteration of vehicular and pedestrian traffic flows. To mitigate these impacts, excavation will take place in small segments, and traffic flow alteration will take place only where absolutely necessary. In addition, steel plates will be placed over excavations at the end of the work shift to restore normal traffic flow.
- Possible localized disruption of existing utility service. These impacts will be mitigated by accounting for existing utilities in the design phase and taking precautions to avoid damaging them during excavation.
- Increase in area noise levels resulting from construction activity, including operation of equipment. These impacts will be mitigated by using muffled equipment, and doing work only during regular daytime working hours.
- Emission of fugitive dust from excavation and construction equipment. These impacts will be mitigated by segmenting excavation activities, erecting temporary construction site barriers, and keeping exposed soils dampened.
- Possible archaeological or historic resources. These impacts will be mitigated by implementing an archaeological monitoring plan approved by the Department of Land and Natural Resources, Historic Preservation Division.
- Localized alteration and disruption of groundwater, drainage flow, or nearshore marine waters. The potential impacts resulting from construction activity dewatering can be mitigated by segmenting and limiting the extent of the excavations and isolating areas where dewatering occurs. Other mitigation measures include a Best Management Practices (BMP) Plan, and a dewatering plan. The impacts can also be mitigated by complying with conditions specified

in the pending City and State permits. If hydrotesting effluent needs to be discharged into the marine waters via the city storm sewer system, the impacts will be mitigated by appropriate hydrotesting procedures and by implementing the BMP plan. If underground injection is required, potential impacts to groundwater can be mitigated by complying with the pending Underground Injection Control Permit. No significant impact will be expected after implementing the mitigative measures.

- Ironwood trees along Kalakaua Avenue from Kapahulu Avenue to Poni Moi Road. These trees are designated as "exceptional trees." They will not be affected by the proposed project. No mitigation will be required.

## 1.6 Agencies Consulted During the Environmental Assessment

During the EA review process, the following federal, state, county and private agencies or individuals were consulted:

### Federal Agencies

- Department of Army, Army Corps of Engineers, Honolulu District
- Department of Interior, Fish and Wildlife Service
- Soil Conservation Service

### State Agencies

- Office of the Governor, Office of State Planning
- Department of Accounting and General Services
- Department of Health, Clean Water Branch
- Department of Health, Clean Air Branch
- Department of Land and Natural Resources, Aquatic Resources Division
- Department of Land and Natural Resources, Historic Preservation Division
- Department of Land and Natural Resources, Land Management Division
- Department of Land and Natural Resources, State Parks Division
- Office of Environmental Quality Control
- University of Hawaii, Environmental Center

### City and County of Honolulu Agencies

- Office of the Mayor
- Department of Land Utilization
- Planning Department
- Department of Public Works
- Department of Transportation Services
- Department of Parks and Recreation
- Fire Department

- Police Department
- Board of Water Supply
- Honolulu City Council
- Civil Defense Agency

**Private Agencies or Individuals**

- Hawaiian Electric Company Inc.
- GTE Hawaiian Telephone Company
- Oceanic Cable
- BHP Gas Company
- Neighborhood Boards No. 5 and No. 9
- Kapiolani Park Trust
- Hawaii Regent Hotel
- Hawaiian Waikiki Beach Hotel
- Park Shore Hotel
- St. Augustine Church
- Hawaii Visitors Bureau
- Mr. Duke Sturgeon

A public informational meeting was also held on July 25, 1995. Comments submitted during the public review process and responses to those comments are presented in Appendix A.

**1.7 Permits and Approvals Required**

The permits, approvals, and coordination needed from state and local agencies for this project are listed in Table 1-1. No federal approvals are required for this project.

**TABLE 1-1  
PERMITS AND APPROVALS COORDINATION NEEDED**

<b>APPROVING AGENCY</b>	<b>PERMIT/APPROVAL/COORDINATION REQUIRED</b>
<b><i>CITY AND COUNTY OF HONOLULU</i></b>	
Department of Land Utilization	Special Management Area Use Permit Exemption National Flood Insurance Program Conformance Shoreline Setback Variance Waikiki Special Design District Permit Exemption
Department of Public Works	Construction Plan Approval and Construction Dewatering Hydrotesting Plan Effluent Discharge Permit Trenching Permit
Department of Transportation Services	Construction Approval in Rights-of-Way Street Usage Permit Construction Traffic Control Plan
Department of Parks and Recreation	Construction Plan Approval for Work within Kapiolani Park
Planning Department	Amendment to the Primary Urban Center Development Plan Public Facilities Map After Construction
Board of Water Supply	Construction Plan
<b><i>STATE OF HAWAII</i></b>	
Department of Health	NPDES Construction Dewatering and Hydrotesting General Permit or Underground Injection Control Permit (depending on method used to dispose dewatering effluent) Noise Permit
Department of Land & Natural Resources	Archaeological Monitoring Plan
<b><i>PRIVATE</i></b>	
Honolulu Public Transit Authority	Construction Plan
Hawaiian Electric Company	Construction Plan
Hawaiian Telephone Company	Construction Plan
Cable TV	Construction Plan
Hawaiian Regent at Waikiki Beach	Traffic Control/Construction Plan
St. Augustine Church	Construction Plan
Kapiolani Park Trust	Traffic Control/Construction Plan

## CHAPTER TWO PROJECT DESCRIPTION

The purpose of the project is to economically and efficiently convey wastewater in an adequately-sized force main from the Public Baths Wastewater Pump Station (WWPS) to a gravity sewer in Kuhio Avenue over a design period of 20 years (to the year 2015). The *Public Baths Force Main Replacement Preliminary Engineering Report—Preliminary 100% Submittal* (Belt Collins Hawaii, July 1994) ("100% PER") evaluated the existing system, and determined the proposed action will achieve this objective. Information presented in this chapter on the project is based primarily on the 100% PER.

### 2.1 Need for the Project

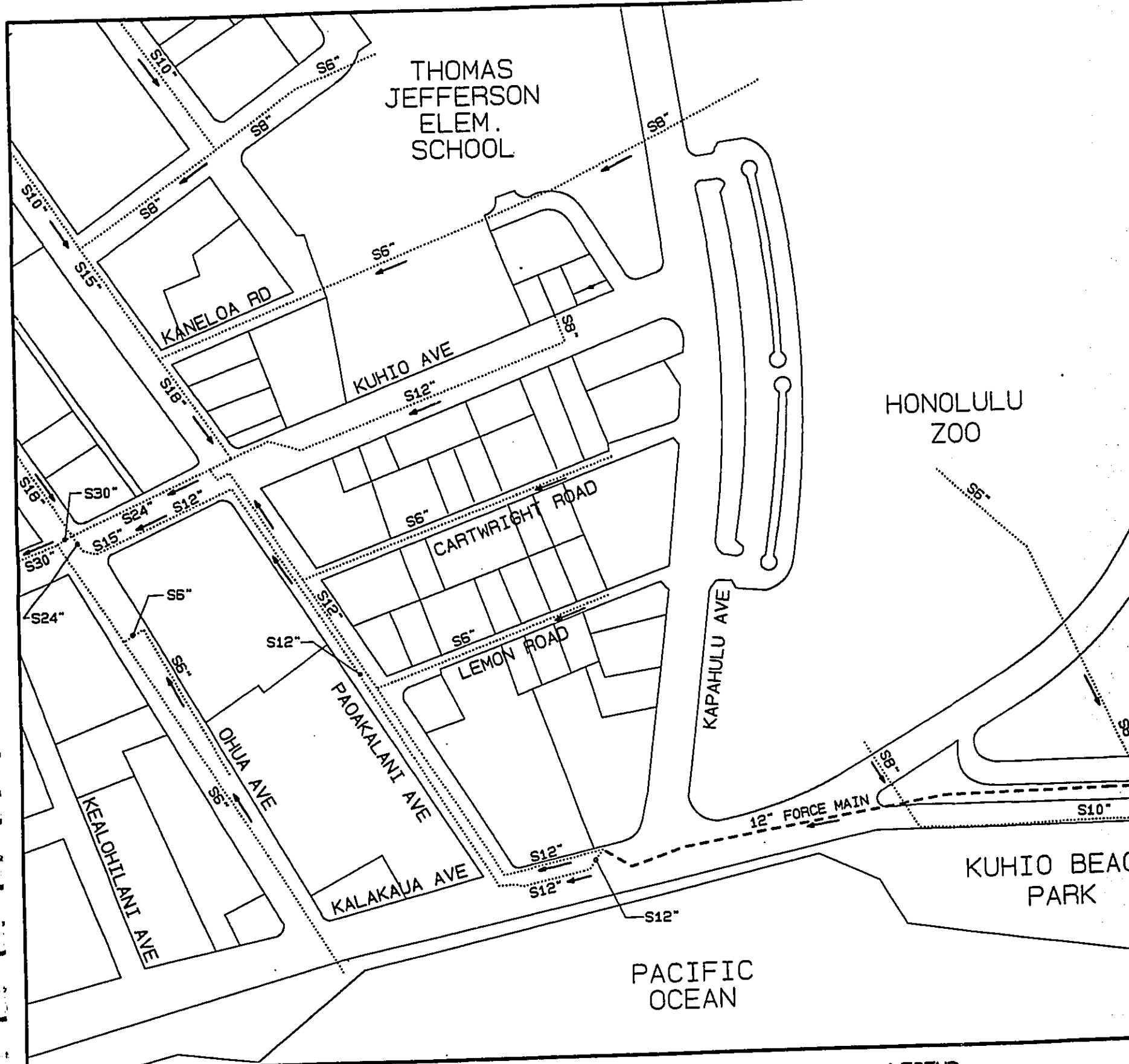
The existing force main discharges into two 12-inch diameter gravity sewers which also handle flows from parcels along Paoakalani Avenue and Lemon and Cartwright Roads (Figure 2-1). Several of these parcels have experienced backups and overflows in recent years. The force main discharge contributes to existing backup/overflow problems (100% PER, July 1994). The proposed project would reroute the force main discharge, leaving the two 12-inch lines to handle flows only from the affected parcels, thus eliminating the backup and overflow problems in this area.

The proposed project will provide a new, larger force main and allow the existing force main to be retained as a back-up for use during emergency conditions and maintenance operations. The existing force main is a 32-year old steel cylinder concrete pipe. The risk of force main failure, which could result in the accidental discharge of sewage at some locations along the alignment, increases with time. The service life of a steel cylinder concrete force main is generally estimated to be approximately 50 years, but in a highly corrosive environment, such as exists near the coastline, the service life may be shorter. The proposed project would greatly enhance system reliability and would decrease the potential for sewage spills.

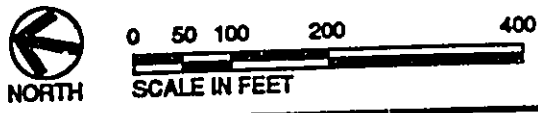
#### Existing Conditions

The existing Public Baths force main is a 12-inch diameter, steel-cylinder concrete pipe approximately 2,240 feet long, which conveys wastewater from the Public Baths WWPS along Kalakaua Avenue to a discharge manhole near Kapahulu Avenue. This manhole drains into two 12-inch gravity sewer lines that run along Kalakaua Avenue and turn onto Paoakalani Avenue. These components are shown in Figure 2-1.

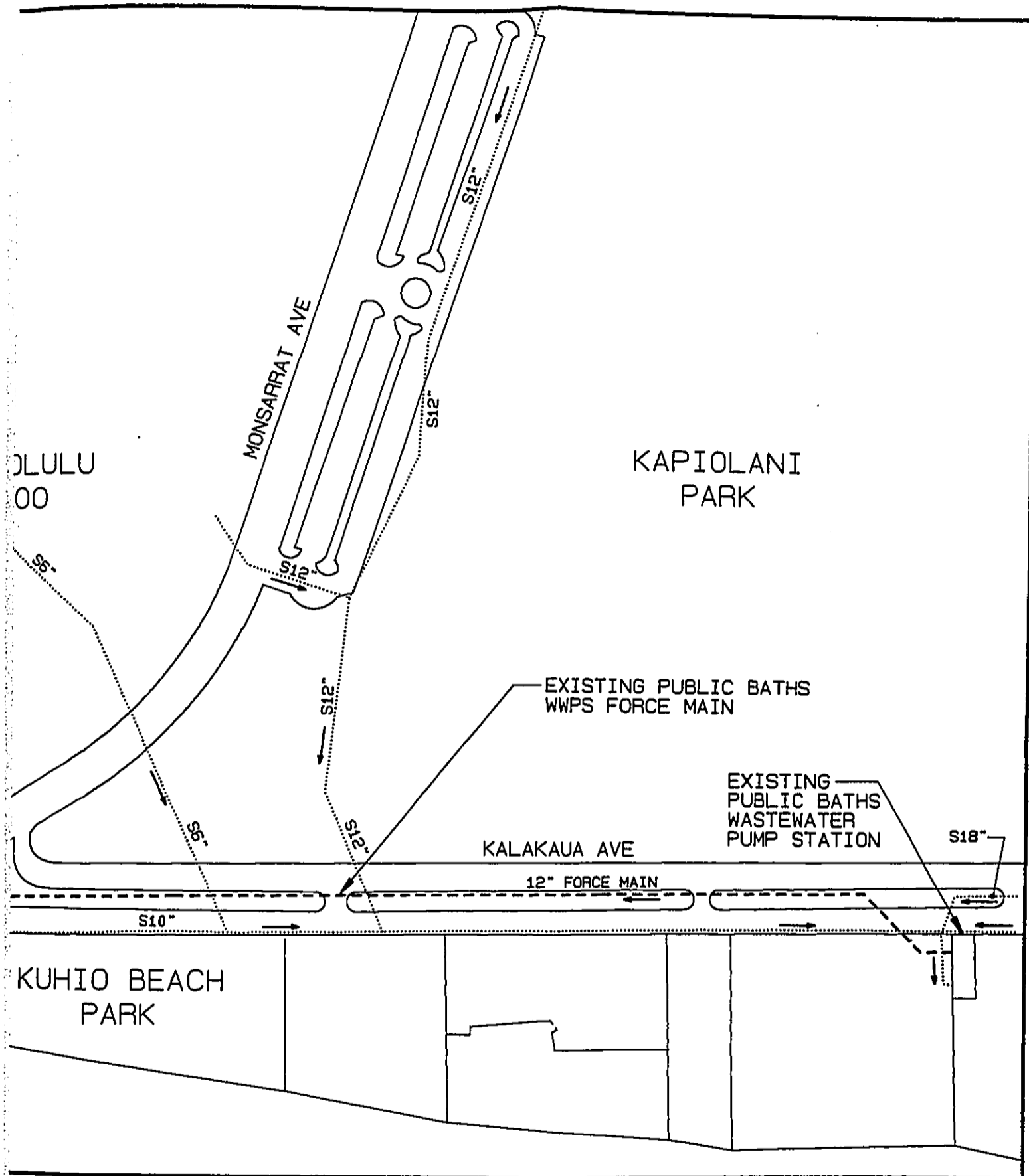
The service area of the Public Baths WWPS is shown in Figure 2-2. It includes Kapiolani Park, Honolulu Zoo, residences on the slopes of Diamond Head at the southeast end of Kapiolani Park, and a mixed residential and resort area along the shoreline from Kuhio



**LEGEND**  
 - - - - - SEWER FORCE MA  
 ..... GRAVITY SEWER



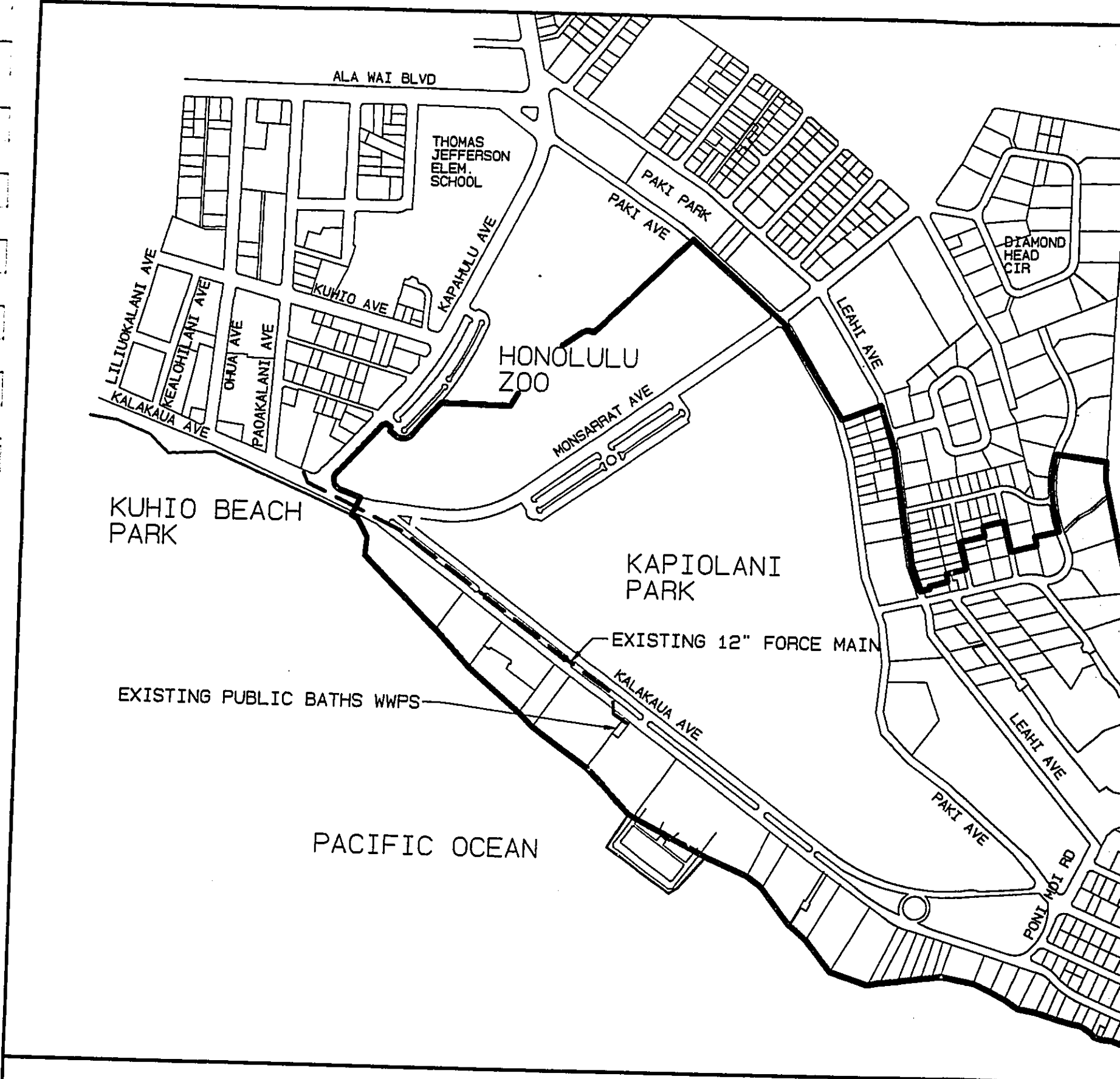




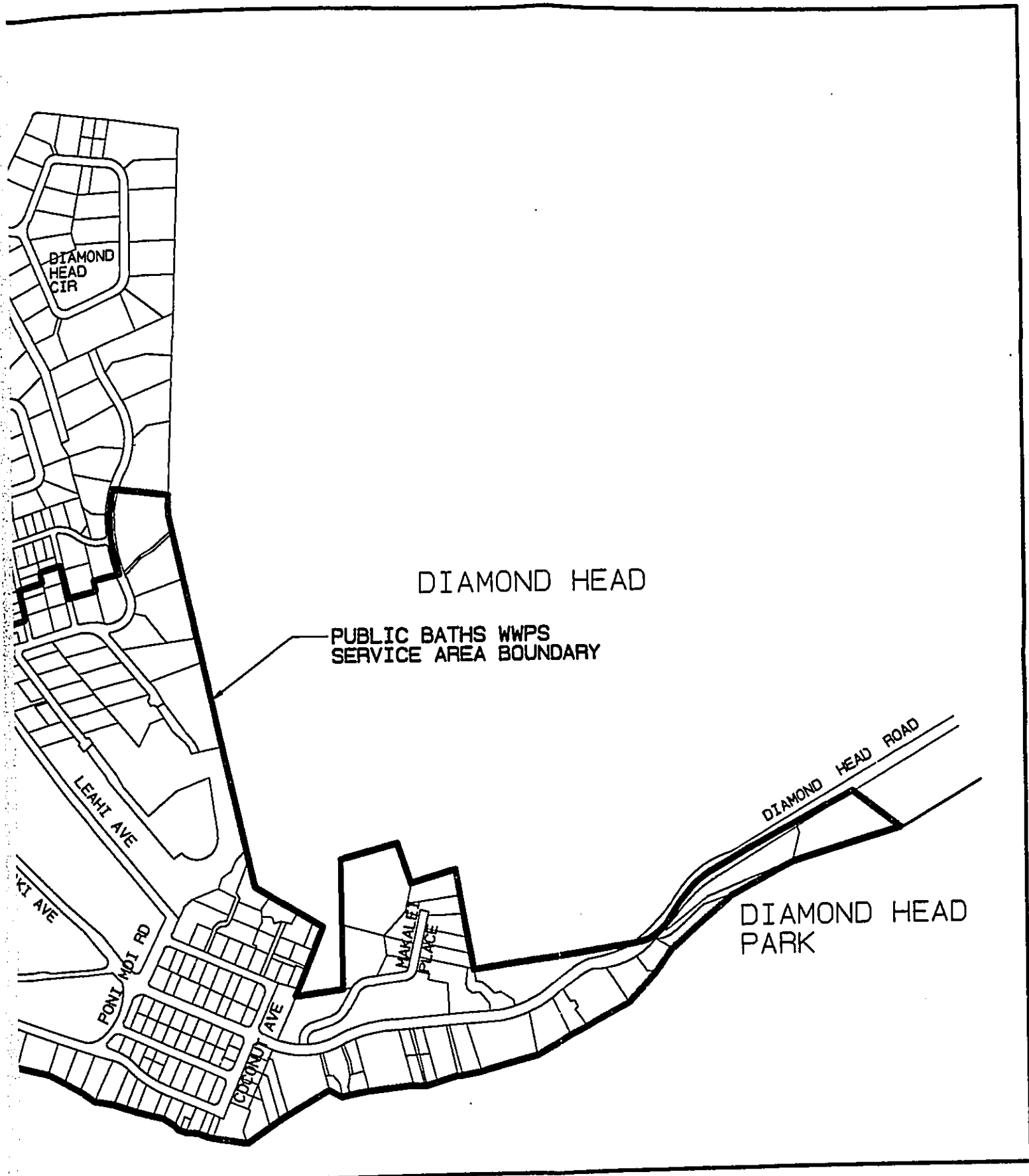
SEWER FORCE MAIN  
GRAVITY SEWER

**Figure 2-1**  
**EXISTING SEWER INFRASTRUCTURE**

Environmental Assessment for Public Baths Force Main Replacement  
Belt Collins Hawaii  
April 1995



0 150 300 600 1200  
SCALE IN FEET



**Figure 2-2**  
**PUBLIC BATHS WWPS SERVICE AREA**

Environmental Assessment for Public Baths Force Main Replacement  
Belt Collins Hawaii  
April 1995

Beach Park to Diamond Head. At the southeast end of the service area, there are several unsewered parcels.

The Public Baths WWPS is located in Waikiki on the makai side of Kalakaua Avenue, north of the Waikiki Aquarium. The station capacity is approximately 1,370 gpm at 29 feet of total dynamic head, with two pumps operating and one pump on standby (100% PER, July 1994). The total capacity of the wet well is approximately 5,000 gallons. The site plan for the pump station is shown in Figure 2-3.

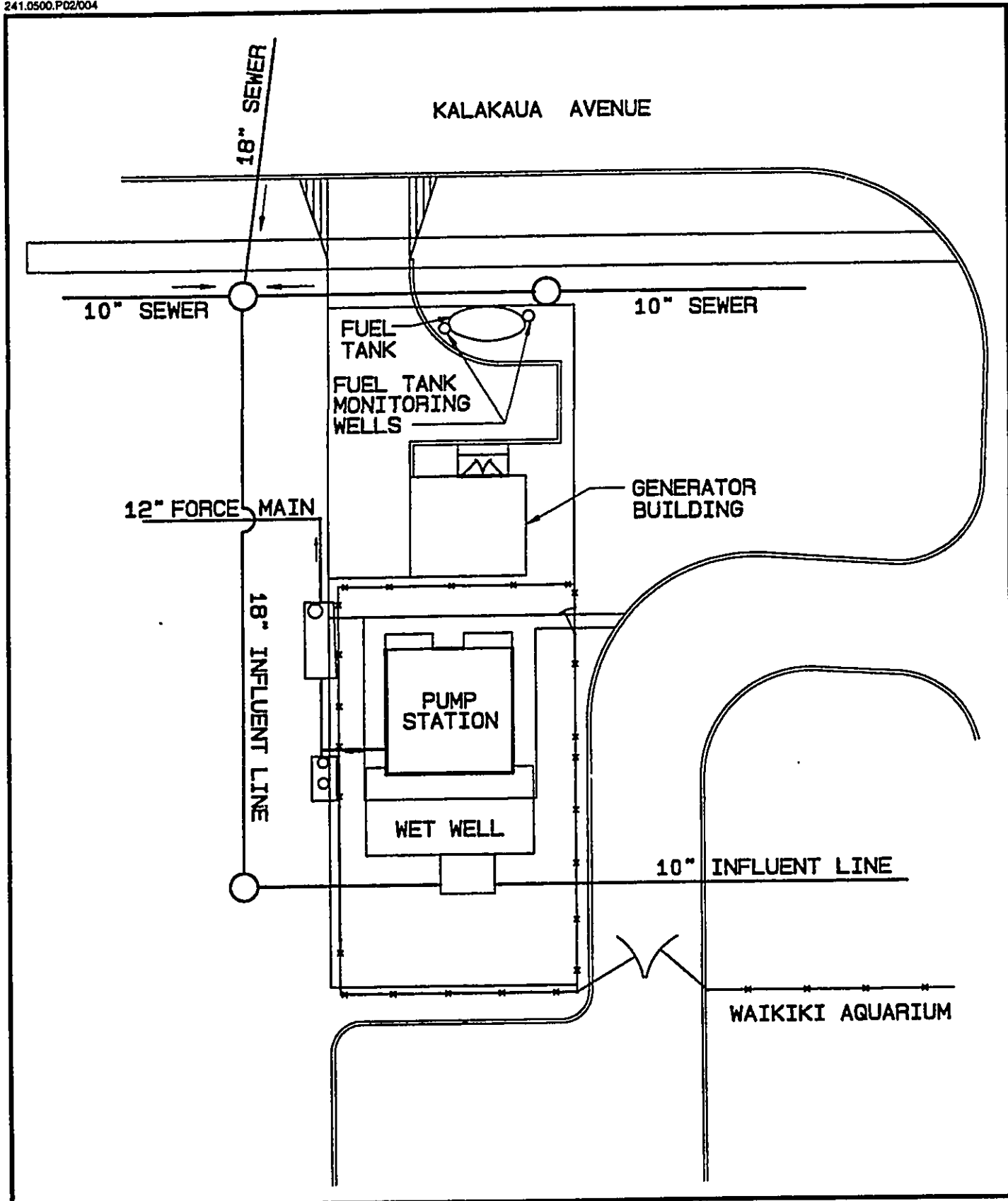
The force main has grease deposits approximately three inches thick over 27 feet of pipe upstream of the existing discharge point. Between May 1990 and May 1992, the average daily flow rate from the Public Baths WWPS ranged from approximately 0.4 million gallons per day (MGD) to 0.5 MGD, with an average of 0.43 MGD (Flow meter totalizer readings, DWWM, as presented in the 100% PER). Between December 1992 and October 1993, the average daily flow rate at the Public Baths WWPS increased approximately 7 percent and ranged from approximately 0.43 to 0.53 MGD, with an average of 0.478 MGD (Data from DWWM's Supervisory Control and Data Acquisition system, as presented in the 100% PER).

The collection system immediately downstream of the discharge manhole is shown in Figure 2-1. The collection system in this vicinity includes gravity sewer lines along Ohua, Paoakalani, Kuhio, and Kalakaua Avenues and Kaneloa, Cartwright, and Lemon Roads. There were 16 complaints logged from 1990 through 1993 about these lines, as summarized in Table 2-1, and the parcels associated with these complaints are shown in Figure 2-4. Land uses in this vicinity include hotels, condominiums, and apartment units.

#### Flow Modeling

To determine the proper size force main for the affected area, flow modeling was used to simulate existing and future flow scenarios. For each scenario, flow rates through the wastewater system infrastructure were modeled based on the type of use of individual tax map key parcels. For existing conditions, existing land use was the basis. For future conditions, Development Plan land uses were modeled. These data by tax map key parcel were obtained from the City Planning Department in December 1993.

For given types of land use, DWWM design standard flow generation rates were applied. The flow generation rates used are shown in Table 2-2. In addition to these standard rates, special flow generation rates were used for special cases such as Honolulu Zoo, Kapiolani Park and major development projects.



**Figure 2-3**  
**PUBLIC BATHS WWPS—SITE PLAN**



0 10 20 40  
SCALE IN FEET

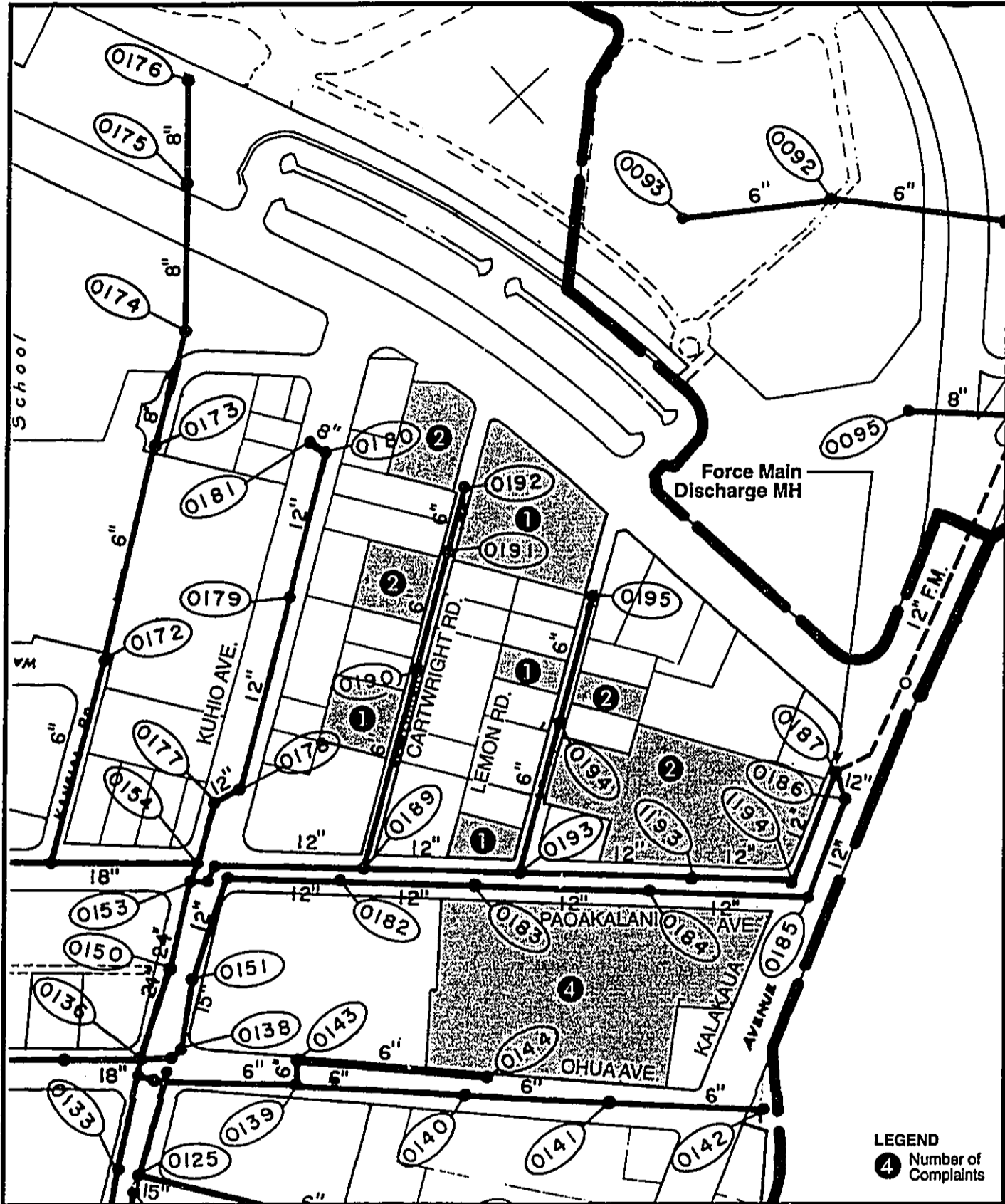
Environmental Assessment for Public Baths Force Main Replacement  
Belt Collins Hawaii  
April 1995

**TABLE 2-1  
SEWER COMPLAINTS FROM 1990 TO 1993  
IN AREA DOWNSTREAM FROM PUBLIC BATHS WWPS**

STREET ADDRESS	TMK	SEWER COMPLAINT	DATE OF COMPLAINT
2552 Kalakaua Ave. 2552 Kalakaua Ave. 2552 Kalakaua Ave. 2552 Kalakaua Ave.	2-6-026:003 2-6-026:003 2-6-026:003 2-6-026:003	Manhole overflow Backup Backup Backup	02/27/90 07/18/90 05/09/92 11/09/92
2570 Kalakaua Ave. 2570 Kalakaua Ave.	2-6-027:035 2-6-027:035	Manhole overflow Backup	05/18/90 01/30/91
204 Makee Road <sup>1</sup> 204 Makee Road	2-6-027:002 2-6-027:002	Backup Backup	3/10/92 10/28/93
2574 A Cartwright Rd. 2574 A Cartwright Rd.	2-6-027:005 2-6-027:005	Backup Backup	04/05/92 04/05/92
175 Paoakalani Ave. <sup>2</sup>	2-6-027:007	Backup	11/02/93
150 Kapahulu Ave.	2-6-027:018	Manhole leaking/backup	04/29/90
2572 Lemon Road	2-6-027:021	Manhole overflow	10/13/92
2546 Lemon Road	2-6-027:025	Clean-out overflow	06/08/93
2571 Lemon Road 2571 Lemon Road	2-6-027:040 2-6-027:040	Backup Backup	04/16/93 04/19/93

Notes: 1. Property is located on Cartwright Road and Kapahulu Avenue (Makee Road was modified).  
2. Property is located off of Paoakalani Avenue on Cartwright Road.

Source: Preliminary Engineering Report (100% PER). July 1994



**Figure 2-4**  
**LOCATIONS DOWNSTREAM OF FORCE MAIN**  
**DISCHARGE ASSOCIATED WITH COMPLAINTS**

Environmental Assessment for Public Baths Force Main Replacement  
 Belt Collins Hawaii  
 April 1995

**TABLE 2-2  
BASIS FOR LAND USE FLOW GENERATION RATES**

LAND USE TYPE	LAND USE	BASIS FOR AVERAGE DAILY FLOW <sup>1</sup>
Residential	Houses Apartment Units	4 persons per house 2.8 persons per apartment unit
Non-residential	Central Business Community Business Neighborhood Business Resort Apartment (high density) Apartment (medium density) Apartment (low density) General Industry Waterfront Industry Schools Parks Institutions (hospital, etc.)	300 capita per acre (cpa) 140 cpa 40 cpa 400 cpa 390 cpa 250 cpa 85 cpa 100 cpa 40 cpa 25 cpa <sup>2</sup> 6.25 cpa <sup>3</sup> 200 gallons per capita per day (gpcd)

Notes: <sup>1</sup> Numbers shown in this column are from DWWM Design Standards except where noted. The per capita flow rate applied to all land uses (except institution) is the DWWM standard of 80 gpcd for the existing scenario. The per capita flow rate applied to all land uses (except institution) is 76 gpcd for the future scenario, which is based on the City DWWM Design Standard of 80 gpcd reduced by 5 percent for water conservation (as discussed in section 5.2.3).

<sup>2</sup> Based on an estimate of 2,000 gallons of wastewater generated per acre of school land.

<sup>3</sup> Based on an estimate of rest room usage during heavy-use conditions.

Source: Preliminary Engineering Report (100% PER). July 1994

In general, these flow generation rates were multiplied by the number of acres of land used or by the number of people in each category in a given area; the resulting flow rates were input to the flow model at the appropriate modeled locations within the wastewater system. Five flow rates were calculated to determine the required capacities of the components of the wastewater system:

- **Average** - the average rates at which flows are generated by persons or land uses
- **Maximum** - average flow multiplied by a maximum flow factor
- **Design average** - average flow plus dry weather infiltration
- **Design maximum** - maximum flow plus dry weather infiltration
- **Design peak** - design maximum flow plus wet weather infiltration and inflow.



Existing and future flows from parcels currently served by the Public Baths WWPS were determined. In addition, the *East Mamala Bay Wastewater Facilities Plan* (Belt Collins Hawaii, December 1993) recommends that unsewered parcels within the Public Baths WWPS service area be sewered within the 20-year design period used for this project. The modeling results of the flows from the Public Baths WWPS are shown in Table 2-3.

**TABLE 2-3  
FLOWS FROM PUBLIC BATHS WWPS**

Modeled Design Flow	Modeled Flow Rate (MGD)	
	Existing	Future (2015)
Average	0.70	0.82
Peak	4.06	4.20

Source: Preliminary Engineering Report (100% Submittal). July 1994

#### Ability to Accommodate Existing and Projected Flows

Based on pipe capacity, the existing force main could accommodate the future design peak flow of 4.2 MGD. Neither the pipe velocity nor the head loss would exceed the DWWM standards for these values. This condition would, however, require high horsepower pumps and would result in high energy consumption, high pipe velocities, and high head losses in the pipe. It would also require major pump station modifications to accommodate such large pumps. Power supply for high horsepower pumps may not be available from the electrical grid in the area of the pump station.

A larger diameter pipe, requiring lower horsepower pumps, is generally considered to be a better design compromise in this type of situation.

System reliability is the major benefit of constructing a new force main. A failure in the existing force main would result in a sewage discharge with the potential to contaminate beaches from Waikiki to Diamond Head. Handling wastewater flows into the pump station while pipe repairs were in progress would be very difficult without a back-up force main.

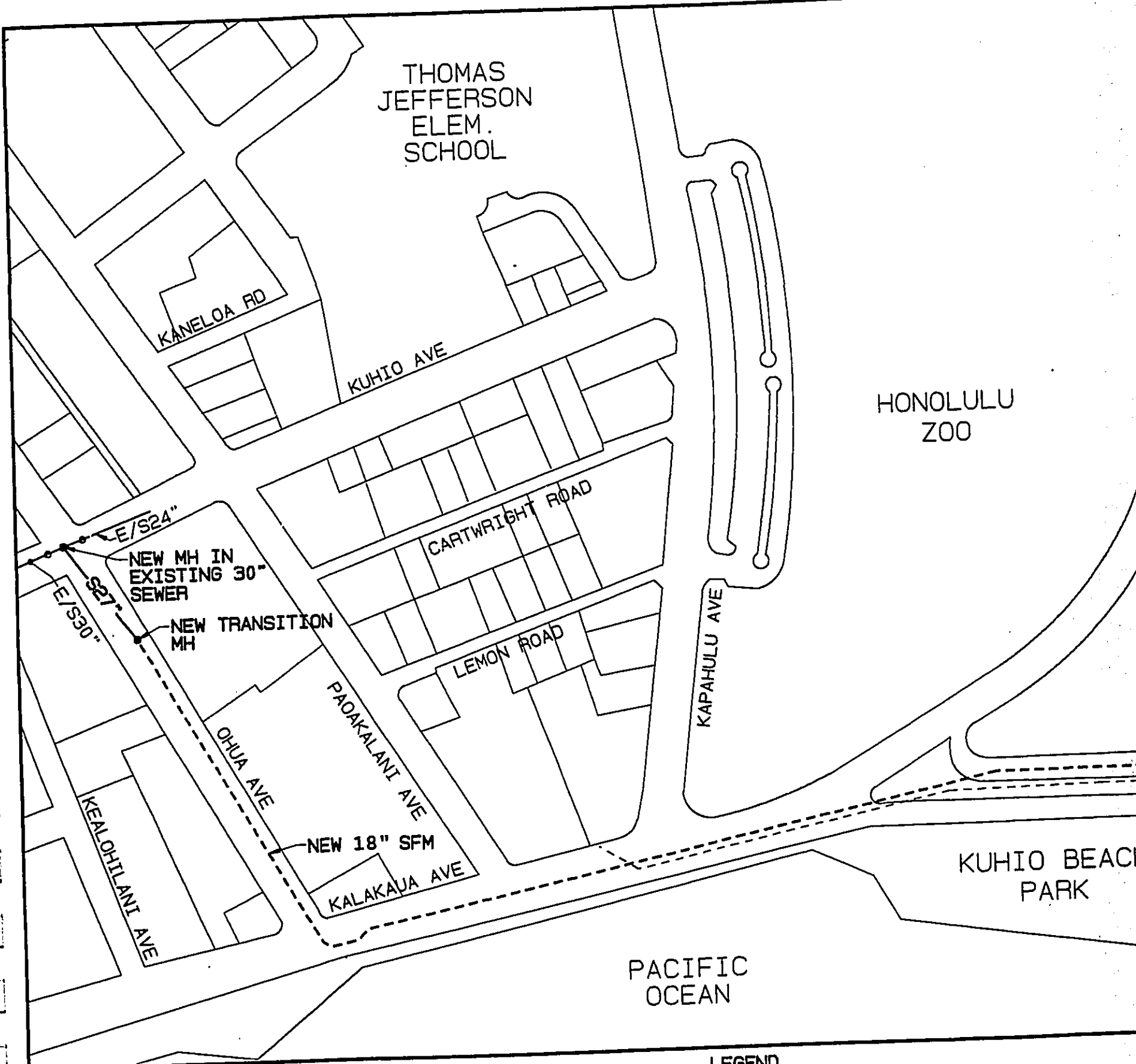
Given the 32-year age of the existing force main, it would not be prudent to install significantly larger pumps in the pump station to pump wastewater at higher rates through the existing pipe. This could cause immediate failure of the existing line and would significantly increase operating cost due to higher energy consumption. A new force main pipe would be less likely to fail than the existing old pipe. If a failure did occur, or when the new force main required cleaning or inspection, wastewater could be discharged temporarily through the existing force main. This back-up capacity would have the potential of greatly reducing the probability of a spill and of greatly reducing the quantity discharged if a spill did occur.

## 2.2 Proposed Improvements and Alignments

The proposed improvements and alignments are shown in Figure 2-5. The sewer force main will run from the Public Baths WWPS to a transition manhole in Ohua Avenue, approximately 200 feet west of the intersection of Ohua and Kuhio Avenues. From this manhole, a 27-inch gravity line will carry the force main discharge to a new shallow drop manhole built over the existing 30-inch sewer in the intersection of Ohua and Kuhio Avenues. An 18-inch pressure pipe made of polyvinyl chloride (PVC) will be used for construction of the force main because of its corrosion resistant properties. The pipe size for the new force main was selected based upon head loss and velocity considerations for the design flows. The existing force main will be taken out of regular service, but will be retained for standby use as required.

The proposed force main will require several modifications at the Public Baths WWPS. These include the installation of three 25-horsepower pumps to replace the three existing ten-horsepower pumps to provide future peak flow capacity. Two pumps will pump the peak flow of 4.2 MGD with the third pump serving as standby. Dry pit submersible pumps will be used due to the additional pump station modifications that will be required to install motors on the ground level floor and adequately protect them from potential flood or tsunami inundation. The existing pump station suction, discharge and header piping will all be replaced when the station is upgraded with the larger pumps. A valving arrangement will be provided so that the pump station can discharge to either the new or the old force main. The existing force main will continue to discharge from the pump station through the existing venturi meter, and the new force main will be provided with a new venturi meter. This arrangement will facilitate header and venturi meter maintenance.

The larger pumps at the Public Baths WWPS will require installation of larger electrical equipment at the pump station. A dedicated, on-site, pad-mounted, transformer system may be required by Hawaiian Electric Company (HECO) to provide an adequate power supply for the new pumps. The existing 60 kilowatt (kW) emergency generator will be replaced with a new 100 kW unit. Larger circuit breakers, a larger automatic transfer switch, and a larger load bank receptacle, will be required for operation of the larger pumps.



THOMAS  
JEFFERSON  
ELEM.  
SCHOOL

KANELOA RD

KUHIO AVE

HONOLULU  
ZOO

CARTWRIGHT ROAD

NEW MH IN  
EXISTING 30"  
SEWER

NEW TRANSITION  
MH

LEMON ROAD

KAPAHULU AVE

PADAKALANI AVE

NEW 18" SFM

KUHIO BEACH  
PARK

KEALOHILANI AVE

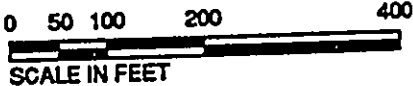
OHUA AVE

KALAKAU AVE

PACIFIC  
OCEAN



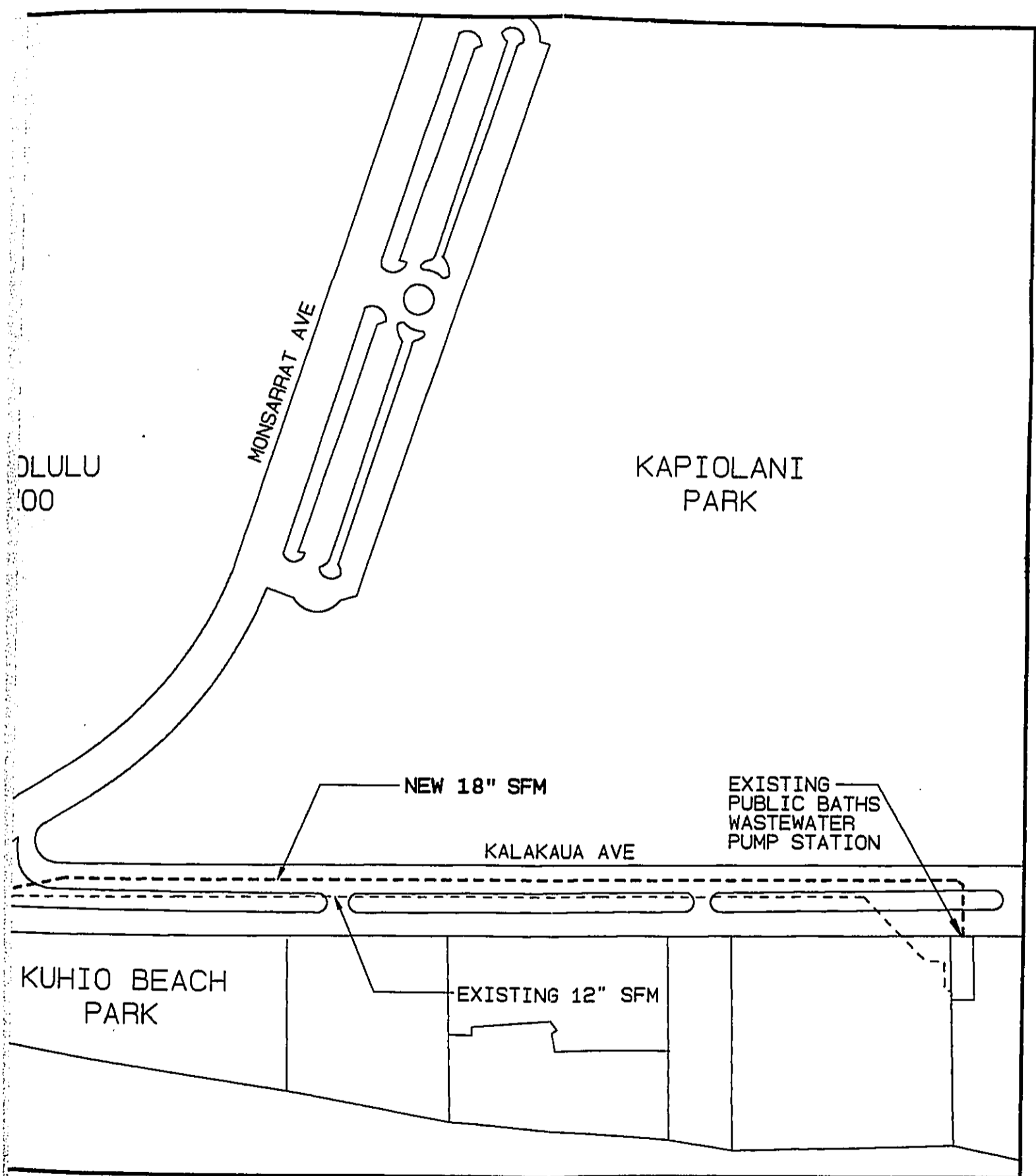
NORTH



SCALE IN FEET

**LEGEND**

- NEW SEWER FORCE MAIN
- EXISTING FORCE MAIN
- NEW GRAVITY SEWER W/MH
- EXISTING GRAVITY SEWER W/MH



DLULU  
00

MONSARRAT AVE

KAPIOLANI  
PARK

NEW 18" SFM

EXISTING  
PUBLIC BATHS  
WASTEWATER  
PUMP STATION

KALAKAUA AVE

KUHIO BEACH  
PARK

EXISTING 12" SFM

MAIN  
MAIN  
R W/MH  
SEWER W/MH

**Figure 2-5**  
**PROPOSED IMPROVEMENTS**

Environmental Assessment for Public Baths Force Main Replacement  
Belt Collins Hawaii  
April 1995

As a result of the larger electrical equipment needed to support the 25-horsepower pumps, the existing building enclosures are inadequate. Additional interior space will be created on the site by enclosing the space between the existing pump and generator buildings.

The improvements described above will achieve the following:

- Divert flow from the two 12-inch gravity sewers in Paoakalani Ave where, based on the existing flow model and logged complaints, the capacity is inadequate to handle discharge from the existing force main. These two 12-inch sewers will be adequate to carry existing and peak flows (with the exception of two short segments) if there is no flow contribution from the existing force main.
- Increase system reliability by having the existing 12-inch force main on standby. The existing 12-inch force main can be used temporarily when the new 18-inch force main is taken off-line for maintenance.
- Increase system capacity to handle projected year 2015 flows.

### 2.3 Construction Activities

Construction of the proposed force main will take place within the street rights-of-way at Kalakaua, Ohua, and Kuhio Avenues.

Two general construction methods are available for force main installation. The first is the more traditional trenching, or cut and cover method. The second, which is generally referred to as micro-tunneling, eliminates the need for an open trench. Using this technique, pits are excavated at selected locations along the alignment and one of several methods of horizontal drilling and pipe insertion is used to install the pipeline from one pit to the next.

Excavation, whether for a trench or pit associated with micro-tunneling, will typically be done with a backhoe type of excavating shovel. Dump trucks will be used to haul the excavated material to a temporary storage location. An equipment staging area will also be needed.

The two construction methods are discussed below. The impacts associated with both of these methods are presented in Chapter Three. The construction method chosen by the contractor selected to perform the work will depend on several conditions and factors which are discussed in the following paragraphs.

### Trenching Method

For the traditional trenching method, a trench width of approximately four feet will be required along the force main alignment. If the alignment follows the middle of a lane in the street, it may be possible to close only a single lane during construction, but for most of the alignment it will be necessary to close two lanes.

The depth of excavation for the force main will vary from approximately 6 feet to 15 feet below the ground surface. Most depths will be between 6 and 8 feet below the ground surface.

Groundwater depths reported in *Geotechnical Engineering Exploration* (Geolabs-Hawaii, draft, January 1994) for this project varied from approximately -2.0 to 2.0 feet mean sea level (MSL) at the various boring locations. Assuming an average groundwater elevation of 2.0 feet MSL along the alignment (somewhat conservative), most of the trench for the force main will extend to between 0 and 4 feet beneath the groundwater table. Thus, dewatering of the trench will be required.

The geotechnical report indicates that trenches deeper than about 4 feet require shoring to support the trench walls. Sheet piles are typically used, especially where they will be required to extend into the groundwater to provide cut-off walls for dewatering operations.

Trenching equipment will include machinery to cut and remove the existing road surface, a backhoe to excavate the trench, and dump trucks to haul the excavated material to a storage site. The backhoe will typically have a jackhammer attachment to break the asphalt over the trench area. An average of approximately one 16-cubic-yard dump truck load of material per 16 linear feet of trench excavation will be removed. Trucks will also deliver pipe segments, bedding material, and other required construction materials to the site. Between construction shifts, steel plates (spot welded together if feasible) will be placed over the excavation to restore traffic flow.

For trench dewatering, sump pumps will operate almost continuously to pump out ground water flowing into the trench. Pipes and/or flexible hoses will be used to carry the discharge of groundwater to the disposal location, typically the nearest storm drain inlet pending approval of appropriate permits by the City and State Department of Health.

Care will be taken by the design engineer in developing trenching methods and procedures, and the construction contractor during construction activity dewatering to minimize potential settling effects on surrounding structures.

Backfilling of the trenches will require equipment similar to that for excavation plus small hand compactors that will be used to compact the backfill in lifts. The backhoes used for excavation typically have a scoop-style blade on the other end for spreading and moving

material across the surface. Some of the backfill material, such as the pipe cushion material and the pavement subgrade, will be imported granular material and the remainder will be the on-site excavated material. It is the contractor's responsibility to dispose excess excavated material at an approved disposal site.

Repaving of the surface of the trench will be done with similar equipment used in backfilling. The asphalt mix will be hauled to the site in dump trucks, placed and spread with a scoop style blade, and compacted. A small roller-type compactor may be used for compacting the asphalt.

#### Micro-Tunneling Method

Micro-tunneling refers to a variety of pipe installation techniques in which pipe is installed by drilling horizontally through the soil and pushing or "jacking" the pipe into the drilled tunnel. This method eliminates the need for excavating a trench along the alignment and thus reduces the surface disturbance of certain segments of the construction area. It is most commonly used for installation of pipeline crossings under highways, runways, railway lines, water courses, and other linear features across which trenching would be very disruptive. It may reduce the potential impact upon other underground utilities in certain segments that will be exposed during trenching. However, this method demands more accurate 3-dimensional mapping of other subsurface pipes, conduits and structures.

Because PVC pipe is not strong enough for micro-tunneling installation, it will be necessary to use steel cylinder concrete or ductile iron pipe for the force main or it will be necessary to use a carrier pipe made of steel or other rigid materials. For the latter method, the PVC (or high density polyethylene) pipe would be installed inside the rigid carrier pipe and the annular space between the two pipes would be grouted. For the installation of any steel or iron pipe, corrosion would be a major concern and corrosion protection methods including coating and wrapping of the pipe and cathodic protection will be required. This would increase costs.

Micro-tunneling would require the excavation of a minimum of two 10-foot diameter pits to a depth of 5 feet below the pipe invert for installation of a single straight run of pipe. The 10-foot diameter pits would be located at each end of the run. The maximum length between pits for a long straight run would be determined during design, based upon the specific micro-tunneling method used and the pipe specifications. One pit would contain the tunneling and pipe jacking machinery, and the other would be the "receiving" pit. The slurry of material removed from the tunneling operation would typically be pumped to a small settling tank near the pit. The clarified water would be reused in the tunneling operation and the sediment will need to be hauled away for disposal. As each section is completed, the tunneling and pipe jacking machinery would be moved to the next pit for installation of the next section of pipe. If this method is used along the entire alignment, approximately 15 to 20 such pits will be required. It would be necessary to close both lanes of the street for excavation of, and

work within, each pit. The type of pipe used would either be ductile iron or steel concrete cylinder or PVC in a ductile iron or steel concrete cylinder pipe carrier.

Though dewatering of the pipe alignment would not be required, each pit would need to be dewatered during construction. The depth of dewatering would be approximately four feet deeper than trenches and the horizontal area of dewatering would be much smaller. The installation of groundwater cutoff walls around the pits would be critical to successful dewatering operations and the protection of surrounding soil stability and structures.

At locations determined by the design, the pits could be converted to manholes with large (minimum 8-foot inside diameter) bases. For the force main, manholes would probably be installed at all high points of the pipe for access to air relief valves and at all low points for access to drain facilities. Also, the pit at the discharge end of the force main would be converted into the discharge manhole. For gravity sewer construction, each pit would be located at a future manhole site, and would be converted to a manhole after installation of the pipe. Lateral connections to a gravity sewer would require trench excavations for installation. These trenches would be smaller and generally shallower than the main sewer line trench.

Pit excavation would require methods and machinery similar to open trench excavation as described under Trenching Method. For a pit depth of 11 feet (pipe invert depth of 6 feet) approximately two 16-cubic-yard dump truck loads of material per pit would be removed.

## **2.4 Schedule and Cost**

The DWWM has tentatively planned for commencement of construction on this project in November 1996. Construction is anticipated to last approximately one year. The estimated construction cost using the trenching method is \$2.7 million.

As an alternative, micro-tunneling could be used instead of the traditional trenching and backfilling. It should be noted, however, micro-tunneling could be more expensive. While micro-tunneling is possible, based on existing geotechnical data, if the soils are too loose, stiffening measures may be required, thereby further increasing costs. As a more recently developed method, cost figures for this procedure are difficult to estimate and would vary significantly. Because construction impacts are a major consideration, the City would allow contractors to bid either construction method.



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## **CHAPTER THREE DESCRIPTION OF THE AFFECTED ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATION MEASURES**

### **3.1 Topography, Geology and Soils**

A topographic survey of the proposed force main or force main and gravity sewer alignments indicated that ground surface elevations from the WWPS site to the intersection of Kuhio and Ohua Avenues (via Kalakaua Avenue and either Paoakalani or Ohua Avenues) are between 4 and 10 feet above MSL. The ground surface elevation is approximately 6.5 feet above MSL at the pump station site and approximately 9 feet above MSL at the existing discharge manhole located on Kalakaua Avenue.

The soils along the alternate alignments consist of medium dense to very dense sands ranging from about 3 to 12.5 feet in thickness below the asphalt concrete pavement section (Geolabs-Hawaii, 1994). Light gray sandy coral gravel deposits, ranging from very loose to very dense in relative density, were encountered to depths between 16.5 and 32.5 feet below the existing ground surface. Gray clayey silts with gravel were encountered below the light gray sandy coral-gravel to the maximum depth explored at about 36.5 feet below the existing ground surface. Solid coralline materials are found below the -36.5-foot level.

Based on the results of the soils exploration work, the medium dense to very dense sands encountered generally within 15 feet of the ground surface will provide adequate support for the proposed force main (Geolabs-Hawaii, 1994).

The proposed project will affect the soils of the project area only to the extent of those that will be removed for construction purposes. The project will not affect either the topography or geology of the project area.

Because of the lack of significant impacts to the topography, geology and soils of the project area, no mitigation measures are warranted.

### **3.2 Climate**

Prevailing winds in the project area are northeasterly tradewinds. In general, the trades are stronger in the afternoon than at night and more persistent in summer than in winter, with frequencies of approximately 85 and 35 percent respectively.

The average annual temperature in Honolulu is 77°F. Seasonal variation is slight. Extreme temperatures recorded in Honolulu range from 50°F to 95°F.

Rainfall patterns are directly related to wind patterns and the topography of the Koolau Range. The median annual rainfall in the Waikiki District is approximately 24 inches.

The proposed project will not affect the climate of the project area and no mitigation measures are required. Similarly, to the extent practicable, work will be scheduled for periods of minimal rainfall.

### **3.3 Hydrology and Drainage**

Because of its low elevation and proximity to coastal waters, the groundwater in the Waikiki area is generally saline and relatively shallow. During geotechnical exploration (Geolabs-Hawaii, 1994), groundwater was encountered between 4.5 and 8.5 feet below the ground surface. However, groundwater levels in this area fluctuate based on tidal conditions, rainfall patterns, and groundwater withdrawal and injection activities.

It is anticipated that any trenches dug to install the force main or gravity sewer lines will be approximately 4 feet wide and at least 5 to 6 feet below ground surface, with deeper and wider trenches in some areas. As a result, dewatering of the force main trenches may be required. If a micro-tunneling technique is used, each pit would need to be dewatered during construction, but dewatering of the pipe alignment would not be required. The pits would be deeper than trenches, but the horizontal area of dewatering would be much smaller.

Trenching and dewatering activities associated with the proposed project have the potential to alter or disrupt groundwater or drainage flow in localized areas. These impacts will vary, depending on whether trenching or micro-tunneling methods are used in the excavations. In either case, potential impacts will be mitigated by segmenting and limiting the extent of the excavations and isolating areas where dewatering occurs with sheetpile to limit impacts on the groundwater table. By implementing a proper dewatering plan approved by the City Department of Public Works (DPW) and State Department of Health (DOH) and implementing other permit conditions, there will be no significant adverse impacts to the groundwater of the project area and/or settling of surrounding structures.

### **3.4 Archaeological and Historic Resources**

The traditional Hawaiian name for the area in which the Public Baths WWPS is located is Kapua (Monsarrat, 1897). In 1876, the area immediately inland of the WWPS was a wetland covered in sedge grass adjoining a duck pond in what is now Kapiolani Park (Lyons, n.d.). A prehistoric Hawaiian trail passed along the beach at this location (I'i, 1982).

The area of proposed excavation is under existing roadways and is in close proximity to existing utility corridors and alignments. Soil supporting this infrastructure is fill material which extends down two or three feet below surface grade in some areas. The underlying sediments in this area are beach sand. Areas such as this were the preferred location for prehistoric Hawaiian burial sites. In total, over 40 burials have been recovered in the beach sand along the Waikiki shoreline. On May 18, 1993, an unknown number of human remains were discovered during excavations conducted as part of the Waikiki Aquarium improvements, immediately adjacent to the WWPS. In addition to burials, there is also a high probability of encountering archaeological deposits related to prehistoric Hawaiian habitation of the area. (*East Mamala Bay Wastewater Facilities Plan Final Environmental Impact Statement*, Belt Collins Hawaii, December 1993).

Although there is high potential for archaeological or historic resources to exist along or below the roadways and proposed force main alignments, it is not feasible to conduct an archaeological and historic resource survey prior to excavation. To insure that any unknown archaeological or historic resources are not adversely impacted, a written archaeological monitoring plan will be prepared and submitted to the State Department of Land and Natural Resources, Historic Preservation Division (HPD) for review and acceptance prior to the monitoring project and construction activities. Additionally, excavation will be monitored by a qualified professional archaeologist who will record the occurrence of archaeological deposits as they are encountered and take appropriate action should significant deposits or human remains be encountered. In regards to the two possible construction techniques, it will be easier for an archaeologist to monitor for deposits in a trenching operation than a micro-tunneling operation. Implementation of the noted mitigation measures will result in the project having no significant impacts on the archaeological and historical resources of the project area.

### **3.5 Air Quality**

The project area is generally free from serious air pollution conditions. This is largely due to the effects of the northeasterly trade winds that regularly cleanse the island atmosphere of emissions and particulates, and the lack of major industrial uses typical of similar sized cities. The proposed project will not have significant impacts on air quality in the immediate area. Impacts will be limited to temporary fugitive dust generated during trenching and installation of pipeline. Common construction site management techniques such as dampening exposed soil and erecting temporary buffer fences will be effective means of mitigating any of these impacts. The proposed project will not cause any significant impacts to the air quality. All construction work will comply with the provisions of Chapter 11-60.1, Hawaii Administrative Rules, Section 11-60.1-33 on Fugitive Dust.

Additionally, the contractor will provide adequate means to control dust from road areas during the various phases of construction activities, including but not limited to:

- planning different phases of construction, focusing on minimizing the amount of dust-generating materials and activities, centralizing material transfer points and on-site vehicular traffic routes, and locating potentially dusty equipment in areas of least impact;
- providing an adequate water source at the site prior to start up of construction activities;
- rapid covering of bare areas, including slopes, starting from the initial grading phase;
- control of dust from shoulders, project entrances, and access roads; and
- providing adequate dust control measures during weekends, and after hours, and prior to daily start up of construction activities.

### **3.6 Water Quality**

#### **3.6.1 Groundwater**

As part of the geotechnical investigation, eight groundwater samples were collected and analyzed for bacteria, nitrogen, and total petroleum hydrocarbon (TPH) (Geolabs-Hawaii, 1994). The results of these analyses indicated groundwater under Ohua and Kalakaua Avenues contained levels of bacterial contamination ranging from 52 to over 3,000 most probable number (MPN)/100 mL for total coliform and from two to 5,000 colony forming units (cfu)/100 mL for enterococci. Only one sample was detected for nitrate and nitrite nitrogen at 0.14 mg/L, with the rest below 0.05 mg/L. The presence of total coliform in the sample indicates that the groundwater at one location (boring 6), near the intersection of Monsarrat Avenue with Kalakaua Avenue, may contain sewage contamination. This contamination is likely the result of sewage seeping from a damaged gravity sewer line or force main in this area.

Dewatering during construction will involve either disposing of the effluent into the City's storm drain system or via underground injection. Both methods require receipt of appropriate permits from the City and County of Honolulu and the State Department of Health (DOH). If the dewatering effluent is disposed of into the storm drain system, the construction contractor will have to file an National Pollutant Discharge Elimination System (NPDES) permit application with DOH for review and issuance of the permit prior to construction and dewatering activities. A similar dewatering permit will be required from the City DPW. The permit applications will include background water quality data indicating existing groundwater quality for the length of the project corridor. In addition, the NPDES permit application will contain a water quality monitoring plan and Best Management Practices Plan (BMP) indicating the steps that will be taken to minimize potential effects of dewatering, and of the handling of potentially

contaminated water. These permit applications will be prepared and filed during the design phase of the project for issuance prior to the start of construction.

The general purpose of filing the monitoring plan and BMP with the Department of Health is to assure that the dewatering effluent does not contaminate the receiving waters. These permits, along with the conditions generally applied to them, serve as appropriate measures to minimize potential adverse impacts resulting from dewatering activities.

If underground injection is used for disposal of water from construction dewatering and/or hydrotesting, the City will be required to obtain an Underground Injection Control (UIC) permit from the Hawaii Department of Health (DOH), Safe Drinking Water Branch. The State of Hawaii has established a UIC program to protect the quality of the State's underground sources of drinking water (USDW) from pollution by subsurface disposal of fluids. Conditions are specified to govern the location, construction and operation of injection wells so that injected fluids do not migrate and pollute USDW. A UIC permit, which is required from the DOH prior to the construction, modification, and operation of wells injecting into any aquifer, will serve to mitigate any potentially adverse impacts.

### 3.6.2 Marine Waters

The proposed project is in close proximity to recreational beaches and waterways in the Waikiki District. These waters are used extensively for swimming, surfing, snorkeling and other activities.

Discharges, from construction activity dewatering and/or hydrotesting, directly to state waters or indirectly via the municipal storm drain system, will be subject to NPDES permitting requirements. Notice of Intent (NOI) for these discharges will be filed with the DOH Clean Water Branch at least 90 days before the discharge starts. Hydrotesting effluent can also be discharged into the existing sewer system upon approval from the Water Quality Management Branch of DWWM. The NOI will contain a Best Management Practices (BMP) Plan indicating how pollutants will be minimized during construction and dewatering activities. A construction dewatering or hydrotesting permit is also required by the City DPW to discharge groundwater or hydrotesting effluent into the municipal separate storm sewer system.

These requirements are to insure that dewatering or hydrotesting activities are conducted so that they will not have adverse effects on surface waters. Standard construction project precautions, such as the use of sediment and erosion control basins, will be used as appropriate to prevent contaminants such as sediments, pollutants, petroleum products, and debris from entering the nearby aquatic environment. It is noted that the majority of storm water runoff presently drains into the Ala Wai Canal.

Excavation and installation of the proposed force main will occur in segments, and the total area of site disturbance will not exceed five acres. Therefore, a Notice of Intent (NOI) to be covered under a general permit authorizing discharges of storm water from construction activities will not be required. A U.S. Army Corps of Engineers permit under the Clean Water Act, the Rivers and Harbors Act of 1899, and the Marine Protection, Research, and Sanctuary Act will not be required for the project as determined by the U.S. Army Corps of Engineers.

### **3.7 Flora and Fauna**

The flora and fauna of the project area is limited to introduced species. There are no rare, threatened, or endangered species or wetland areas within the project corridor. There are several Ironwood trees (*Casuarina equisetifolia*) planted along Kalakaua Avenue from Kapahulu Avenue to Poni Moi Road are designated "exceptional trees" under the City's Revised Land Use Ordinance (Section 41-13.7). These trees will be unaffected by the proposed project. Therefore, the proposed project will have no significant impacts on the flora and fauna of the area, and mitigation measures are not warranted.

### **3.8 Noise Levels**

The proposed project area is generally noisy with automobile and pedestrian traffic throughout the day. During installation of the proposed force main, construction personnel and equipment will add to the existing noise level in the area. Trenching equipment would include machinery to cut and remove the existing road surface, a backhoe to excavate the trench, and dump trucks to haul the excavated material to a storage site. To break the asphalt over the trench area, the backhoe would typically have a jackhammer attachment, or sawcutting equipment would be used. Micro-tunneling would not necessarily require the same equipment as trenching. However, in both cases, trucks would deliver pipe segments, bedding material, and other required construction materials to the site, and sump pumps would operate almost continuously to pump out groundwater flowing into excavations.

Equipment associated with construction activities such as excavation, trenching, pipe laying, and backfilling are subject to Hawaii Administrative Rules, Chapter 11-43, Community Noise Control for Oahu (Nov. 1981), and may require a permit. This chapter established allowable noise levels for the island of Oahu to provide for the prevention, control and abatement of noise by zoning district. A permit is required from the DOH Radiation and Noise Branch to use or operate vehicles and construction equipment which emit or may emit noise levels that exceed the limits (e.g., 60 dBA during daytime) for the area of the alternate alignments.

In addition, use of muffled equipment and operation of heavy equipment during normal working hours will help mitigate any temporary noise impacts associated with the proposed project. Also, steel plates used to temporarily cover excavated areas will be spot welded together to prevent clanging when vehicles cross over them.

### **3.9 Flooding and Tsunami Inundation**

Based on the Flood Insurance Rate Map published by the Federal Emergency Management Agency (FEMA) (see Figure 3-1), the area makai of Kalakaua Avenue between the Public Baths WWPS and Ohua Avenue is susceptible to flooding. The area makai of the pump station to the area near the intersection of Monsarrat and Kalakaua Avenues is in Zone A, which is a special flood hazard area that would potentially be inundated by a 100-year flood, but in which flood elevations have not been determined. From near the intersection with Monsarrat Avenue to beyond the intersection with Ohua Avenue, the makai side of Kalakaua Avenue is in Zone AE, where the flood elevation has been determined to be 9 feet MSL.

The coastline makai of Kalakaua Avenue, and including all of Kapiolani Park, is identified as a tsunami inundation area. The determination of inundation zone boundaries is based upon calculations of flood elevations and historical experience of previous tsunamis. The last significant tsunami to affect the area was in 1960. The height of maximum runoff in the study area was from eight to nine feet.

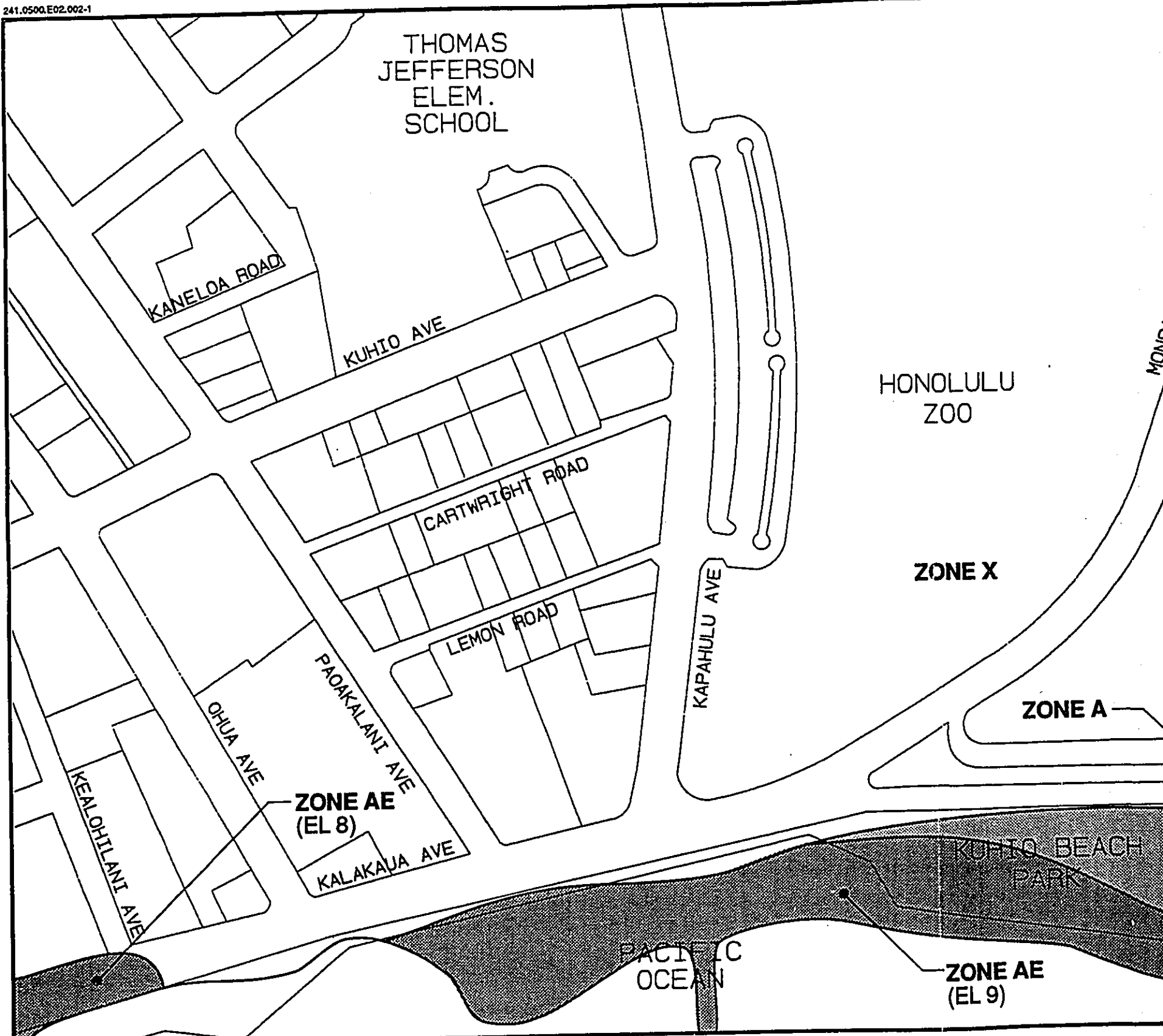
Flooding and tsunamis can potentially affect wastewater collection systems and pump stations by causing electricity loss at the pump station, and by creating infiltration and bypass problems in pipes, and in other collection infrastructure. Such events pose hazards because of their potential to cause releases of untreated wastewater from the collection system, and to damage or destroy infrastructure. These releases have the potential to cause significant local health risks.

Potential flood or tsunami hazards associated with the proposed underground force main are not as significant as those hazards associated with electrical or pumping equipment. Mitigation of potential hazards will include design of the force main to be able to sustain predicted flood/tsunami conditions without suffering major structural or functional damage, consistent with Section 7.10 of the City's Land Use Ordinance.

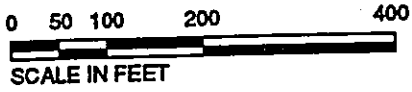
### **3.10 Hazardous Materials**

During the geotechnical exploration, eight soil samples and eight water samples were collected for testing of possible petroleum contamination. One soil and one water sample were collected from each of the eight boring locations. Total petroleum hydrocarbon (TPH) levels for all soil samples were less than five (5) mg/kg. While TPH levels for seven of the eight water samples were less than two (2) mg/L. TPH was only detected at

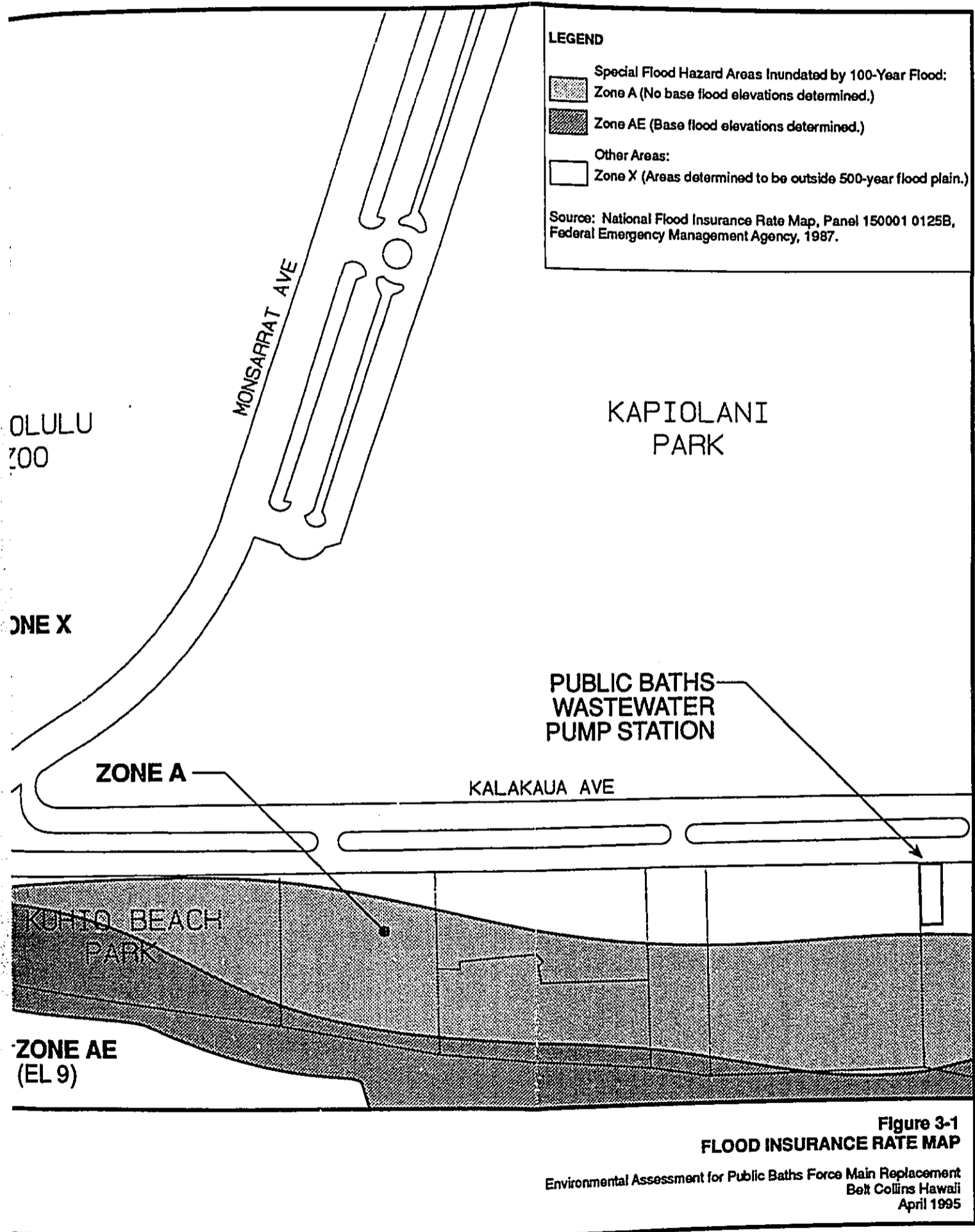
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NORTH







**Figure 3-1  
FLOOD INSURANCE RATE MAP**

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Belt Collins Hawaii  
April 1995

8.0 mg/L in the water sample collected from the boring nearest to the pump station. Based on these results, petroleum contamination does not appear to present a problem along the alternate alignments (Geolabs-Hawaii, 1994). Therefore, the proposed excavation has little potential of exposing or releasing contaminated groundwater into the environment. In addition, the excavation and installation of the proposed force main will not require the installation of any storage tanks or introduce significant amounts of hazardous materials into the project area either as a result of the proposed action and/or the construction equipment to be used.

### **3.11 Land Use**

The project area is within the Waikiki Special Design District, established by the City and County to control the development of Waikiki relative to apartment and hotel density, public shoreline access, and other criteria.

The proposed alignment is located within the State Urban District. Existing land uses along alternate alignments include hotels, condominiums, apartment units within the portions in the Waikiki Special District, and public outdoor recreation facilities in Kapiolani Park. The proposed below-grade infrastructure improvements, which will help accommodate the existing land uses in these districts, are consistent with existing land use guidelines and are exempt from Waikiki Special District Permit Requirements (City of Honolulu Land Use Ordinance). The Department of Wastewater Management will continue to coordinate the project with the Planning Department to assure the proper amendment to the Primary/Urban Center Development Plan Public Facilities Map is made prior to completion of the project.

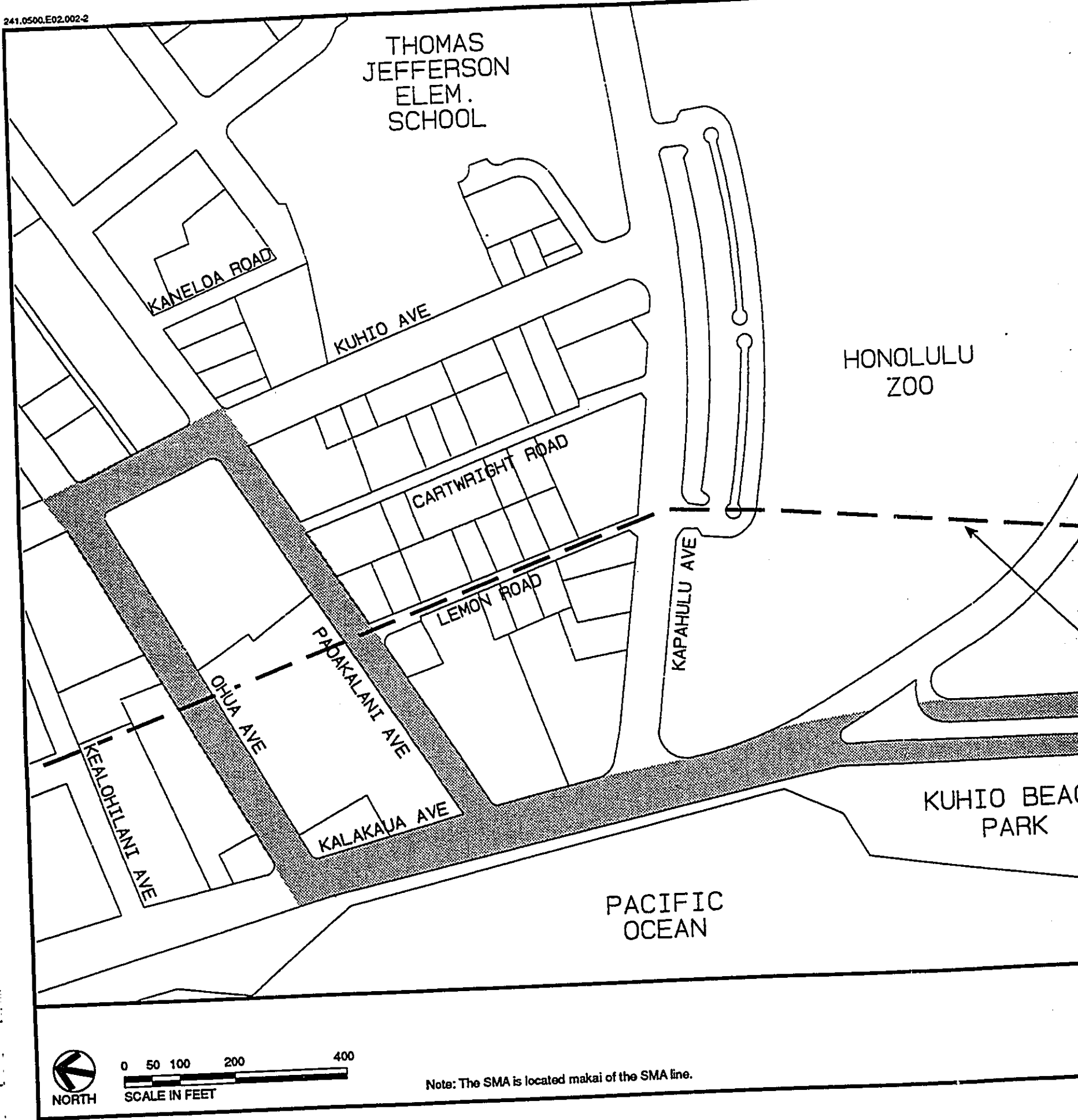
### **3.12 Coastal Zone Management (CZM) Program**

The federal CZM program is administered in Hawaii by the Office of State Planning. The State of Hawaii's Coastal Zone Management office interprets the federal CZM Act to pertain to the entire island of Oahu. The CZM Act also pertains to, "all marine waters extending from the upper reaches of the wash of the wave onshore seaward to the limit of the State's police power and management authority, including the U.S. territorial sea" (Section 205A-1, HRS, as amended by Act 126, 1990). Thus, the alternate alignments are within the coastal zone. However, the CZM guidelines and objectives are not directly applicable unless a project involves federal lands and/or federal agencies. Because the proposed project does not involve the federal government, it does not require a CZM federal consistency review.

### **3.13 Special Management Area**

The State of Hawaii has identified the coastal regions of all the islands as Special Management Areas (SMA). The City is authorized to administer the permit process to regulate development within the SMA on Oahu. As shown in Figure 3-2, portions of the

241.0500.E02.002-2



THOMAS  
JEFFERSON  
ELEM.  
SCHOOL

KANELOA ROAD

KUHIO AVE

HONOLULU  
ZOO

CARTWRIGHT ROAD

LEMON ROAD

KAPAEHULU AVE

OHUA AVE

PADAKALANI AVE

KEALOHILANI AVE

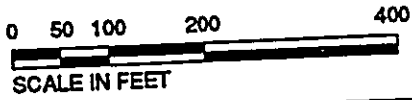
KALAKAUA AVE

KUHIO BEACH  
PARK

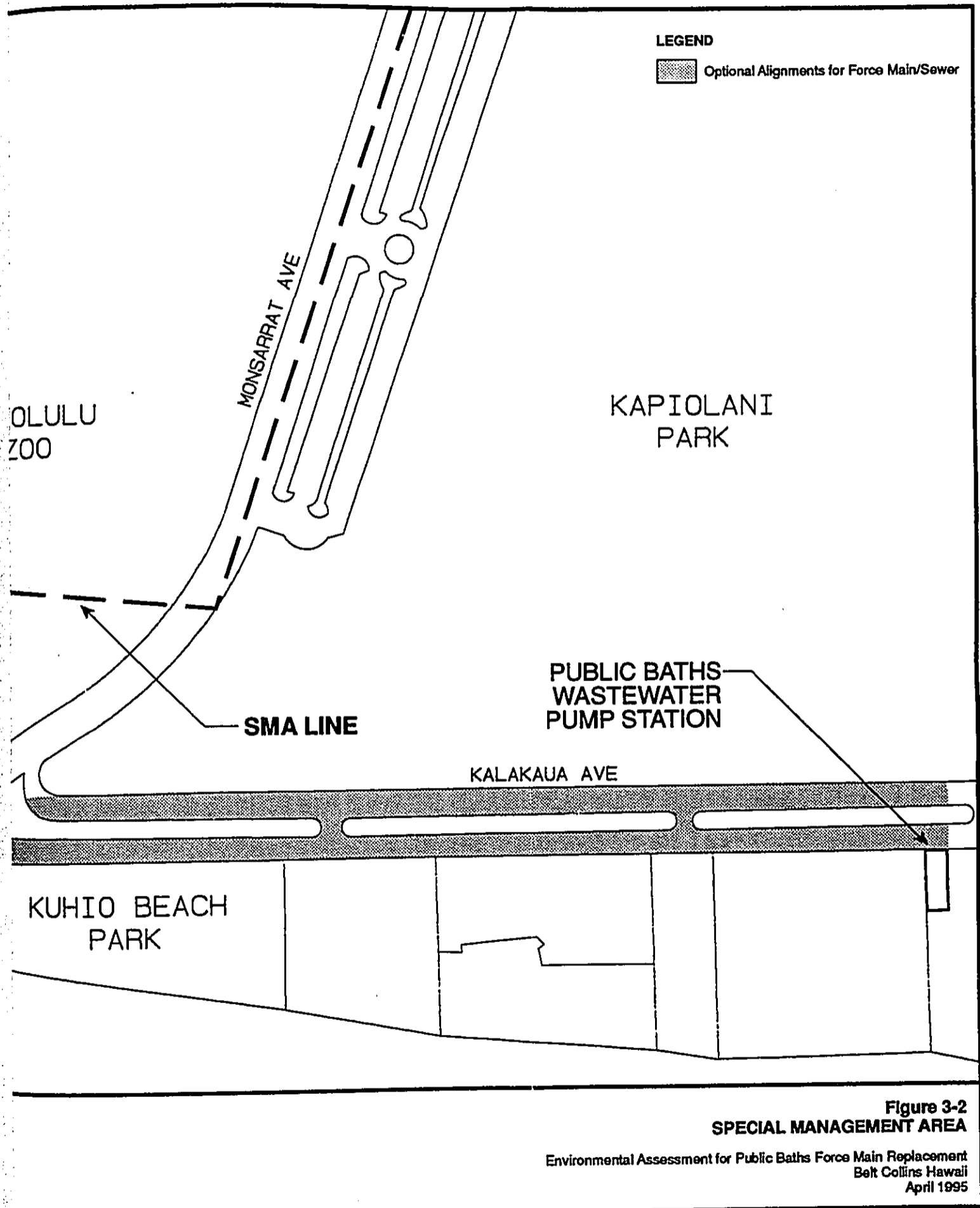
PACIFIC  
OCEAN



NORTH



Note: The SMA is located makai of the SMA line.



**Figure 3-2**  
**SPECIAL MANAGEMENT AREA**

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alternative routes and the existing pump station are located within the SMA. However, the proposed installation of underground utilities is exempted from the definition of "Development" in Revised Ordinances of Honolulu 25-1.3, and shall be declared exempt from the permit process by the Director of the Department of Land Utilization (DLU). The Department of Wastewater Management will continue to coordinate with DLU and file applications for appropriate permits as required.

### **3.14 Shoreline Setback**

The project will be located within the 40-foot setback area of the shoreline. However, the proposed improvements are regulated under Hawaii Revised Statutes, Chapter 269, and are eligible for a variance from the shoreline setback requirements (H.R.S. 205A-46).

### **3.15 Public Facilities and Services**

#### **3.15.1 Infrastructure**

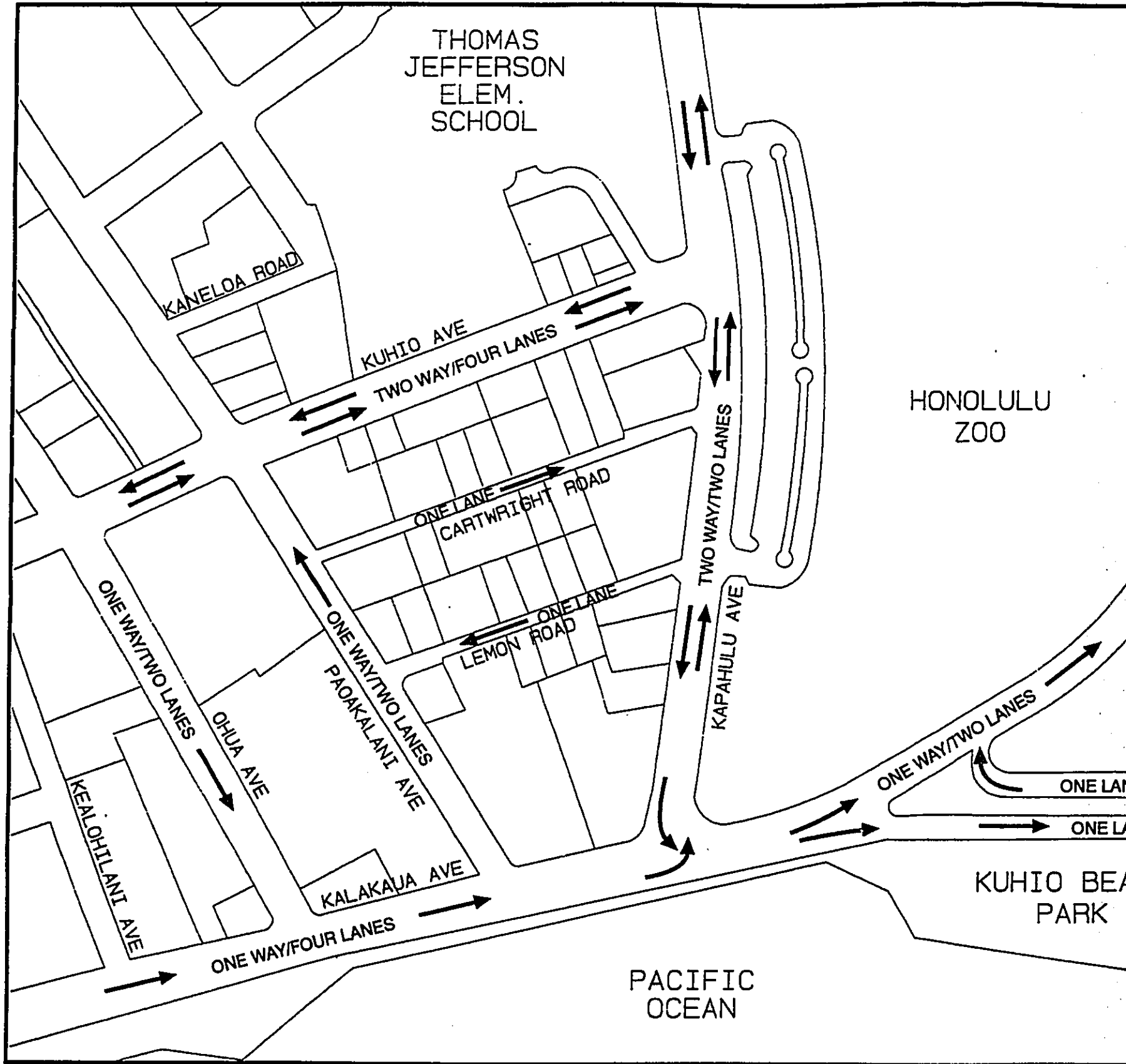
The proposed project is located in the well-developed area of Waikiki, which contains major roadways and a number of underground utilities. Many of these existing utility lines could be encountered during excavation and installation of the new sewer force main. Prior to excavation, utility lines in the vicinity of the proposed alignment will be located as accurately as possible, and measures will be developed to reduce the likelihood of damage. In terms of the two proposed construction methods, i.e., trenching versus micro-tunneling, micro-tunneling reduces the potential impact upon other underground utilities that would be exposed during trenching, but demands more accurate 3-dimensional mapping of other subsurface pipes, conduits and structures.

##### **3.15.1.1 Traffic**

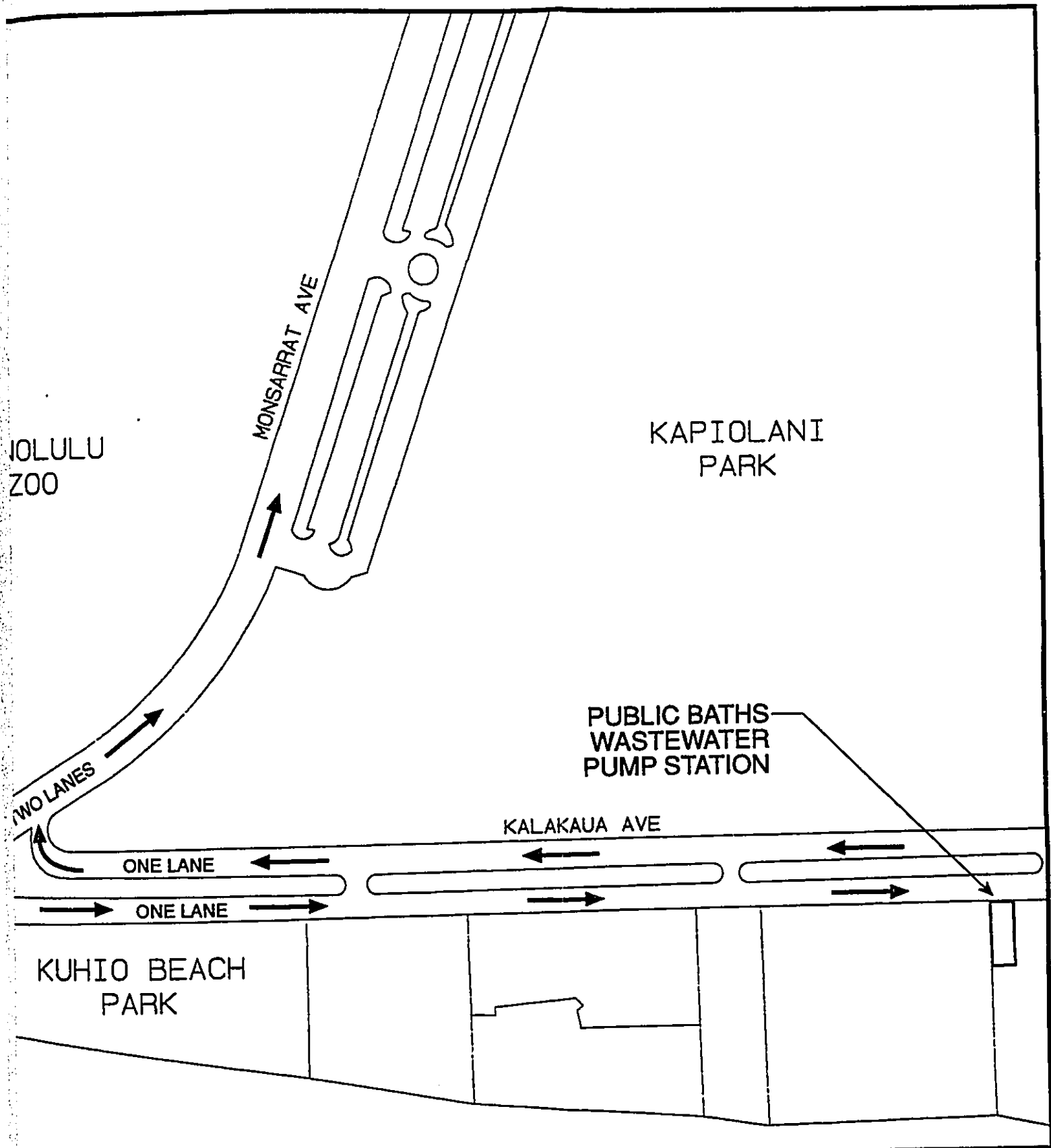
The proposed force main alignment is located within major roadways such as Kalakaua and Ohua Avenues. There is also a major pedestrian walkway along Waikiki Beach and Kapiolani Park makai of Kalakaua Avenue, as well as one mauka of Kalakaua Avenue along Kapiolani Park. Existing vehicular traffic flow patterns in this vicinity are shown in Figure 3-3.

Excavation and installation of the proposed force main will have temporary impacts on both vehicular and pedestrian traffic flows in the vicinity, including public bus service. The extent of the impacts will vary depending upon which type of excavation technique is used, trenching or micro-tunneling.

241.0593.E02.002-4



0 50 100 200 400  
SCALE IN FEET



**Figure 3-3**  
**EXISTING TRAFFIC FLOWS**

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Construction trucks and construction vehicles will temporarily increase the number of vehicles using roadways in the project area. Also, a trench width of approximately four feet would be required along the force main alignment. This will reduce the available roadway width and the number of on-street parking stalls along the southern end of Kalakaua Avenue. Bus stops may also need to be temporarily relocated. If the alignment follows along the middle of a lane in the street, it may be possible to close only a single lane during construction, but for most of the alignment it would be necessary to close two lanes. For micro-tunneling, it would be necessary to close two lanes of the street for excavation of and work within each pit.

In either case, excavation and construction will take place in segments, traffic flows will only be altered where completely necessary and lane closures will be limited to off-peak hours to minimize traffic congestion. Where necessary, temporary bus stops will be set up to allow bus service to run as regularly as possible. Between construction shifts, steel plates would be placed over the excavation to restore traffic flow. The DWWM will continue to work with and advise affected property owners/representatives to minimize potential short-term traffic/access impacts. In addition, the construction plans for all work within and affecting the City's rights-of-way will be submitted to the Department of Transportation Services for review. A traffic control plan showing temporary detours for pedestrians and vehicles will be included in these plans. Also, the Honolulu Public Transit Authority will continue to be contacted to minimize the impact on TheBus.

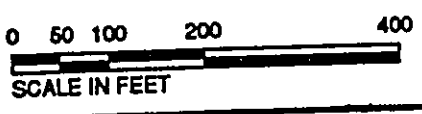
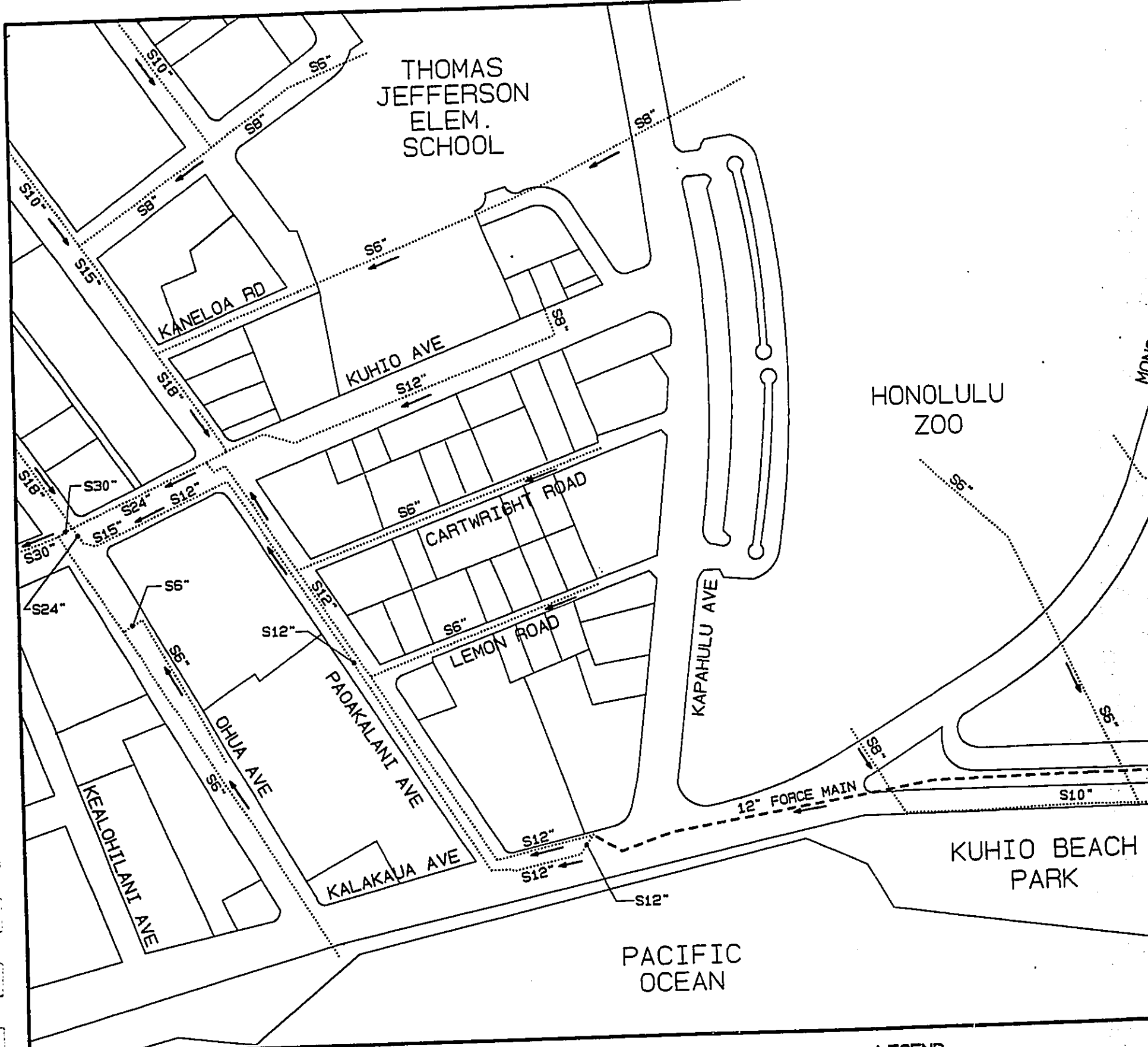
Access for fire apparatus, water supply and building construction will be in conformance with existing codes and standards.

#### **3.15.1.2 Sewer**

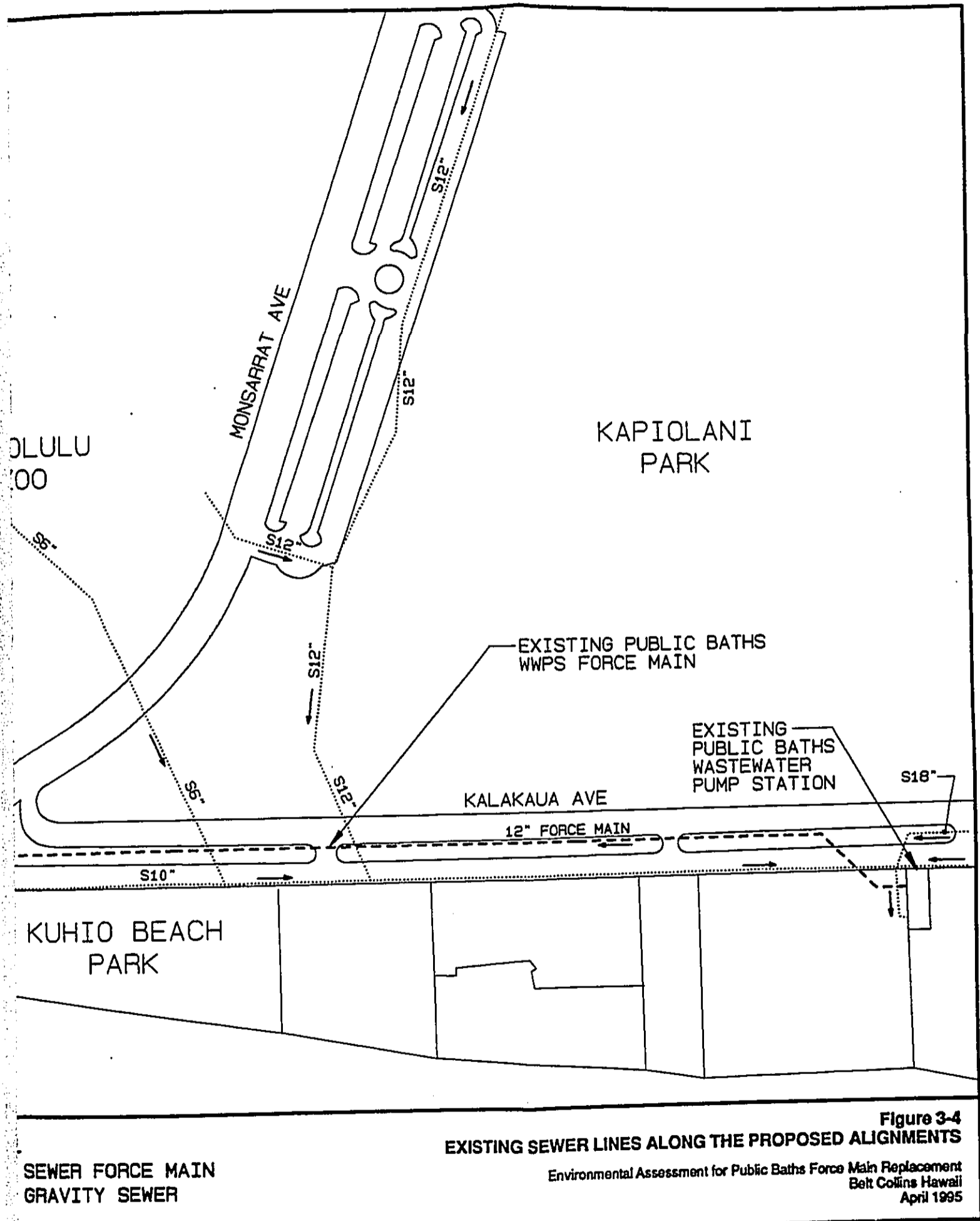
Existing sewer lines in the proposed project area are shown in Figure 3-4. All sewers in the study area north of Kapahulu Avenue are in the Beach Walk WWPS collection system. From the force main discharge manhole near the intersection of Kalakaua and Kapahulu Avenues, two 12-inch sewers run along Kalakaua to Paoakalani Avenues, then along Paoakalani to Kuhio Avenue. One of the 12-inch sewers turns and runs north along Kuhio Avenue. Numerous sewer laterals and branch lines serve parcels and side streets along all of these sewer lines.

Excavation and installation of the new sewer force main is not expected to disrupt these lines or sewage collection service. Standard construction precautions will be taken during construction to avoid damaging existing lines. The existing force main will be utilized until the proposed one is completed and brought on line.





**LEGEND**  
 - - - SEWER FORCE MAIN  
 ..... GRAVITY SEWER



**Figure 3-4**  
**EXISTING SEWER LINES ALONG THE PROPOSED ALIGNMENTS**

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SEWER FORCE MAIN  
 GRAVITY SEWER

### 3.15.1.3 Water

Existing water lines in the proposed project area are shown in Figure 3-5. An 8-inch water main runs the length of Kalakaua Avenue from north of Ohua Avenue to south of the pump station on the makai side of the street. Twelve-inch water lines run along both Paoakalani and Ohua Avenues from Kuhio to Kalakaua Avenues. Numerous water laterals and branch lines serve parcels and side streets along all of these water mains.

Excavation and installation of the new sewer force main is not expected to disrupt these lines or water distribution service. Standard construction project precautions will be taken during construction to avoid damaging existing lines. Additionally, the Board of Water Supply will continue to be advised of the project to avoid disruption of their water lines. Also, the final construction plans will be submitted to the Board of Water Supply for their review and approval.

### 3.15.1.4 Drainage

Existing drain lines in the proposed project area are shown in Figure 3-6. Several 12-inch to 24-inch drain lines cross Kalakaua Avenue between the pump station and the intersection with Kapahulu Avenue. Also a 15-inch line runs along the median of Kalakaua Avenue for approximately 325 feet and a 24-inch line runs along the makai side of the street for approximately 350 feet. An 18-inch drain line crosses Kalakaua Avenue near the intersection with Paoakalani Avenue. A box drain is located across Kalakaua Avenue.

An 18-inch drain line runs along Ohua Avenue from the mauka side of Kuhio to Kalakaua Avenues. At Kalakaua Avenue the 18-inch line discharges to a 24-inch line which runs south along Kalakaua Avenue approximately 118 feet before turning toward the ocean and discharging to a 36-inch drain which runs parallel to Kalakaua Avenue on the makai side of the right-of-way. There are no drain lines running along Kuhio Avenue between Ohua and Paoakalani Avenues. Numerous inlets and branch drains are located along the drain lines in both Ohua and Paoakalani Avenues.

Excavation and installation of the new sewer force main is not expected to permanently disrupt these drainageways. Some temporary diversions may be necessary in localized areas during excavation. However, normal drainage flow will be restored as soon as it is feasible to do so.

THOMAS  
JEFFERSON  
ELEM.  
SCHOOL

HONOLULU  
ZOO

KUHIO BEACH  
PARK

PACIFIC  
OCEAN

KANELOA RD

KUHIO AVE

CARTWRIGHT ROAD

LEMON ROAD

PADAKALANI AVE

OHUA AVE

KEALOHLANI AVE

KALAKAUA AVE

KAPAHULU AVE

MONSARRAT

7'x4' BOX DRAIN

5'x3' BOX DRAIN

2'x1' BOX DRAIN

5'x10' BOX DRAIN  
(10' WIDE TOP  
14' WIDE BOTTOM)

D30"

D18"

D24"

2'x1' BOX DRAIN

D12"

D18"

D18"

D12"

D24"

D18"  
D12"

D24"

D36"

D24"

D18"

D24"



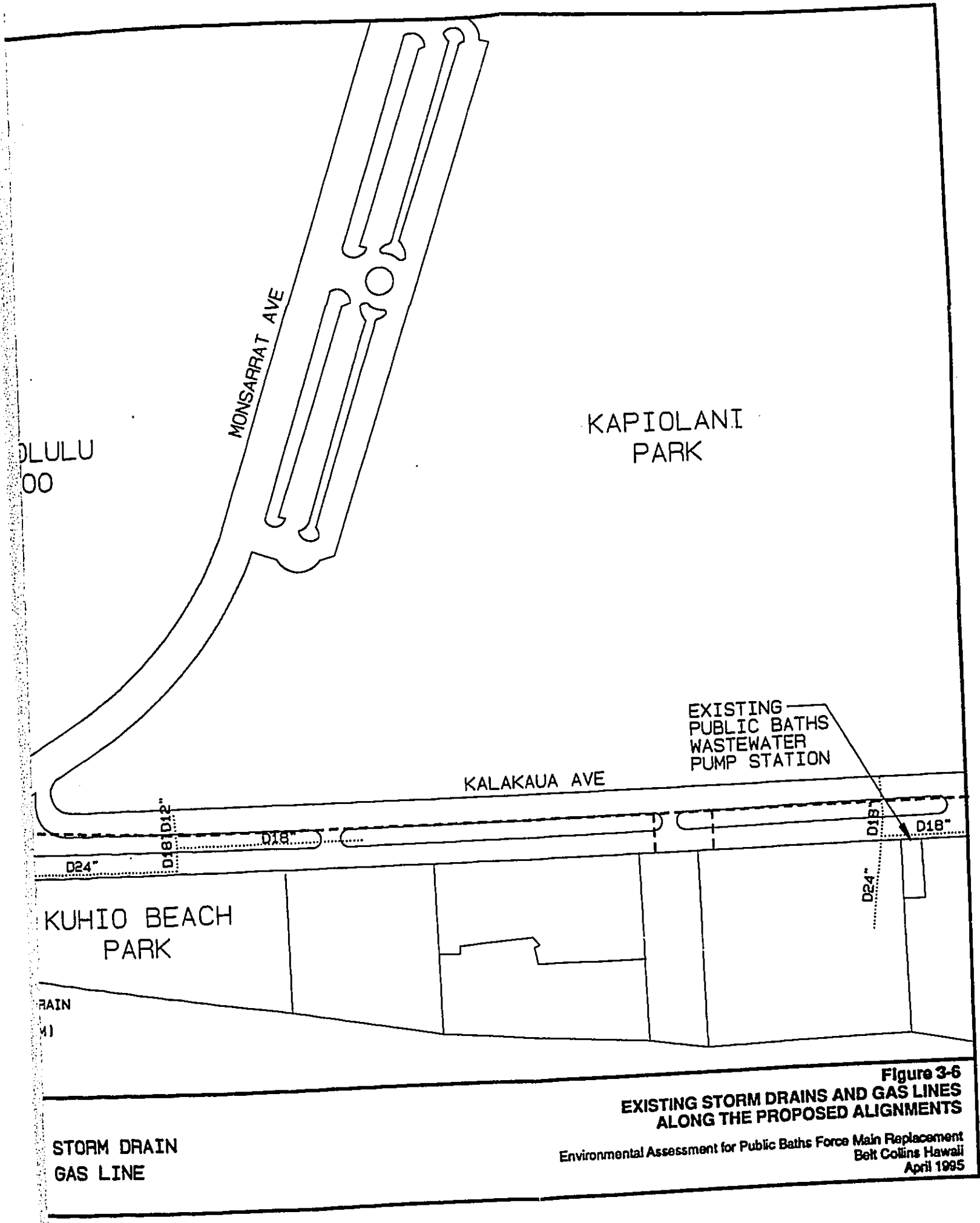
NORTH



SCALE IN FEET

**LEGEND**

- ..... STORM DRAIN
- GAS LINE



**Figure 3-6**  
**EXISTING STORM DRAINS AND GAS LINES**  
**ALONG THE PROPOSED ALIGNMENTS**

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STORM DRAIN  
 GAS LINE

#### 3.15.1.5 Gas

Existing gas lines in the proposed project area are shown in Figure 3-6. Lines close to the proposed sewer force main alignment include an 8-inch gas line which runs along the makai side of Kalakaua Avenue from the north side of Ohua Avenue to the intersection with Kapahulu Avenue. A 1.25-inch line runs along the north side of Ohua Avenue and connects to both the 8-inch on Kalakaua Avenue and the 6-inch on Kuhio Avenue.

Excavation and installation of the new sewer force main is not expected to disrupt these lines or gas distribution service. Standard construction project precautions will be taken during construction to avoid damaging existing lines and the gas company will continue to be advised of the project to avoid adverse impacts to their gas lines.

#### 3.15.1.6 Electrical

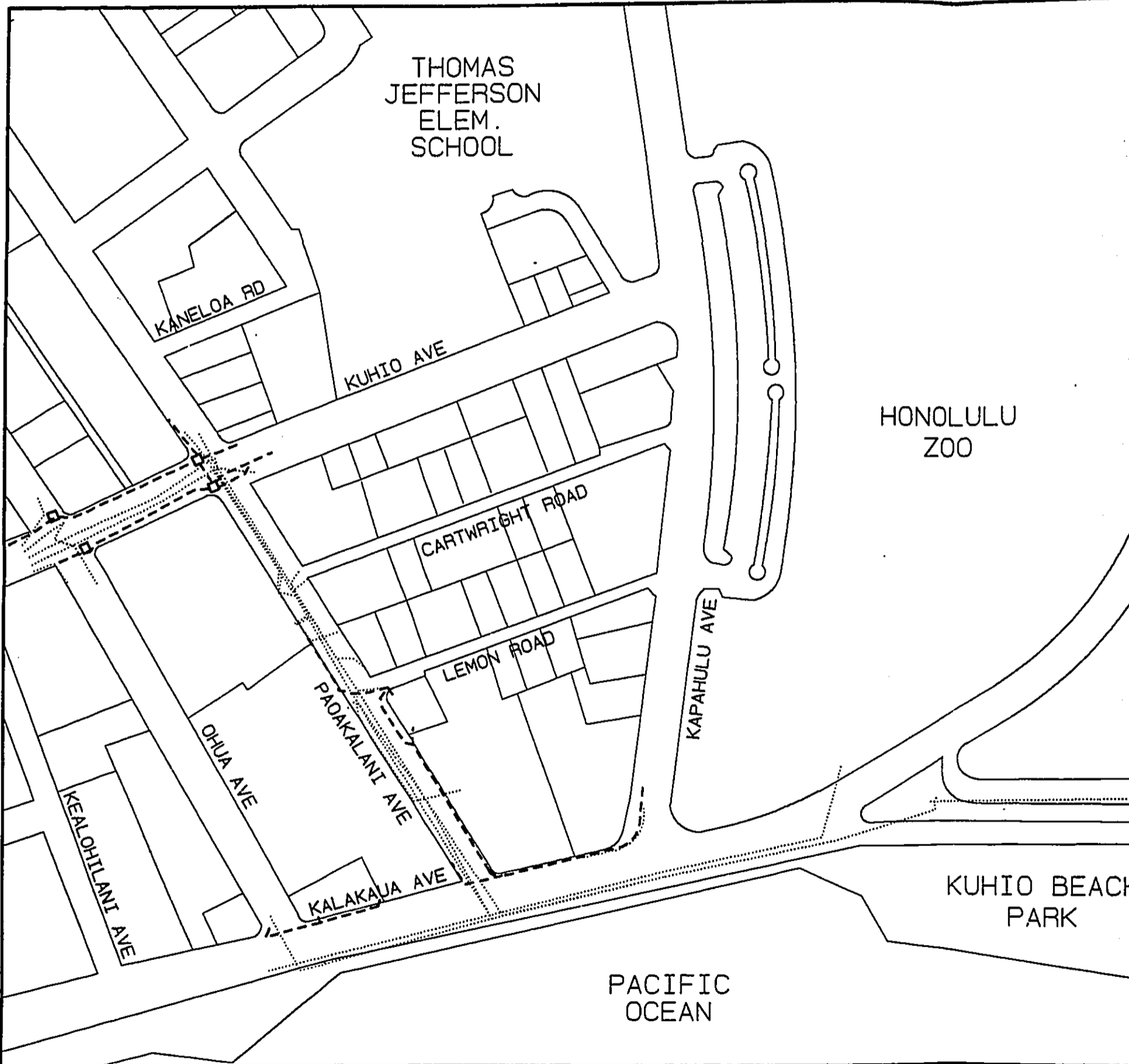
Existing electrical and telephone distribution lines in the proposed project area are shown in Figure 3-7. Duct lines close to the proposed sewer force main alignment can be found on both the mauka and makai side of Kuhio Avenue between Ohua and Paoakalani Avenues. Electrical ducts cross Ohua Avenue at the mauka and makai sides of the intersection with Kuhio Avenue. At the intersection of Paoakalani and Kuhio Avenues, there is a duct crossing Kuhio Avenue on the north side, and duct crossings of Paoakalani Avenue on both the mauka and makai sides.

Electrical lines run along the mauka side of Kalakaua Avenue from the north side of Ohua Avenue to Kapahulu Avenue. In the vicinity of the pump station, the electrical lines are overhead with underground laterals running across Kalakaua Avenue to service light poles and various parcels on the makai side of the street.

Excavation and installation of the new sewer force main is not expected to disrupt these lines or electrical distribution service. Standard construction project precautions will be taken during construction to avoid damaging existing lines and Hawaiian Electric Company will continue to be advised of the project to avoid potential impacts to their electrical service.

#### 3.15.1.7 Telephone

Existing telephone duct lines in the proposed project area are shown in Figure 3-7. Duct lines run along each section of the alignments studied, with numerous laterals and branch lines serving parcels along the street. Ohua Avenue has the smallest concentration of lines with two 4-inch ducts running on the south side of the street for about 185 feet. They connect to a manhole at the Kuhio Avenue intersection. Additional ducts run for short lengths around the north side of each corner of Ohua Avenue, connecting with ducts in both Kuhio and Kalakaua Avenues.



THOMAS  
JEFFERSON  
ELEM.  
SCHOOL

KANELOA RD

KUHIO AVE

HONOLULU  
ZOO

CARTWRIGHT ROAD

LEMON ROAD

KAPAEHULU AVE

OHUA AVE

PAOKALANI AVE

KEALOHI LANI AVE

KALAKAU AVE

KUHIO BEACH  
PARK

PACIFIC  
OCEAN



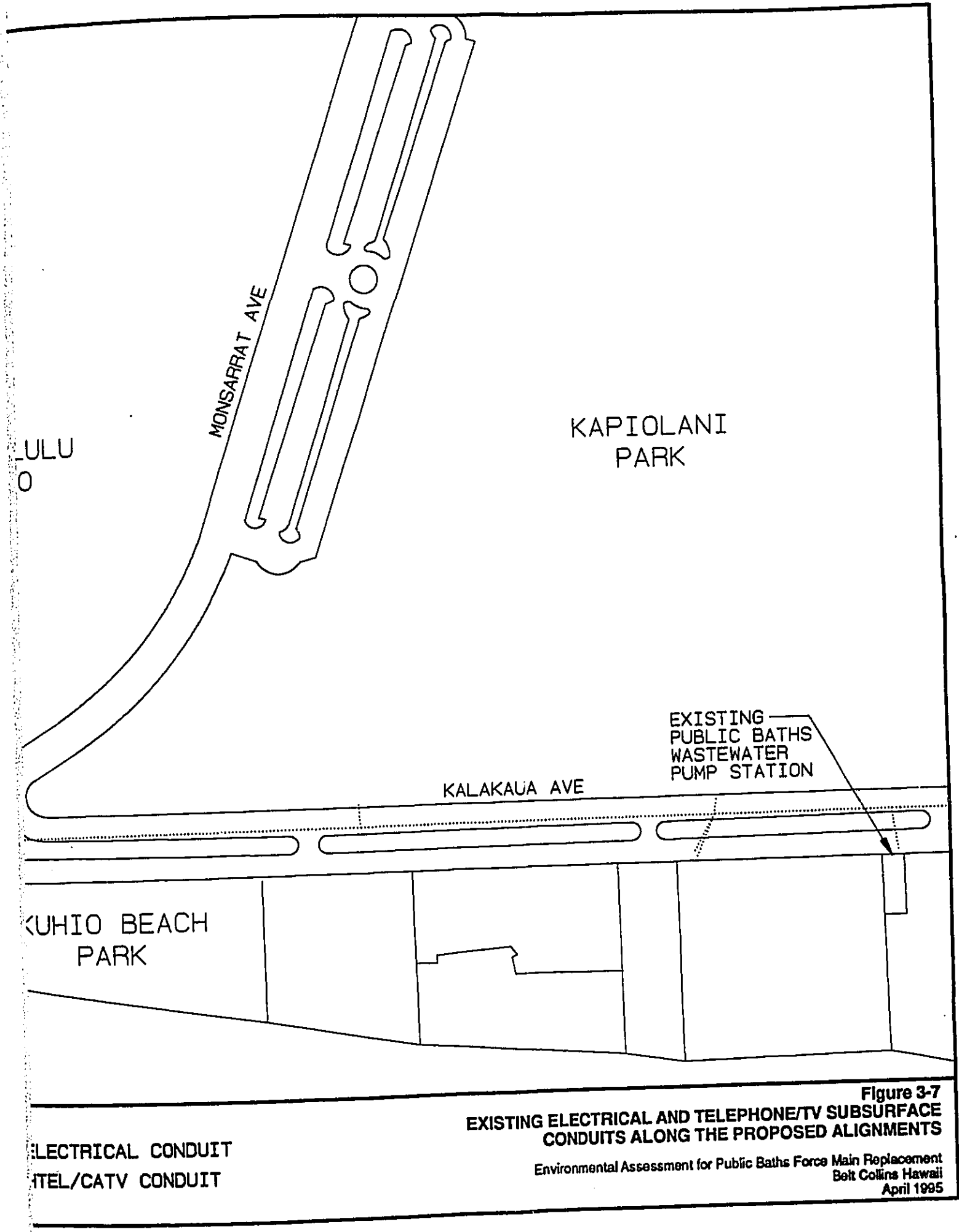
NORTH



SCALE IN FEET

**LEGEND**

- ELECTRICAL CONDUIT
- ..... HTEL/CATV CONDUIT





A total of 14 ducts running along Kuhio Avenue cross the intersection of Kuhio Avenue with Ohua Avenue. Connections are made on both ends of Paoakalani Avenue to ducts in Kuhio Avenue on the mauka end and Kalakaua Avenue on the makai end.

Depending upon location, between four and ten duct lines run along the makai side of Kalakaua Avenue from the north side of Ohua to Monsarrat Avenues. Nine duct lines run between Ohua and Paoakalani Avenues. Three lines are military signal lines and six are Hawaiian Telephone (HAWTEL) lines.

Excavation and installation of the new sewer force main is not expected to disrupt these lines or telephone service. *Standard construction project precautions* will be taken during construction to avoid damaging existing lines and Hawaiian Telephone Company will continue to be advised of the project to avoid potential impacts to their service in the area.

#### **3.15.1.8 Cable TV**

Cable TV (CATV) duct lines generally follow existing telephone lines in the project area. Often these lines share the same conduits when space is available. Except for Ohua Avenue, Cable TV lines run within the rights-of-way of the proposed force main alignments (see Figure 3-7).

Similarly to the telephone lines, excavation and installation of the new force main will not disrupt the cable TV service in the area. *Standard construction project precautions* will be taken during construction to avoid damage to the lines and the CATV operator will continue to be advised of the project to avoid potential impacts to their lines.

#### **3.15.2 Recreation**

Kalakaua Avenue from Kapahulu Avenue to Poni Moi Road is within Kapiolani Park and within the jurisdiction of the City Department of Parks and Recreation. Construction activities associated with the installation of the proposed sewer force main will impact vehicular and pedestrian traffic flow along Kalakaua Avenue. This could also cause temporary, localized impacts and inhibit access to the recreational areas along the roadway. Construction within City park land will require submission of construction documents to the Department of Parks and Recreation for review and approval. No significant long-term adverse impacts to the recreation facilities/activities in the project area are anticipated.

### **3.16 Socioeconomic Impact**

The project will create short-term employment in the construction industry during project construction. No residents will be displaced during the installation of the force main. As discussed in Section 3.14.2, the project could cause temporary, localized

impacts and inhibit access to the recreational areas along the Kalakaua Avenue and Kapiolani Park. The city will submit construction documents to the Department of Parks and Recreation to obtain approval for the trenching and related construction activities within the park. The proposed project will not generate new population; therefore, no additional demands on public facilities, such as school, parks, health care facilities, etc., will be needed. No new long-term employment is anticipated during the operational stage of the project.

It is anticipated that during construction, the proposed project will generate some inconveniences for the adjacent hotels and commercial businesses. Construction noise will be a temporary nuisance for hotel guests and business customers, however, mitigative measures, as described in Section 3.8 of this document, will be taken to minimize these effects.

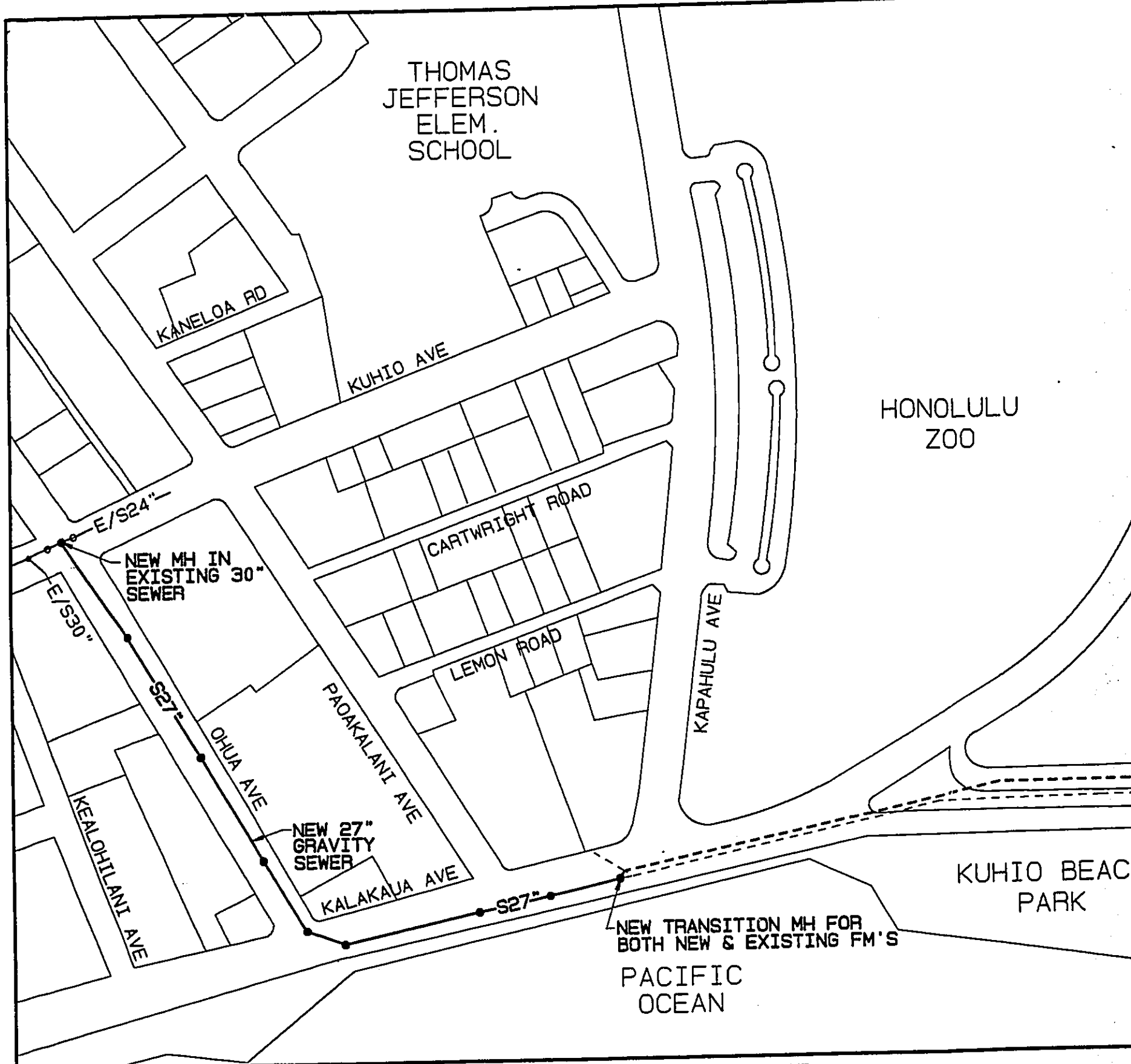
Construction would also involve temporary closure of some traffic lanes in the project area and work activities across ingresses and egresses of adjacent properties. This would affect vehicular and pedestrian access to the area's hotels and commercial operations. As described in Section 3.15.1.1 of this document, mitigative measures will be employed, wherever possible, to minimize the impact on access in the area.

## CHAPTER FOUR ALTERNATIVES TO THE PROPOSED PROJECT

The 100% PER discusses four alternatives to the proposed action. The first alternative consists of no action. The other three alternatives, which consist of conveying wastewater from the Public Baths WWPS to the intersection of Kuhio and Ohua Avenues, differ from the proposed action in the type of conveyance (gravity sewer versus continuation of the force main) and/or alignment (Ohua Avenue versus Paoakalani Avenue). All four alternatives are discussed in this chapter.

Specifically, the alternatives are: (1) no action; (2) install an 18-inch force main along Kalakaua Avenue from the Public Baths WWPS to Kapahulu Avenue, which would discharge to a new 27-inch gravity sewer that runs along Kalakaua, turns on Ohua Avenue, and discharges to an existing 30-inch gravity sewer in Kuhio Avenue as shown in Figure 4-1; (3) install an 18-inch force main along Kalakaua Avenue from the Public Baths WWPS to Kapahulu Avenue, which would discharge to a new gravity sewer that runs along Kalakaua Avenue, turns on Paoakalani Avenue, then turns on Kuhio Avenue to the intersection of Kuhio and Ohua Avenues as shown in Figure 4-2; or (4) install an 18-inch force main along Kalakaua Avenue from the Public Baths WWPS, which would turn on Paoakalani Avenue, then turn on Kuhio Avenue and discharge to a short 27-inch gravity sewer that would end at Ohua Avenue as shown in Figure 4-3.

The three gravity sewer or force main alternatives have several similarities, including potential impacts, to the proposed action. They all include an 18-inch force main from the Public Baths WWPS running parallel to the existing 12-inch force main along Kalakaua Avenue to Kapahulu Avenue. In this region, a force main is necessary because wastewater must flow uphill from the Public Baths WWPS. An 18-inch pipe would be of adequate size under all of the three alternatives to convey future (year 2015) peak flows and would become the primary force main for the Public Baths WWPS. The existing force main would be taken out of regular service, but would be retained as a standby force main for use when the new force main is taken temporarily off-line. In addition, all three alternatives would reduce flow in the two 12-inch sewer lines along Paoakalani Avenue. These lines would be adequate to carry projected future flows without further capacity increases, with the exception of two short sections. Finally, all three alternatives would require the same modifications at the Public Baths WWPS as the proposed action.



THOMAS  
JEFFERSON  
ELEM.  
SCHOOL

KANELOA RD

KUHIO AVE

HONOLULU  
ZOO

E/S24"

NEW MH IN  
EXISTING 30"  
SEWER

CARTWRIGHT ROAD

E/S30"

S27"

LEMON ROAD

OHUA AVE

PAOKALANI AVE

KAPAHULU AVE

KEALOHILANI AVE

NEW 27"  
GRAVITY  
SEWER

KALAKAUA AVE

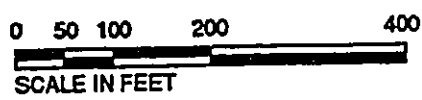
KUHIO BEAC  
PARK

NEW TRANSITION MH FOR  
BOTH NEW & EXISTING FM'S

PACIFIC  
OCEAN

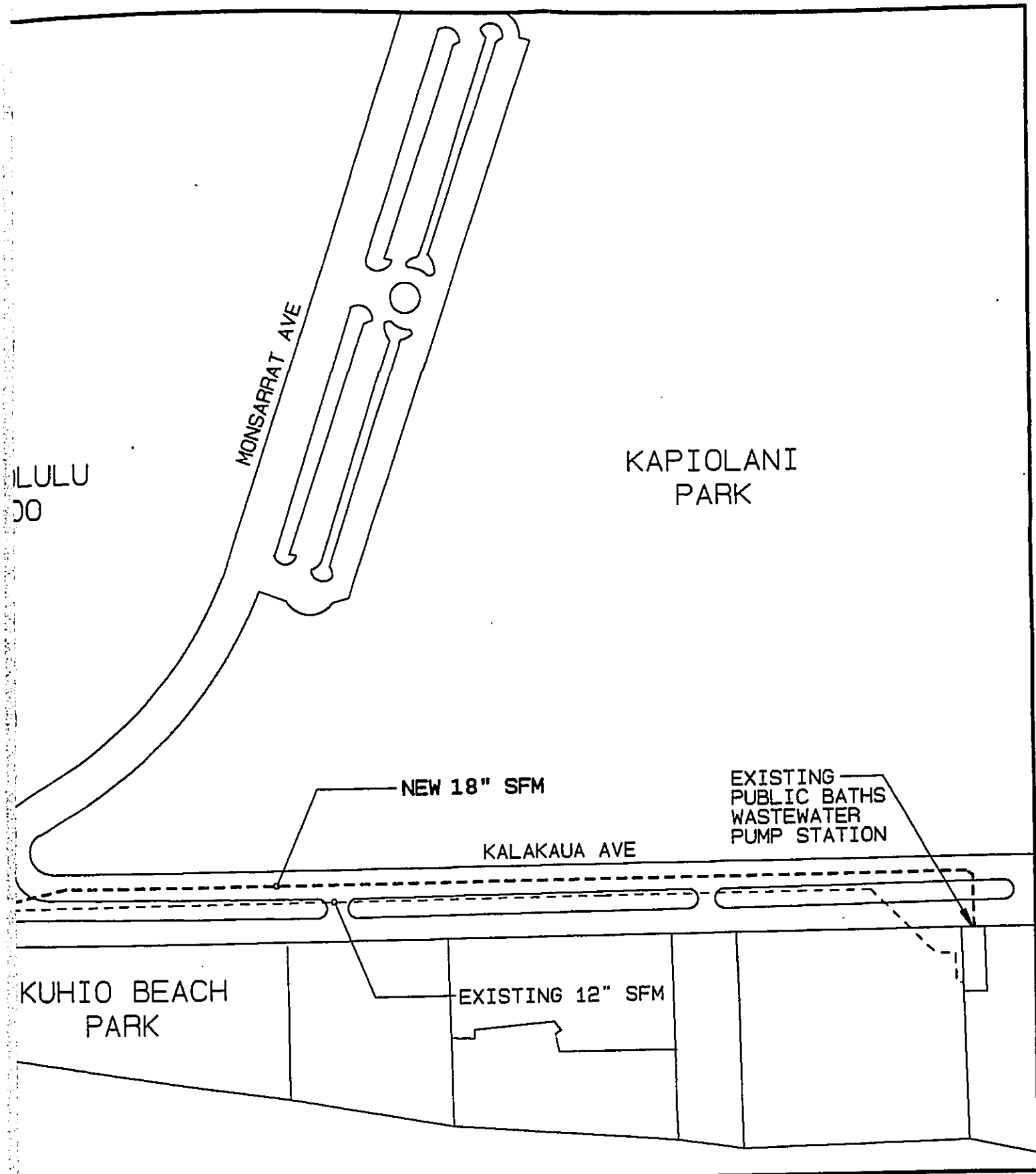


NORTH



LEGEND

- NEW SEWER FORCE MAIN
- EXISTING FORCE MAIN
- NEW GRAVITY SEWER W/MH
- EXISTING GRAVITY SEWER W/MH



ILULU  
00

KAPIOLANI  
PARK

NEW 18" SFM

EXISTING  
PUBLIC BATHS  
WASTEWATER  
PUMP STATION

KALAKAUA AVE

KUHIO BEACH  
PARK

EXISTING 12" SFM

ICE MAIN  
E MAIN  
SEWER W/MH  
CITY SEWER W/MH

**Figure 4-1**  
**ALTERNATIVE 2—OHUA AVENUE RELIEF SEWER**  
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April 1995

THOMAS  
JEFFERSON  
ELEM.  
SCHOOL

KANELOA RD

KUHIO AVE

HONOLULU  
ZOO

E/S30"

E/S24"

S27"

CARTWRIGHT ROAD

E/S24"

LEMON ROAD

KAPAHULU AVE

PAOKALANI AVE

OHUA AVE

S27"

KEALOHLANI AVE

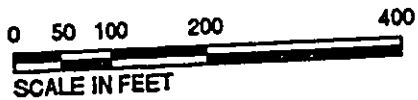
KALAKAUA AVE

KUHIO BEACH  
PARK

PACIFIC  
OCEAN



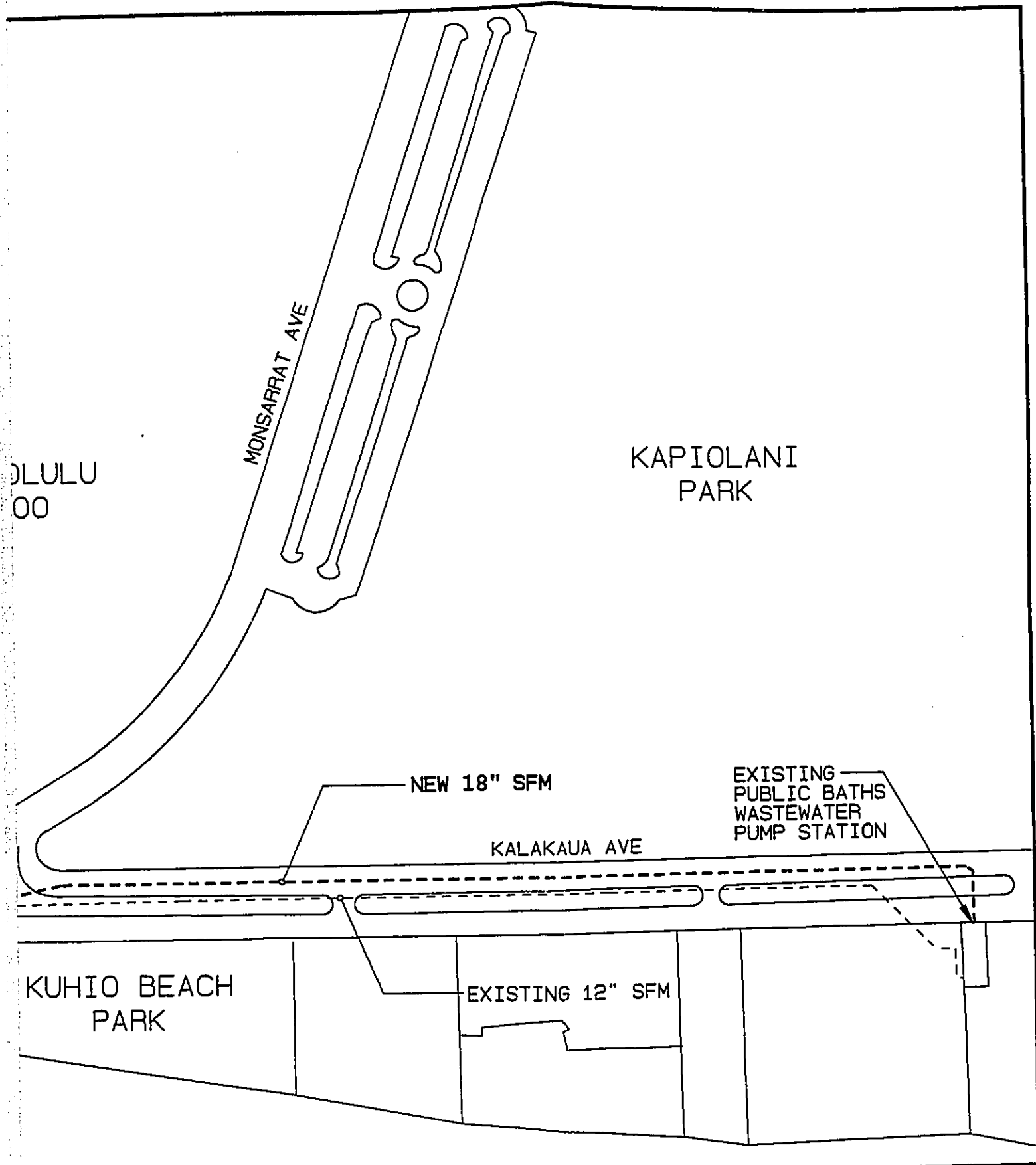
NORTH



SCALE IN FEET

**LEGEND**

- NEW SEWER FORCE MAIN
- EXISTING FORCE MAIN
- NEW GRAVITY SEWER W/MH
- EXISTING GRAVITY SEWER W/MH



HOLULU  
00

MONSARRAT AVE

KAPIOLANI  
PARK

NEW 18" SFM

EXISTING  
PUBLIC BATHS  
WASTEWATER  
PUMP STATION

KALAKAUA AVE

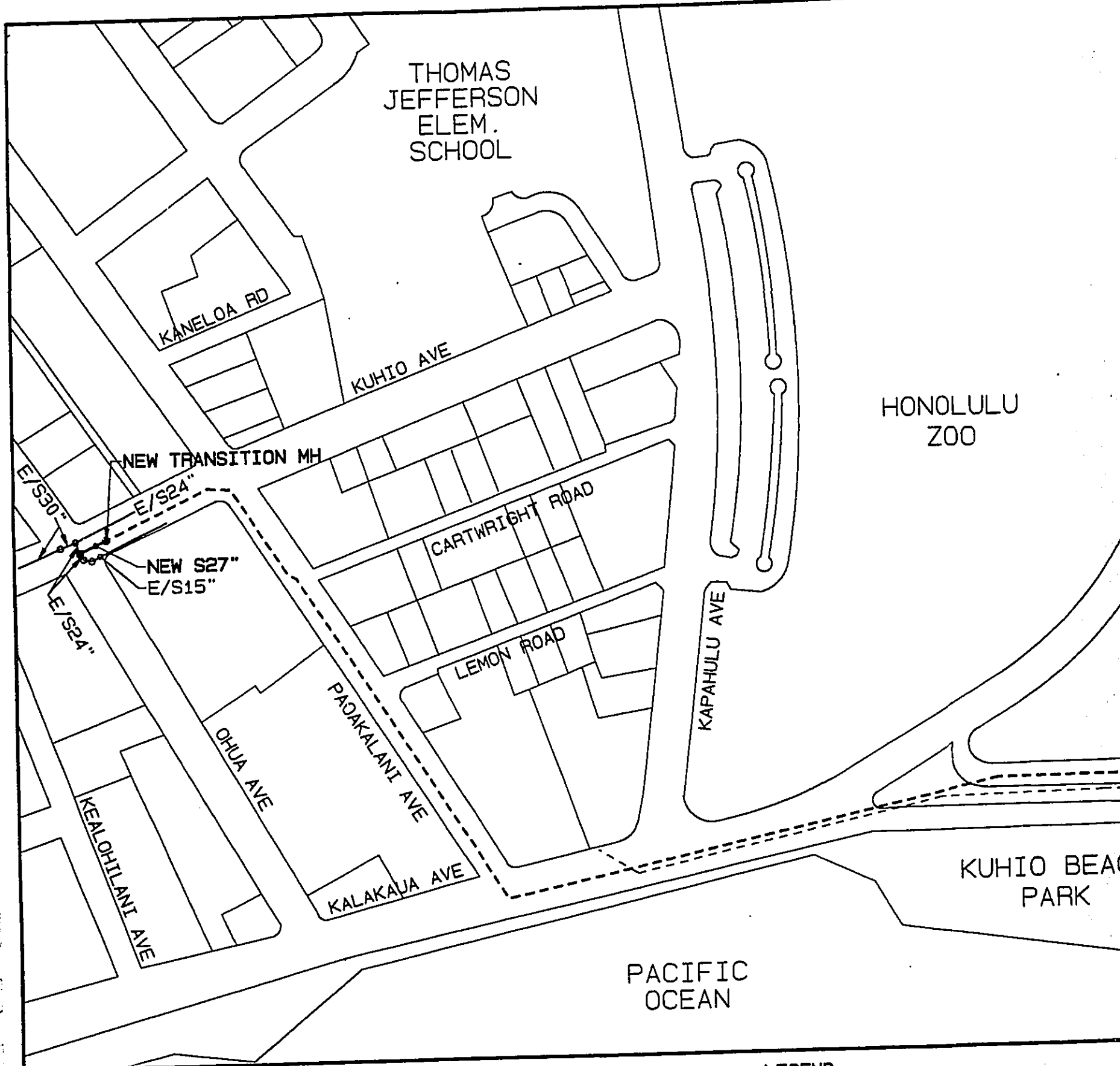
KUHIO BEACH  
PARK

EXISTING 12" SFM

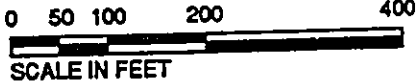
FORCE MAIN  
ICE MAIN  
SEWER W/MH  
GRAVITY SEWER W/MH

**Figure 4-2**  
**ALTERNATIVE 3—PAOKALANI AVENUE RELIEF SEWER**

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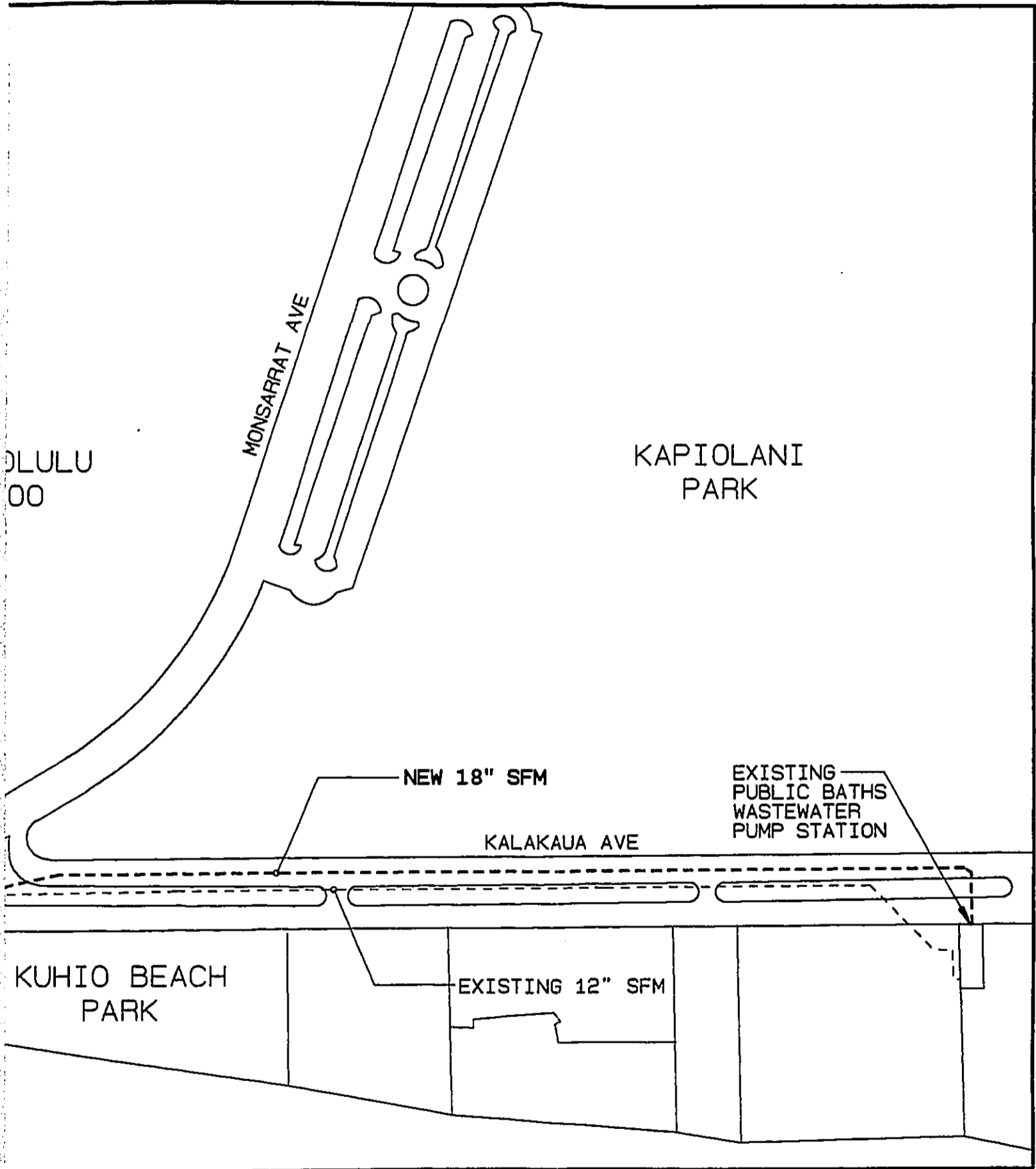
NORTH



**LEGEND**

- NEW SEWER FORCE MAIN
- EXISTING FORCE MAIN
- NEW GRAVITY SEWER W/MH
- EXISTING GRAVITY SEWER W/MH





ORCE MAIN  
RCE MAIN  
SEWER W/MH  
AVITY SEWER W/MH

**Figure 4-3**  
**ALTERNATIVE 4—PAOKALANI AVENUE FORCE MAIN**

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April 1995

#### **4.1 ALTERNATIVE 1 — No Action**

Under this alternative, no significant capital improvements would be made to the existing 12-inch force main from Public Baths WWPS or to the wastewater collection system in the vicinity of the force main discharge through the year 2015. Maintenance activities would be carried out and equipment repaired and/or replaced as needed to maintain the existing infrastructure.

The deeper excavation would result in about 15 percent more excavated material than the proposed action using the trenching method. The deeper excavation would also require more sheetpiling for dewatering and generate greater volumes of dewatering effluent. These factors would increase construction cost, construction duration, and its associated impacts. For these reasons, this alternative was not selected.

#### **4.2 ALTERNATIVE 2 — Ohua Avenue Alignment, New Force Main to New Relief Sewer**

In this alternative, the 18-inch force main would run from the Public Baths WWPS along Kalakaua Avenue to a new discharge manhole near Kapahulu Avenue, which would connect to a 27-inch gravity sewer. This relief sewer would originate near the location of the existing force main discharge as shown in Figure 4-1. It would follow Kalakaua Avenue and extend toward Ohua Avenue. At the intersection of these two streets, it would change direction and follow the southern side of Ohua Avenue and extend to Kuhio Avenue. At this intersection it would discharge to a new shallow-drop manhole installed on an existing 30-inch sewer running northerly along Kuhio Avenue. The new 27-inch sewer would replace both 6-inch sewer lines currently serving Ohua Avenue; all existing laterals connected to the 6-inch lines would be reconnected to the new 27-inch line.

Like the proposed action, this alternative would retain the existing 12-inch force main as a standby. Also like the proposed action, this alternative would reduce flows in the two 12-inch sewer lines in Paoakalani Avenue; the two 12-inch sewer lines would then be adequate to carry projected future flows without further capacity increases, with the exception of two short sections. The force main and gravity sewer improvements in this alternative would require the same modifications to the Public Baths WWPS as the proposed action.

The advantage of this alternative over the proposed action is that the 6-inch sewer lines in Ohua Avenue, which are in poor condition, could be abandoned. In addition, there would be flexibility in the routing of wastewater, in that either the new 18-inch force main or the existing 12-inch force main (as a standby) could discharge to the new 27-inch gravity sewer, and the existing force main could discharge to the existing discharge manhole and drain through the two existing 12-inch gravity sewer lines in

Paoakalani Avenue. This flexibility could facilitate sewer line inspection and maintenance.

The major disadvantage of this alternative relative to the proposed action is that the 27-inch line would be installed an average of about one foot deeper than the 18-inch force main. In addition, the parcels currently hooked up to the 6-inch lines in Ohua Avenue would experience a break in service while being reconnected to the new 27-inch gravity sewer. This alternative would also be more costly while not providing greater efficiency than the proposed action.

The deeper excavation would result in about 15 percent more excavated material than the proposed action using the trenching method. For dewatering, it would also require more sheetpiling and generate additional volumes of dewatering effluent. These factors would increase the cost of construction, its duration, and associated impacts. For these reasons, this alternative was not selected as the proposed action.

### **4.3 ALTERNATIVE 3 — Paoakalani Avenue Alignment, New Force Main to New Relief Sewer**

This alternative is similar to Alternative 2, except that the 27-inch gravity sewer would follow Paoakalani Avenue and Kuhio Avenue instead of Kalakaua Avenue and Ohua Avenue. The alignment for Alternative 3 is shown in Figure 4-2. The 18-inch force main would run from the Public Baths WWPS along Kalakaua Avenue to a new discharge manhole near Kapahulu Avenue, which would connect to a 27-inch gravity sewer. This 27-inch gravity sewer would follow Kalakaua Avenue and extend toward Paoakalani Avenue. At the intersection, it would then proceed along Paoakalani Avenue to its intersection with Kuhio Avenue. It would then extend along Kuhio Avenue toward the intersection of Kuhio and Ohua Avenues. The relief sewer would finally discharge to a new manhole constructed over an existing 24-inch sewer. The 24-inch gravity sewer discharges to an existing manhole that is drained by the 30-inch sewer running along Kuhio Avenue toward the Kealohilani Avenue intersection. Like the new relief sewer described in Alternative 2, the Alternative 3 relief sewer would remove the pump station discharge from both of the 12-inch sewer lines that run from the discharge manhole of the existing force main to Kuhio Avenue via Paoakalani Avenue.

As with the proposed action, this alternative would retain the existing 12-inch force main as a standby. Also like the proposed action, this alternative would reduce flows in the two 12-inch sewer lines in Paoakalani Avenue; the two 12-inch sewer lines would then be adequate to carry projected future flows without further capacity increases, with the exception of two short sections. The force main and gravity sewer improvements in this alternative would require the same modifications to the Public Baths WWPS as the proposed action.

However, design and construction of a 27-inch gravity sewer along the Paoakalani Avenue alignment would be very difficult due to existing subsurface utilities along the alignment. The subsurface of Paoakalani Avenue between Kalakaua and Kuhio Avenues is congested with existing utilities. As shown in Figures 3-4 through 3-7, two existing gravity sewers, a water line, drain line, electrical, gas and telephone lines, all with laterals to parcels and many with branch lines to Lemon and Cartwright Roads, are in service under this block of Paoakalani Avenue.

Initially, the 27-inch gravity line cannot be laid out along Paoakalani Avenue without affecting the northern sewer line of the two existing 12-inch sewer lines along Paoakalani Avenue. Any sewer laterals that discharge to the northern sewer line would need to be temporarily diverted during construction and then connected to the new 27-inch sewer line when it is put in service.

Two problem areas exist with clearances between the new 27-inch gravity sewer line and existing subsurface utilities in Paoakalani Avenue. The first is near the intersection of Cartwright Road and Paoakalani Avenue. In this vicinity, an existing eight-inch water line, a two-inch gas line, and a six-inch water lateral would have to be relocated. The second problem area is at the intersection of Paoakalani and Kuhio Avenues. At this location, an easement would be required across the corner of the property at the northern-makai corner of the intersection. If this easement cannot be acquired, a short section of an existing 24-inch water line at the intersection would need to be relocated. In addition, clearances from existing subsurface lines would be minimal, requiring additional care during construction.

Due to the presence of numerous existing subsurface utility lines and problems with clearances, as well as this alternative being more costly without greater efficiencies, this alternative was not selected as the proposed action.

#### **4.4 ALTERNATIVE 4 — Paoakalani Avenue, New Extended Force Main**

In this alternative, shown in Figure 4-3, the 18-inch force main would run from the Public Baths WWPS along Kalakaua Avenue and continue to the intersection with Paoakalani Avenue. It would then turn and follow Paoakalani Avenue and Kuhio Avenue to the new transition manhole. A new 27-inch gravity line would carry the force main discharge from the transition manhole to a new shallow drop manhole which would be built over an existing 24-inch sewer in the intersection of Ohua and Kuhio Avenues. The 24-inch sewer discharges to a manhole which is drained by the 30-inch sewer in the intersection of Kuhio and Ohua Avenues.

As with the proposed action, this alternative would retain the existing 12-inch force main as a standby. Also like the proposed action, this alternative would reduce flows in the two 12-inch sewer lines in Paoakalani Avenue; the two 12-inch sewer lines would then be adequate to carry projected future flows without further capacity increases, with

the exception of two short sections. The force main and gravity sewer improvements in this alternative would require the same modifications to the Public Baths WWPS as the proposed action.

As with Alternative 3, an alignment along Paoakalani Avenue would be considerably more difficult than an alignment along Ohua Avenue because of the existing subsurface utilities. With a force main, clearance is possible, but it would require more lateral and vertical bends and deeper excavation than a force main along Ohua Avenue. Therefore, this alternative was not chosen as the proposed alternative.

## CHAPTER FIVE FINDINGS AND DETERMINATION

In considering the significance of potential environmental effects associated with the proposed sewer force main project, consideration has been given to the sum of the effects on the quality of the environment and the overall cumulative effects of the proposed action. In determining whether the proposed action may have a significant effect on the environment, consideration has been given to a number of criteria, as outlined in Hawaii Administrative Rules 11-200-12, *Significance Criteria*. This environmental assessment has demonstrated that the proposed project will have the following effects in relation to these criteria:

- The proposed project will not involve an irrevocable commitment to loss or destruction of any natural or cultural resource.
- The proposed project will not curtail, but will improve the range of beneficial uses of the environment through elimination of potential sewage spills directly or indirectly into the ocean, Ala Wai Canal, and substrate.
- The proposed project will not conflict with, but is consistent with the state's long-term environmental policies, goals, and guidelines.
- The proposed project will not substantially affect the economic or social welfare of the community or state.
- The proposed project will not substantially affect public health.
- The proposed project will not involve substantial secondary impacts such as population changes or effects on public facilities and will benefit public wastewater facilities.
- The proposed project will not involve a substantial degradation of environmental quality.
- The proposed project will not have a considerable cumulative effect upon the environment or involve a commitment for larger actions.
- The proposed project will not substantially affect any rare, threatened, or endangered species habitat.
- The proposed project will not cause long-term detrimental effects on air or water quality or ambient noise levels.

- The proposed project will not affect an environmentally sensitive area such as a flood plain, tsunami zone, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.

Therefore, the proposed installation of a new sewer force main will not have a significant environmental impact, and an EIS is not necessary. In accordance with the provisions of Chapter 343, Hawaii Revised Statutes, a Negative Declaration is therefore preliminarily determined to be in order.

**REFERENCES**

- Belt Collins Hawaii (BCH) (December 1993). *East Mamala Bay Wastewater Facilities Plan*.
- Belt Collins Hawaii (BCH) (December 1993). *East Mamala Bay Facilities Plan Final Environmental Impact Statement*.
- Belt Collins Hawaii (BCH) (July 1994). *Public Baths Main Replacement Preliminary Engineering Report — Prefinal 100% Submittal ("100% PER")*.
- Geolabs Hawaii (draft, January 1994). *Geotechnical Engineering Exploration*.
- State of Hawaii, Department of Health. Hawaii Administrative Rules (HAR), Chapter 11-43 (November 1981). *Community Noise Control for Oahu*.
- State of Hawaii. Hawaii Revised Statutes (HRS), Section 205A-1, as amended by Act 126, 1990. *Coastal Zone Management Program*.
- State of Hawaii. Hawaii Revised Statutes (HRS), 205A-46.



# APPENDIX A

OAHU CIVIL DEFENSE AGENCY  
**CITY AND COUNTY OF HONOLULU**

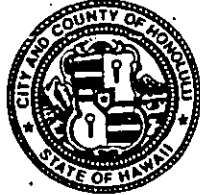
650 SOUTH KING STREET  
HONOLULU, HAWAII 96813  
PHONE: 523-4121

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PLR  
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JEREMY HARRIS  
MAYOR

*70:ec*



DEPT OF WASTEWATER MGT.  
DIVISION OF PLANNING  
& SERVICE CONTROL

Joseph D. Reed  
Administrator

May 17, 1995

DEPT OF  
WASTEWATER  
MGT.

95 MAY 18 10:05

RECEIVED

TO: *copied* FELIX B. LIMTIACO, DIRECTOR  
DEPARTMENT OF WASTEWATER MANAGEMENT

FROM: JOSEPH D. REED, ADMINISTRATOR  
OAHU CIVIL DEFENSE AGENCY *JDR*

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR PUBLIC BATHS  
FORCE MAIN REPLACEMENT

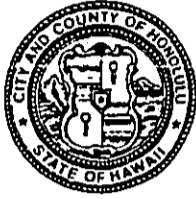
Thank you for providing us the opportunity to review the subject Draft Environmental Assessment for Public Baths Force Main Replacement.

This agency has no comments to offer.

Please contact Paul Takamiya at 527-5367 should you have any questions.

DEPARTMENT OF WASTEWATER MANAGEMENT  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813



JEREMY HARRIS  
MAYOR

FELIX B. LIMTIACO, P.E.  
DIRECTOR

CHERYL K. OKUMA-SEPE, ESG.  
DEPUTY DIRECTOR

January 30, 1996

WEP 96-31

TO: JOSEPH D. REED, ADMINISTRATOR  
OAHU CIVIL DEFENSE AGENCY

FROM: FELIX B. LIMTIACO, DIRECTOR  
DEPARTMENT OF WASTEWATER MANAGEMENT

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR  
PUBLIC BATHS FORCE MAIN REPLACEMENT

Thank you for your support of the above project.

A handwritten signature in dark ink, appearing to read "Felix B. Limtiaco", is written over the printed name and title.

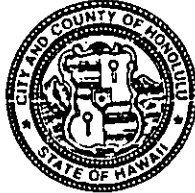
FELIX B. LIMTIACO  
Director

PLANNING DEPARTMENT  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813

95 MAY 25 9/42

95-831  
P. N.  
W. J.



DEPT OF WASTEWATER MGT.  
DIVISION OF PLANNING  
& SERVICE CONTROL

CHERYL D. SOON  
CHIEF PLANNING OFFICER

CAROLL TAKAHASHI  
DEPUTY CHIEF PLANNING OFFICER

TH 5/95-0963

JEREMY HARRIS  
MAYOR

May 23, 1995

MEMORANDUM

TO: FELIX B. LIMTIACO, DIRECTOR  
DEPARTMENT OF WASTEWATER MANAGEMENT

FROM: CHERYL D. SOON, CHIEF PLANNING OFFICER  
PLANNING DEPARTMENT

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (DEA) FOR THE PUBLIC  
BATHS FORCE MAIN REPLACEMENT, WAIKIKI, OAHU, HAWAII

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95 MAY 24 11:40  
DEPT. OF  
WASTEWATER  
MANAGEMENT

In response to your letter of April 20, 1995, we have reviewed the subject DEA and offer the following comments:

We have no objections to the proposed project. The proposed force main replacement is consistent with, and supports the General Plan's objectives and policies relating to maintaining adequate facilities and utilities.

The proposed project would replace the existing 12-inch sewer force mains along portions of Kalakaua and Ohua Avenues with a larger 18-inch sewer force main and a 27-inch gravity sewer line. Furthermore, the proposed project requires upgrading the existing capacity of the Public Baths Wastewater Pump Station.

These proposed improvements are considered "major" because they represent a significant increase in system capacity as well as an estimated cost which exceeds \$1 million. Therefore, an amendment to the Primary Urban Center Development Plan Public Facilities Map is required.

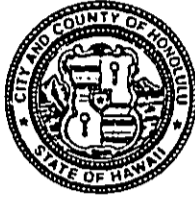
Thank you for the opportunity to comment on this matter. Should you have any questions, please contact Tim Hata of our staff at 527-6070.

*Cheryl D. Soon*  
CHERYL D. SOON  
Chief Planning Officer

CDS:js

DEPARTMENT OF WASTEWATER MANAGEMENT  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813



JEREMY HARRIS  
MAYOR

FELIX B. LIMTIACO, P.E.  
DIRECTOR

CHERYL K. OKUMA-SEPE, ESQ.  
DEPUTY DIRECTOR

WEP 96-32

January 30, 1996

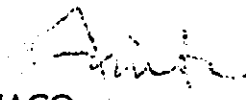
TO: CHERYL D. SOON, CHIEF PLANNING OFFICER  
PLANNING DEPARTMENT

FROM: FELIX B. LIMTIACO, DIRECTOR  
DEPARTMENT OF WASTEWATER MANAGEMENT

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR  
PUBLIC BATHS FORCE MAIN REPLACEMENT

Thank you for your memorandum of May 23, 1995 regarding the subject project. The Department of Wastewater Management will continue to coordinate the project with your department to assure the proper amendment is made to the Primary Urban Center Development Plan Public Facilities Map before construction.

We trust that this reply addresses your comments. Should you have any other questions regarding our response, please contact Mr. Wesley Yokoyama at 527-5152.

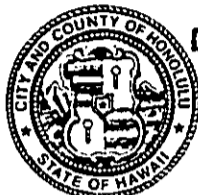
  
FELIX B. LIMTIACO  
Director

DEPARTMENT OF PUBLIC WORKS  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813

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DEPT OF WASTEWATER MGT.  
DIVISION OF PLANNING  
& SERVICE CONTROL

KENNETH E. SPRAGUE  
DIRECTOR AND CHIEF ENGINEER

DARWIN J. HAMAMOTO  
DEPUTY DIRECTOR

ENV 95-169

JEREMY HARRIS  
MAYOR

May 23, 1995

MEMORANDUM:

TO: FELIX B. LIMTIACO, DIRECTOR  
DEPARTMENT OF WASTEWATER MANAGEMENT

FROM: *fr* KENNETH E. SPRAGUE  
DIRECTOR AND CHIEF ENGINEER *AJSTP*

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (DEA)  
PUBLIC BATHS FORCE MAIN REPLACEMENT  
TAX MAP KEY: 3-1-30 AND 43

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WASTEWATER  
MGT.

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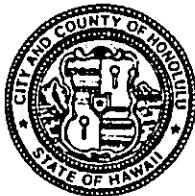
We have reviewed the subject DEA and have the following comments:

1. Submit construction plans for review to avoid possible drain line crossing.
2. The DEA should address best management practices (BMPs) to minimize discharge of pollutants during construction.
3. Construction dewatering permits will be required from both the City and State if discharge enters into the municipal separate storm sewer system (MS4). Effluent cannot be discharged directly into "nearest storm drain inlet" as described on page 2-13 of the DEA.
4. General coverage for dewatering and hydrotesting must be received from the State Department of Health before the discharge takes place. Statement on page 3-4 may be misleading as it implies that only NOI needs to be filed 90 days prior to discharge.

Should you have any questions, please contact Mr. Alex Ho, Environmental Engineer, at local 4150.

DEPARTMENT OF WASTEWATER MANAGEMENT  
**CITY AND COUNTY OF HONOLULU**  
650 SOUTH KING STREET  
HONOLULU, HAWAII 96813

JEREMY HARRIS  
MAYOR



FELIX B. LIMTIACO, P.E.  
DIRECTOR  
CHERYL K. OKUMA-SEPE, ESQ.  
DEPUTY DIRECTOR

January 30, 1996

WEP 96-33


TO: KENNETH E. SPRAGUE, DIRECTOR AND CHIEF ENGINEER  
DEPARTMENT OF PUBLIC WORKS

FROM: FELIX B. LIMTIACO, DIRECTOR  
DEPARTMENT OF WASTEWATER MANAGEMENT

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR  
PUBLIC BATHS FORCE MAIN REPLACEMENT

Thank you for your memorandum of May 23, 1995 regarding the subject project. As requested, the final construction plans will be submitted to your department for review and approval prior to construction. Also, the wording of the Final EA will be clarified to indicate approval by the City and State Department of Health will be required prior to discharge of dewatering effluent into the storm drain system.

We trust that this reply addresses your comments. Should you have any other questions regarding our response, please contact Mr. Wesley Yokoyama at 527-5152.

  
FELIX B. LIMTIACO  
Director

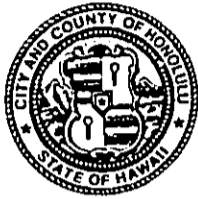
**RECEIVED AND COUNTY OF HONOLULU**

FIRE DEPARTMENT  
3375 KOAPAKA STREET, SUITE H425  
HONOLULU, HAWAII 96819-1869

95 MAY 31 10:28

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NY  
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JEREMY HARRIS  
MAYOR  
DEPT OF WASTEWATER MGT.  
DIVISION OF PLANNING  
& SERVICE CONTROL



ANTHONY J. LOPEZ JR.  
FIRE CHIEF  
ATTILIO K. LEONARDI  
FIRE DEPUTY CHIEF

May 26, 1995

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95 MAY 31 16:31  
KLM  
DEPT. OF  
WASTEWATER  
MANAGEMENT

TO: FELIX B. LIMTIACO, DIRECTOR  
DEPARTMENT OF WASTEWATER MANAGEMENT

FROM: ATTILIO K. LEONARDI, ACTING FIRE CHIEF

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR  
PUBLIC BATHS FORCE MAIN REPLACEMENT

We have reviewed the subject material provided and foresee no adverse impact in Fire Department facilities or services.

Access for fire apparatus, water supply and building construction shall be in conformance to existing codes and standards.

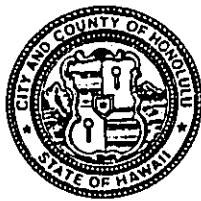
Should you have any questions, please call Acting Assistant Chief Alvin Tomita of our Administrative Services Bureau at 831-7775.

*Attilio K. Leonardi*  
ATTILIO K. LEONARDI  
Acting Fire Chief

CW:ny



DEPARTMENT OF WASTEWATER MANAGEMENT  
**CITY AND COUNTY OF HONOLULU**  
650 SOUTH KING STREET  
HONOLULU, HAWAII 96813



JEREMY HARRIS  
MAYOR

FELIX B. LIMTIACO, P.E.  
DIRECTOR

CHERYL K. OKUMA-SEPE, ESQ.  
DEPUTY DIRECTOR

WEP 96-34

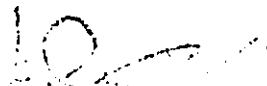
January 30, 1996

TO: ATILIO K. LEONARDI, ACTING FIRE CHIEF  
FIRE DEPARTMENT

FROM: FELIX B. LIMTIACO, DIRECTOR  
DEPARTMENT OF WASTEWATER MANAGEMENT

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR  
PUBLIC BATHS FORCE MAIN REPLACEMENT

Thank you for your support for the above-mentioned project. The project design team will take into consideration the existing codes and standards in designing access for fire apparatus, water supply, and building construction.

  
FELIX B. LIMTIACO  
Director

POLICE DEPARTMENT  
**CITY AND COUNTY OF HONOLULU**  
801 SOUTH BERETANIA STREET  
HONOLULU, HAWAII 96813 - AREA CODE (808) 528-3111

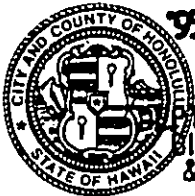
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JEREMY HARRIS  
MAYOR



DEPT OF WASTEWATER MGT.  
DIVISION OF PLANNING  
& SERVICE CONTROL

MICHAEL S. NAKAMURA  
CHIEF

HAROLD M. KAWASAKI  
DEPUTY CHIEF

OUR REFERENCE BS-DL

May 26, 1995

TO: FELIX B. LIMTIACO, DIRECTOR  
DEPARTMENT OF WASTEWATER MANAGEMENT

FROM: MICHAEL S. NAKAMURA, CHIEF OF POLICE  
HONOLULU POLICE DEPARTMENT

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR PUBLIC BATHS  
FORCE MAIN REPLACEMENT

This is in response to your letter of April 20, 1995, requesting comments on a draft environmental assessment for public baths force main replacement in Waikiki.

This project should have no significant impact on the operations of the Honolulu Police Department.

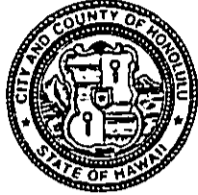
Thank you for the opportunity to comment.

Sincerely,

MICHAEL S. NAKAMURA  
Chief of Police

By *Eugene Uemura*  
EUGENE UEMURA, Assistant Chief  
Administrative Bureau

DEPARTMENT OF WASTEWATER MANAGEMENT  
**CITY AND COUNTY OF HONOLULU**  
650 SOUTH KING STREET  
HONOLULU, HAWAII 96813



JEREMY HARRIS  
MAYOR

FELIX B. LIMTIACO, P.E.  
DIRECTOR

CHERYL K. OKUMA-SEPE, ESQ.  
DEPUTY DIRECTOR

WEP 96-35

January 30, 1996

TO: MICHAEL S. NAKAMURA, CHIEF OF POLICE  
POLICE DEPARTMENT

FROM: FELIX B. LIMTIACO, DIRECTOR  
DEPARTMENT OF WASTEWATER MANAGEMENT

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR  
PUBLIC BATHS FORCE MAIN REPLACEMENT

Thank you for your support of the above project.

A handwritten signature in black ink, appearing to read "Felix B. Limtiaco", is written over a faint circular stamp.

FELIX B. LIMTIACO  
Director

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

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DEPT OF WASTEWATER MGT  
DIVISION OF PLANNING  
& SERVICE CONTROL

DEPT. OF  
WASTEWATER  
MANAGEMENT

JEREMY HARRIS, Mayor

WALTER O WATSON, JR., Chairman  
MAURICE H YAMASATO, Vice Chairman  
SISTER M DAVILYN AH CHICK, O.S.F.  
KAZU HAYASHIDA  
MELISSA Y.J LUM  
FORREST C MURPHY  
KENNETH E SPRAGUE

RAYMOND H SATO  
Manager and Chief Engineer

95-915

PL.

LRP

76.4c

TO: FELIX B. LIMTIACO, DIRECTOR  
DEPARTMENT OF WASTEWATER MANAGEMENT

FROM: *Raymond H. Sato*  
RAYMOND H. SATO, MANAGER AND CHIEF ENGINEER  
BOARD OF WATER SUPPLY

SUBJECT: YOUR LETTER OF APRIL 20, 1995 ON THE DRAFT ENVIRONMENTAL  
ASSESSMENT (EA) FOR PUBLIC BATHS FORCE MAIN REPLACEMENT,  
WAIKIKI, OAHU, HAWAII

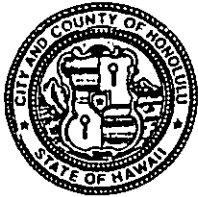
Thank you for the opportunity to review and comment on the Draft EA for the proposed Public Baths force main replacement project.

The sewer force main construction plans should be submitted for our review and approval.

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

DEPARTMENT OF WASTEWATER MANAGEMENT  
**CITY AND COUNTY OF HONOLULU**  
650 SOUTH KING STREET  
HONOLULU, HAWAII 96813

JEREMY HARRIS  
MAYOR



FELIX B. LIMTIACO, P.E.  
DIRECTOR

CHERYL K. OKUMA-SEPE, ESQ.  
DEPUTY DIRECTOR

WEP 96-36

January 30, 1996

TO: RAYMOND H. SATO, MANAGER AND CHIEF ENGINEER  
BOARD OF WATER SUPPLY

FROM: FELIX B. LIMTIACO, DIRECTOR  
DEPARTMENT OF WASTEWATER MANAGEMENT

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR  
PUBLIC BATHS FORCE MAIN REPLACEMENT

Thank you for memorandum regarding the above-mentioned project. The Final EA will note that the construction plans will be submitted to the Board of Water Supply for review and approval prior to construction.

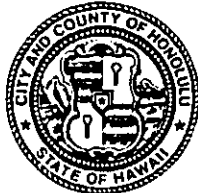
We trust that this reply addresses your comments. Should you have any other questions regarding our response, please contact Mr. Wesley Yokoyama at 527-5152.

  
FELIX B. LIMTIACO  
Director

DEPARTMENT OF TRANSPORTATION SERVICES  
CITY AND COUNTY OF HONOLULU

PACIFIC PARK PLAZA  
711 KAPIOLANI BOULEVARD, SUITE 1200  
HONOLULU, HAWAII 96813

95 JUN -9 P2:48



DEPT OF WASTEWATER MGT.  
DIVISION OF PLANNING  
& SERVICE CONTROL

CHARLES O. SWANSON  
JOSEPH M. MAGALDI, JR.  
DIRECTOR

AMAR CARRAL  
DEPUTY DIRECTOR  
TE-2640  
PL95.1.165

JEREMY HARRIS  
~~FRANK F. EAST~~  
MAYOR

June 9, 1995

MEMORANDUM

TO: FELIX B. LIMTIACO, DIRECTOR  
DEPARTMENT OF WASTEWATER MANAGEMENT

FROM: CHARLES O. SWANSON, DIRECTOR

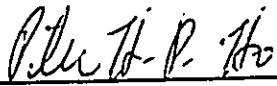
SUBJECT: PUBLIC BATHS FORCE MAIN REPLACEMENT  
DRAFT ENVIRONMENTAL ASSESSMENT (EA)  
TMK: 3-1-30 AND 31

This is in response to your memorandum WPP 95-120 dated April 20, 1995 requesting our comments on the subject draft EA.

Based on our review, we have the following comments:

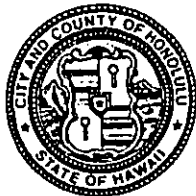
1. Construction plans for all work within and affecting the City's rights-of-way should be submitted to our department for review. A traffic control plan showing temporary detours for pedestrians and vehicles should be included in these plans.
2. The Honolulu Public Transit Authority should be contacted regarding the impact the project will have on TheBus.

Should you have any questions, please contact Lance Watanabe of my staff at local 4199.

  
\_\_\_\_\_  
CHARLES O. SWANSON

DEPARTMENT OF WASTEWATER MANAGEMENT  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813



JEREMY HARRIS  
MAYOR

FELIX B. LIMTIACO, P.E.  
DIRECTOR

CHERYL K. OKUMA-SEPE, ESQ.  
DEPUTY DIRECTOR

WEP 96-37

January 30, 1996

TO: CHARLES O. SWANSON  
DEPARTMENT OF TRANSPORTATION SERVICES

FROM: FELIX B. LIMTIACO, DIRECTOR  
DEPARTMENT OF WASTEWATER MANAGEMENT

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR  
PUBLIC BATHS FORCE MAIN REPLACEMENT

Thanks for your comments dated June 9, 1995. At your request, the project design team will submit to you the construction plans which include a traffic control plan showing temporary detours for pedestrians and vehicles. Also, we have consulted the Honolulu Public Transit Authority regarding the impact of the project.

We trust that this reply addresses your comments. Should you have any other questions regarding our response, please contact Mr. Wesley Yokoyama at 527-5152.

A handwritten signature in dark ink, appearing to be "F. Limtiaco", is written above the printed name.

FELIX B. LIMTIACO  
Director

DEPARTMENT OF LAND UTILIZATION  
**CITY AND COUNTY OF HONOLULU**  
RECEIVED  
650 SOUTH KING STREET  
HONOLULU, HAWAII 96813 • (808) 523-4432

95-101

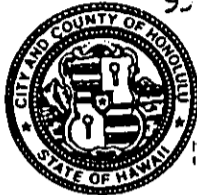
HAP  
SK

'95 JUN 21 P2:23

'95 JUN 21 48:32

JEREMY HARRIS  
MAYOR

DEPT OF WASTEWATER MGT.  
DIVISION OF PLANNING  
& SERVICE CONTROL



DEPT. OF  
WASTEWATER  
MGT.

PATRICK T. ONISHI  
DIRECTOR

LORETTA K.C. CHEE  
DEPUTY DIRECTOR

95-02726 (JT)

June 20, 1995

95-1088

MEMORANDUM

TO: FELIX B. LIMTIACO, DIRECTOR  
DEPARTMENT OF WASTEWATER MANAGEMENT

FROM: PATRICK T. ONISHI, DIRECTOR  
DEPARTMENT OF LAND UTILIZATION

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (DEA) FOR  
PUBLIC BATHS FORCE MAIN REPLACEMENT

DEPT OF WASTEWATER MGT.  
DIV. OF ENGR. & CON. S.

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95 JUN 21 P1 26  
have the

We have reviewed the above-referenced document following comments:

1. It appears that the proposed work will be located within areas designated Flood Zone X, an area determined to be outside the 500-year flood plain. This zone is not designated as a Flood Hazard District under the Land Use Ordinance.
2. We concur with the DEA that the proposed improvements are exempt from the Waikiki Special District regulations.
3. We concur that the project area is in the Special Management Area (SMA). The installation of underground utility lines and appurtenant aboveground fixtures less than four feet in height along existing corridors are not considered "development" and are exempt from SMA regulations.

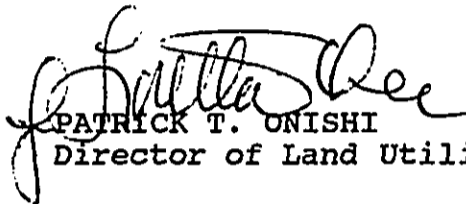
We are unable to ascertain whether a SMA Use Permit will be required for improvements to the existing Public Baths Wastewater Pump Station. The DEA states that larger pumps and equipment may be needed to support the force main improvements and "the existing building enclosures would be inadequate. Additional interior space could be created on the site by enclosing the space between the existing pump and generator buildings". Depending on the nature of this enclosure, a SMA Use Permit may be required.



FELIX B. LIMTIACO, DIRECTOR  
Page 2  
June 20, 1995

4. We concur that should any portion of the proposal be located within the 40-foot shoreline setback area, a shoreline setback variance will be required. The shoreline variance request must be approved prior to construction.

Should you have any questions, please contact Joan Takano of our staff at 527-5038.

  
PATRICK T. ONISHI  
Director of Land Utilization

PTO:am

g:deapbfm.jht

DEPARTMENT OF WASTEWATER MANAGEMENT  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813



JEREMY HARRIS  
MAYOR

FELIX B. LIMTIACO, P.E.  
DIRECTOR

CHERYL K. OKUMA-SEPE, ESQ.  
DEPUTY DIRECTOR

WEP 96-38

January 30, 1996

TO: PATRICK T. ONISHI, DIRECTOR  
DEPARTMENT OF LAND UTILIZATION


FROM: FELIX B. LIMTIACO, DIRECTOR  
DEPARTMENT OF WASTEWATER MANAGEMENT

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR  
PUBLIC BATHS FORCE MAIN REPLACEMENT

Thank you for your memorandum of June 20, 1995 regarding the above-mentioned project. The following is provided in response to your comments:

1. The information regarding the location of the project within the designated Flood Zone X will be included in the Final EA.
2. The Department of Wastewater Management will continue to coordinate the project with your department regarding the potential need for an SMA Use Permit for improvements to the Public Baths Wastewater Pump Station. Should your department find an SMA Use Permit is required, we will file the permit application for your review and issuance of the permit.
3. The Department of Wastewater Management will also file a shoreline variance request for any work that may occur within the 40-foot shoreline setback area.

We trust that this reply addresses your comments. Should you have any other questions regarding our response, please contact Mr. Wesley Yokoyama at 527-5152.

  
FELIX B. LIMTIACO  
Director

DEPARTMENT OF WASTEWATER MANAGEMENT  
**CITY AND COUNTY OF HONOLULU**  
650 SOUTH KING STREET  
HONOLULU, HAWAII 96813



JEREMY HARRIS  
MAYOR

FELIX B. LIMTIACO, P.E.  
DIRECTOR  
CHERYL K. OKUMA-SEPE, ESQ.  
DEPUTY DIRECTOR

January 30, 1996

WEP 96-39

TO: HOWARD K. TAKARA, ACTING EXECUTIVE DIRECTOR  
HONOLULU PUBLIC TRANSIT AUTHORITY

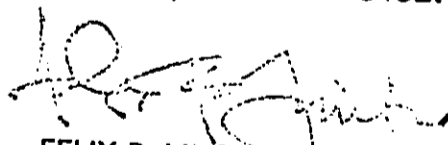
FROM: FELIX B. LIMTIACO, DIRECTOR  
DEPARTMENT OF WASTEWATER MANAGEMENT

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (EA) FOR  
PUBLIC BATHS FORCE MAIN REPLACEMENT

Thank you for your letter of June 28, 1995 regarding the above-mentioned project. The following is provided in response to your letter:

The actual construction method and timing of excavation in the different work areas will be determined later. We will coordinate construction activities with The Bus. Additionally, the Department of Wastewater Management will continue to coordinate project activities with the Honolulu Public Transit Authority to ensure minimal effect on The Bus operations and routings.

We trust that this reply addresses your comments. Should you have any other questions regarding our response, please contact Mr. Wesley Yokoyama at 527-5152.

  
FELIX B. LIMTIACO  
Director

BENJAMIN J. CAYETANO  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF PLANNING & SERVICE CONTROL  
STATE HISTORIC PRESERVATION DIVISION  
33 SOUTH KING STREET, 6TH FLOOR  
HONOLULU, HAWAII 96813

RECEIVED

MICHAEL D. WILSON, CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
DEPUTY  
GILBERT COLOMA-AGARAN

95 MAY 26 10:11

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

95-840  
M.R.  
W.Y.

May 23, 1995

Felix B. Limtiaco, Director  
Department of Wastewater Management  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

95-0937

LOG NO: 14570 ✓  
DOC NO: 9505EJ06

Dear Mr. Limtiaco:

SUBJECT: **Draft Environmental Assessment (DEA) for Public Baths Force Main Replacement  
Waikiki, Kona, O'ahu  
TMK: 2-6; 3-1**

Thank you for the opportunity to review this project which proposes replacement sewer force mains from the Public Baths Wastewater Pump Station (WWPS), north along Kalakaua Avenue to the intersection of Ohua and Kuhio Avenues. Excavation will be conducted under existing roadways and near existing utility corridors. A review of our records shows that there are no known historic sites along the project corridor. However, the underlying sediments are beach sand which are known to contain human burials and other cultural deposits associated with traditional Hawaiian use of the area.

Thus to counter any inadvertent adverse effect on significant historic sites, we request that a written archeological monitoring plan be submitted to this office for review and acceptance prior to the monitoring project. An archaeological monitoring plan must contain the following eight specifications: 1) The kinds of remains that are anticipated; 2) Where in the construction area the remains are likely to be found; 3) How the expected types of remains will be treated, if found; 4) The archaeologist conducting the monitoring has the authority to halt construction in the immediate area of a find in order to carry out the plan; 5) A coordination meeting between the archaeologist and construction crew is scheduled, so that the construction team is aware of the plan; 6) What laboratory work will be done on remains that are collected; 7) A schedule for report preparation; and 8) Details concerning the archiving of any collections that are made.

If you have any questions please call Elaine Jourdane at 587-0015.

Aloha,

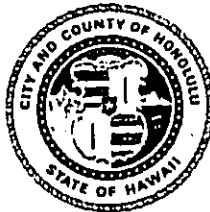
Don Hibbard, Administrator  
Historic Preservation Division

EJ:jk

DEPT. OF  
LAND & NATURAL RESOURCES  
95 MAY 25 9 15 2  
RECEIVED

DEPARTMENT OF WASTEWATER MANAGEMENT  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813



JEREMY HARRIS  
MAYOR

FELIX B. LIMTIACO, P.E.  
DIRECTOR

CHERYL K. OKUMA-SEPE, ESQ.  
DEPUTY DIRECTOR

WEP 96-27

January 30, 1996

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

Dear Mr. Hibbard:

Subject: Draft Environmental Assessment (EA) for Public Baths Force Main Replacement

Thank you for your letter of May 23, 1995 regarding the subject project. The EA will be revised to indicate a written archaeological monitoring plan will be submitted to you for review and approval prior to construction activities. The monitoring plan, as a minimum, will contain the 8 points described in your letter. Additionally, as indicated in the Final EA, an archaeologist will be on duty during construction activities to properly handle any archaeological or historical artifacts or features that may be found during construction activities.

Very truly yours,

A handwritten signature in black ink, appearing to read "Felix B. Limtiaco", is written over the typed name.

FELIX B. LIMTIACO  
Director

BENJAMIN J. CAYETANO  
Governor of Hawaii



95-1076 JUN 29 1995  
Chairperson  
MICHAEL D. WILSON  
Board of Land and Natural Resources *By*

RECEIVED

95 JUL -3 P2:35 STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

REF: OSEA: TES  
DEPT OF WASTEWATER MGT.  
DIVISION OF PLANNING  
& SERVICE CONTROL

P. O. Box 621  
Honolulu, Hawaii 96809

FILE NO.: 95-559

Deputy Director  
GILBERT COLOMA-AGARAN

Aquaculture Development  
Aquatic Resources  
Boating and Ocean Recreation  
Bureau of Conveyances  
Conservation and Environmental Affairs  
Conservation and Resources Enforcement  
Forestry and Wildlife  
Historic Preservation  
Land Management  
State Parks  
Water and Land Development

The Honorable Felix B. Limtiaco, Director  
Department of Wastewater Management  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

JUL 25

Dear Mr. Limtiaco:

SUBJECT: Draft Environmental Assessment (DEA) for Public Baths  
Force Main Replacement: Waikiki, Oahu, TMK: various

We have reviewed the DEA information for the subject project transmitted by your letter dated April 20, 1995, and apologize for the delayed response. The following are our additional comments which supplement those previously forwarded by our Historic Preservation Division in their letter of May 23, 1995:

Division of Aquatic Resources

Our Division of Aquatic Resources (DAR) comments that the proposed project is not expected to have significant adverse impact on aquatic resource values in the area. However, DAR is concerned since the project site is adjacent to the Waikiki Marine Life Conservation District. Therefore, the applicant should take precautions to prevent contaminants such as sediment, pollutants, petroleum products and debris from entering the aquatic environment.

DAR also suggests that site work be scheduled for periods of minimal rainfall and lands denuded of vegetation be replanted or covered as quickly as possible to control erosion.

We have no other comment to offer at this time. Thank you for the opportunity to comment on this matter.

Please feel free to contact Steve Tagawa at our Office of Conservation and Environmental Affairs, at 587-0377, should you have any questions.

Aloha,

*Gilbert S. Coloma-Agaran*  
MICHAEL D. WILSON

ST:tes

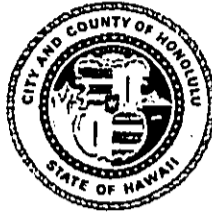
DEPT OF  
WASTEWATER  
MGT

95 JUL -3 P2:00

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DEPARTMENT OF WASTEWATER MANAGEMENT  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813



JEREMY HARRIS  
MAYOR

FELIX B. LIMTIACO, P.E.  
DIRECTOR

CHERYL K. OKUMA-SEPE, ESG.  
DEPUTY DIRECTOR

January 30, 1996

WEP 96-28

Mr. Michael D. Wilson, Director  
Department of Land and Natural Resources  
State of Hawaii  
P.O. Box 621  
Honolulu, Hawaii 96809

Dear Mr. Wilson:

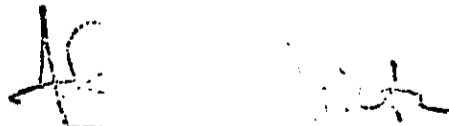
Subject: Draft Environmental Assessment (EA) for Public Baths Force Main Replacement

Thank you for your letter of June 29, 1995 (File No. 95-559) regarding the above-mentioned project. The following is provided in response to your letter:

1. The Department of Wastewater Management is aware the project is adjacent to the Waikiki Marine Life Conservation District. To prevent sediment, pollutants, petroleum products, and debris from entering the aquatic environment, sediment retention and erosion control basins will be constructed as required, construction debris will be cleared daily from the project site, and the use of petroleum products will be closely monitored.
2. To the extent practical, work will be scheduled for periods of minimal rainfall and in compliance with State Air Quality and Erosion Control standards, lands denuded of vegetation will be replanted as soon as possible following construction activities.

We trust that this reply addresses your comments. Should you have any other questions regarding our response, please contact Mr. Wesley Yokoyama at 527-5152.

Very truly yours,

  
FELIX B. LIMTIACO  
Director

RECEIVED

BENJAMIN J. CAYETANO  
GOVERNOR OF HAWAII

95 MAY 23 AIO :30

DEPT OF WASTEWATER MGT.  
DIVISION OF PLANNING  
& SERVICE CONTROL



STATE OF HAWAII  
DEPARTMENT OF HEALTH

P. O. BOX 3378  
HONOLULU, HAWAII 96801

May 12, 1995

95-809  
L.P. MA  
LAWRENCE MIKE  
DIRECTOR OF HEALTH

95-0905

In reply, please refer to:  
EMD

P05133KA

Mr. Felix B. Limtiaco  
Director  
Department of Wastewater Management  
City and County of Honolulu  
650 South King Street  
Honolulu, HI 96813

Dear Mr. Limtiaco:

Subject: Draft Environmental Assessment for the  
Public Baths Force Main Replacement Project  
Waikiki, Oahu, Hawaii

The Department of Health acknowledges the receipt of the draft environmental assessment for the subject project and has the following comments:

1. The applicant should contact the Army Corps of Engineers (COE) to identify whether a Federal permit (including a Department of Army (DA) permit) is required for this project. A Section 401 Water Quality Certification (WQC) is required for "Any applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters...", pursuant to Section 401(a) (1) of the Federal Water Pollution Act (commonly known as the "Clean Water Act (CWA)").
2. If the project involves the following activities with discharges into State waters, an NPDES permit is required for each activity:
  - a. Discharge of storm water runoff associated with construction activities, including clearing, grading, and excavation that result in the disturbance of equal to or greater than five (5) acres of total land area;
  - b. Construction dewatering effluent;
  - c. Non-contact cooling water;
  - d. Hydrotesting water; and
  - e. Treated contaminated groundwater from underground storage tank remedial activity.

RECEIVED  
MAY 19 1995  
DEPT OF HEALTH



Mr. Felix B. Limtiaco  
May 12, 1995  
Page 2

Should you have any questions regarding this matter, please contact Ms. Kris Aruga, Engineering Section of the Clean Water Branch, at 586-4309.

Sincerely,

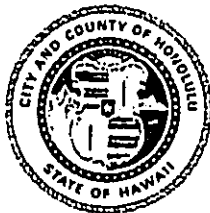


BRUCE S. ANDERSON, Ph.D.  
Deputy Director for  
Environmental Health

KA:sl

DEPARTMENT OF WASTEWATER MANAGEMENT  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813



JEREMY HARRIS  
MAYOR

FELIX B. LIMTIACO, P.E.  
DIRECTOR

CHERYL K. OKUMA-SEPE, ESQ.  
DEPUTY DIRECTOR

January 30, 1996

WEP 96-26

Dr. Bruce Anderson  
Department of Health  
State of Hawaii  
P.O. Box 3378  
Honolulu, Hawaii 96801

Dear Dr. Anderson:

Subject: Draft Environmental Assessment (EA) for Public Baths Force Main Replacement

Thanks for your comments dated May 12, 1995 (P05133KA) regarding the above project. We offer the following response to your comments:

1. We have consulted the Army Corps of Engineers during the environmental review process. The Department of the Army has determined that a DA permit will not be required for the project under the Clean Water Act; the Rivers and Harbors Act; and the Marine Protection, Research, and Sanctuaries Act (see enclosed letter).
2. The information requested regarding noise and dust control during construction will be added to the Final EA.

We trust that this reply addresses your comments. Should you have any other questions regarding our response, please contact Mr. Wesley Yokoyama at 527-5152.

Very truly yours,

CHERYL K. OKUMA-SEPE

*Fw* FELIX B. LIMTIACO  
Director

Enclosure

BENJAMIN J. CAYETANO  
GOVERNOR OF HAWAII

RECEIVED

95 JUN 15 P2:29



DEPT OF WASTEWATER MGT  
DIVISION OF PLANNING  
& SERVICE CONTROL  
DEPARTMENT OF HEALTH  
P. O. BOX 3378  
HONOLULU, HAWAII 96801

RECEIVED

95 JUN 14 10:41

LAWRENCE MIKE  
DIRECTOR OF HEALTH

In reply, please refer to:  
EMD-CAB

June 9, 1995

95-282 CAB

Mr. Felix B. Limtiaco  
Director of Wastewater Management  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

Dear Mr. Limtiaco:

SUBJECT: Comments on the "Proposed Public Baths Force Main Replacement Project;" Ref. No. WPP 95-120

A Draft Environmental Assessment was submitted to the Department of Health for the proposed Public Baths Force Main Replacement Project. The proposed project would require the replacement of the existing 12-inch sewer force main with a new 18-inch force main. In addition, the existing 12-inch force main would be retained as a back-up system during repair and maintenance of the new force main. The reasoning for the proposed force main replacement comes from recommendations made in The East Mamala Bay Wastewater Facilities Plan (December 1993) which identified the Public Baths Wastewater Pump Station (WWPS) and existing force main as having an inadequate capacity to handle existing and future projected sewage flows, in addition to the force main experiencing back-ups and overflows recently.

The proposed project site is located in Waikiki and would begin at the Public Baths WWPS, run north along Kalakaua Avenue to the intersection of Kalakaua and Ohua Avenues, run northeast along Ohua Avenue and discharge into a proposed transition manhole in Ohua Avenue. A proposed 27-inch gravity sewer line will carry the flow from the transition manhole to a proposed new manhole built on an existing 30-inch sewer line located at the intersection of Ohua and Kuhio Avenues.

Presently, two general construction methods are being considered for the force main installation. The first method would involve trench work to be done along the street, exposing a trench approximately four feet wide and six to eight feet deep. Installation of the force main may require the depth to increase to fifteen feet. This method requires equipment to remove the existing road surface, excavate, dewater, compact the bedding material, and replace the road surface. In addition, trucks would be needed to remove the excavated material and deliver construction materials for the project.

RECEIVED  
95 JUN 15 8:57  
DEPT OF WASTEWATER MGT  
DIV. OF ENGR. & CONST.

Mr. Felix B. Limtiaco  
June 9, 1995  
Page 2

The second method would involve micro-tunneling, where a horizontal boring is done and then the piping is then installed into the bore hole. This method involves excavating a minimum of two pits approximately ten feet wide and five feet below the pipe invert. The tunneling and installation machinery, dewatering equipment, and trucks to remove sediment would be needed for the project. Typically, the tunneling would produce a slurry of material that would be pumped into a settling tank and the water would be re-used for the boring.

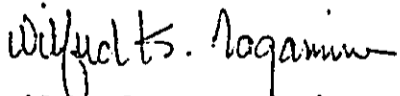
Regarding the first method, there is a significant potential for fugitive dust to be generated during the road surface removal, excavation, and stockpiling activities for this project. The close proximity to occupied residential areas and businesses only adds to the dust problems. Implementation of adequate dust control measures during all phases of construction is warranted. Construction activities must comply with provisions of Chapter §11-60.1, Hawaii Administrative Rules, section §11-60.1-33 on Fugitive Dust.

Contractor should provide adequate means to control dust from road areas and during the various phases of construction activities, including but not limited to:

- a. planning the different phases of construction, focusing on minimizing the amount of dust generating materials and activities, centralizing material transfer points and onsite vehicular traffic routes, and locating potentially dusty equipment in areas of the least impact;
- b. providing an adequate water source at site prior to startup of construction activities;
- c. rapid covering of bare areas, including slopes, starting from the initial grading phase;
- d. control of dust from shoulders, project entrances, and access roads; and
- e. providing adequate dust control measures during weekends, after hours, and prior to daily startup of construction activities;

As for the second method, little information is known as to properly address potential problems that may exist. If you have any questions, please call Mr. Timothy Carvalho of my staff at 586-4200.

Sincerely,

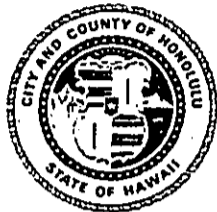


Wilfred K. Nagamine  
Manager, Clean Air Branch

TC:jm

DEPARTMENT OF WASTEWATER MANAGEMENT  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813



JEREMY HARRIS  
MAYOR

FELIX B. LIMTIACO, P.E.  
DIRECTOR

CHERYL K. OKUMA-SEPE, ESO.  
DEPUTY DIRECTOR

January 30, 1996

WEP 96-30

Mr. Wilfred K. Nagamine  
Manager, Clean Air Branch  
Department of Health  
State of Hawaii  
P.O. Box 3378  
Honolulu, Hawaii 96801

Dear Mr. Nagamine:

Subject: Draft Environmental Assessment (EA) for Public Baths Force Main Replacement

Thank you for your comments dated June 9, 1995 (EMD-CAB 95-282 CAB) regarding the above project. We offer the following response to your comments:

The Final EA and construction contract specifications will note the contractor will be required to meet all State air quality standards, including those pertaining to fugitive dust. As indicated in the Draft EA, frequent watering of the construction site will be performed to limit fugitive dust.

In addition to the above, the five dust control measures noted in your letter will be included in the Final EA and construction contract specifications.

We trust that this reply addresses your comments. Should you have any other questions regarding our response, please contact Mr. Wesley Yokoyama at 527-5152.

Very truly yours,

A handwritten signature in black ink, appearing to read "Felix B. Limtiaco", is written over a printed name.

FELIX B. LIMTIACO  
Director

BENJAMIN J. CAYETANO  
GOVERNOR



STATE OF HAWAII  
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES  
P. O. BOX 119, HONOLULU, HAWAII 96810

RECEIVED EUGENE S. IMAI  
COMPTROLLER

95-944  
95-1014 ff.

95 JUN -9 P2:48 MARY PATRICIA WATERHOUSE  
DEPUTY COMPTROLLER

DEPT. OF WASTEWATER MGT. (P) 1431.5  
DIVISION OF PLANNING  
& SERVICE CONTROL

JUN 8 1995

LEE [signature]  
WY [signature]

Mr. Felix B. Limtiaco, Director  
Department of Wastewater Management  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

Dear Mr. Limtiaco:

Subject: Public Baths Force Main Replacement  
Waikiki, Oahu, Hawaii  
Draft Environmental Assessment

Thank you for the opportunity to review the subject document. We have no comments to offer and would have no objection to a negative declaration being filed for this project.

If there are any questions, please have your staff contact Mr. Ralph Yukumoto of the Planning Branch at 586-0488.

Very truly yours,

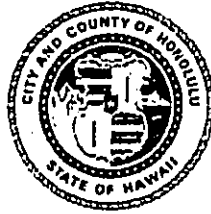
[Signature of Gordon Matsuoka]

GORDON MATSUOKA  
State Public Works Engineer

RY:jy

DEPARTMENT OF WASTEWATER MANAGEMENT  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813



JEREMY HARRIS  
MAYOR

FELIX B. LIMTIAGO, P.E.  
DIRECTOR

CHERYL K. OKUMA-SEPE, ESQ.  
DEPUTY DIRECTOR

January 30, 1996

WEP 96-29

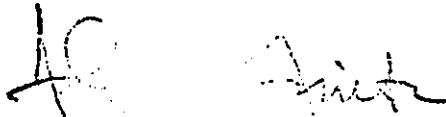
Mr. Gordon Matsuoka  
State Public Works Engineer  
Department of Accounting and General Services  
P.O. Box 119  
Honolulu, Hawaii 96810

Dear Mr. Matsuoka:

Subject: Draft Environmental Assessment (EA) for Public Baths Force Main Replacement

Thank you for your review and support of the above-mentioned project.

Very truly yours,

  
FELIX B. LIMTIAGO  
Director



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

RECEIVED

95-766  
SP. R  
WRP-34  
WY

REPLY TO  
ATTENTION OF

May 12, 1995 '95 MAY 16 21:45

Planning Division

DEPT OF  
WASTEWATER  
MANAGEMENT

95-0584

Mr. Felix B. Limtiaco, Director  
City and County of Honolulu  
Department of Wastewater Management  
650 South King Street  
Honolulu, Hawaii 96813

Dear Mr. Limtiaco:

Thank you for the opportunity to review and comment on the Draft Environmental Assessment for the Public Baths Force Main Replacement Project, Honolulu, Oahu. The following comments are provided pursuant to Corps of Engineers authorities to disseminate flood hazard information under the Flood Control Act of 1960 and to issue Department of the Army (DA) permits under the Clean Water Act; the Rivers and Harbors Act of 1899; and the Marine Protection, Research and Sanctuaries Act.

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

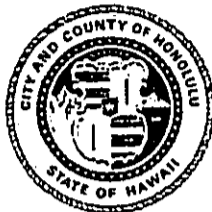
b. The flood hazard information provided on page 3-5 of the environmental assessment is correct.

Sincerely,

Ray H. Jyo, P.E.  
Director of Engineering



DEPARTMENT OF WASTEWATER MANAGEMENT  
**CITY AND COUNTY OF HONOLULU**  
650 SOUTH KING STREET  
HONOLULU, HAWAII 96813



JEREMY HARRIS  
MAYOR

FELIX B. LIMTIACO, P.E.  
DIRECTOR  
CHERYL K. OKUMA-SEPE, ESQ.  
DEPUTY DIRECTOR

WEP 96-24

January 30, 1996

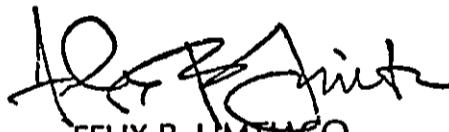
Mr. Ray H. Jyo, P.E.  
Department of the Army  
U.S. Army Engineer District, Honolulu  
Ft. Shafter, Hawaii 96858-5440

Dear Mr. Jyo:

Subject: Draft Environmental Assessment (EA) for Public Baths Force Main Replacement

Thank you for your support of the above project. Your comments have been incorporated into the Final Environmental Assessment.

Very truly yours,

  
FELIX B. LIMTIACO  
Director

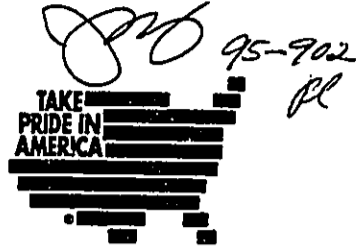


RECEIVED United States Department of the Interior

JUN -5 P4:15

FISH AND WILDLIFE SERVICE  
PACIFIC ISLANDS ECOREGION  
Ecological Services  
300 Ala Moana Blvd., Room 6307  
P.O. Box 50167  
Honolulu, Hawaii 96850

(808) 541-2749  
DEPT OF WASTEWATER MGT.  
DIVISION OF PLANNING  
& SERVICE CONTROL  
In Reply Refer To: MWR



FAX (808) 541-2756

PESC  
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R2

MAY 30 1995

Felix B. Limtiaco  
Director  
Department of Wastewater Management  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

Re: Draft Environmental Assessment for Public Baths Force Main Replacement, Waikiki, Oahu.

Dear Mr. Limtiaco:

The U.S. Fish and Wildlife Service (Service) has reviewed the above-referenced project submitted by the Department of Wastewater Management. The proposed project involves the replacement and installation of existing and new sewer lines, respectively, to eliminate overflows and backups and to provide a more efficient wastewater collection system. These proposed actions would occur from the Public Baths Wastewater Pump Station on Kalakaua Avenue north to Ohua Avenue and then northeast to the intersection of Ohua and Kuhio Avenues. The Service offers the following comments for your consideration.

The Service does not expect significant adverse impacts to fish and wildlife resources to result from the implementation of the proposed action. The construction corridor for the proposed replacement and installation of sewer lines lacks rare, threatened or endangered species and wetland areas. Therefore, the Service concurs with your finding that the proposed action will not have significant environmental impacts and that the preparation of an Environmental Impact Statement is not required.

The Service appreciates the opportunity to provide these comments. If you have any questions regarding these comments, please contact Fish and Wildlife Biologist Michael Ritter at 541-3441.

Sincerely,

Brooks Harper

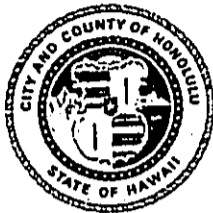
Brooks Harper  
Field Supervisor  
Ecological Services

DEPT OF  
WASTEWATER  
SERVICE

95 JUN -2 P1:18

RECEIVED

DEPARTMENT OF WASTEWATER MANAGEMENT  
**CITY AND COUNTY OF HONOLULU**  
650 SOUTH KING STREET  
HONOLULU, HAWAII 96813



JEREMY HARRIS  
MAYOR

FELIX B. LIMTIACO, P.E.  
DIRECTOR  
CHERYL K. OKUMA-SEPE, ESO.  
DEPUTY DIRECTOR

WEP 96-25

January 30, 1996

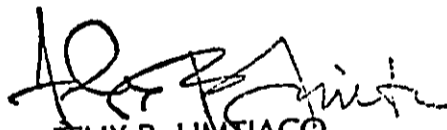
Mr. Brooks Harper  
Field Supervisor, Ecological Services  
Fish and Wildlife Service  
U.S. Department of the Interior  
P.O. Box 50167  
Honolulu, Hawaii 96850

Dear Mr. Harper:

Subject: Draft Environmental Assessment (EA) for Public Baths Force Main Replacement

Thank you for your review and support of the above-mentioned project.

Very truly yours,

  
FELIX B. LIMTIACO  
Director

95-755  
P. V



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

DEPT OF WASTEWATER MGT.  
DIVISION OF PLANNING  
& SERVICE CONTROL

95 MAY 15 12:47

RECEIVED

May 12, 1995

Department of Wastewater Management  
CITY AND COUNTY OF HONOLULU  
650 South King Street  
Honolulu, Hawaii 96813

Attn: Mr. Felix B. Limtiaco  
Director

Dear Mr. Limtiaco:

This concerns your letter of April 20, 1995 (WPP-95-120) relative to to above subject matter. This is to confirm that the information relative to CATV facilities as covered on page 3 - 17 is correct. Accordingly, the proposed work should not have any effect on existing Oceanic facilities.

Thanks for your consideration.

Sincerely,

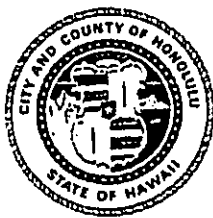
Don Camacho  
Director of Administration

DC:sb

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DEPARTMENT OF WASTEWATER MANAGEMENT  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813



JEREMY HARRIS  
MAYOR

FELIX B. LIMTIACO, P.E.  
DIRECTOR  
CHERYL K. OKUMA-SEPE, ESG.  
DEPUTY DIRECTOR

WEP 96-40

January 30, 1996


Mr. Don Camacho  
Oceanic Cable  
200 Akamainui Street  
Mililani, Hawaii 96789-3999

Dear Mr. Camacho:

Subject: Draft Environmental Assessment (EA) for Public Baths Force Main Replacement

Thank you for your support of the above project. We will provide you with a construction plan for your review prior to the start of construction.

Very truly yours,

  
FELIX B. LIMTIACO  
Director



95-780

95-0904 *Pl. R/*

'95 MAY 18 P4:08

DEPT OF WASTEWATER MGT.  
DIVISION OF PLANNING  
& SERVICE CONTROL

BHP Hawaii

May 16, 1995

Department of Wastewater Management  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

Attention: Mr. Felix B. Limtiaco  
Director

Gentlemen:

Subject: Draft Environmental Assessment for  
Public Baths Force Main Replacement

Please be advised that BHP Gas Company maintains an underground utility gas main in the project vicinity, which serves commercial and residential customers in the area and is interconnected with the utility network in Waikiki. We would appreciate your consideration during the project planning and design process to minimize any potential conflicts with the existing gas facilities in the project area.

Thank you for the opportunity to comment on the Draft Environmental Assessment. Should there be any questions, or if additional information is desired, please call me at 594-5574.

Very truly yours,

Keith K. Yamamoto  
Supervisor, Engineering

KKY:kr  
95-164

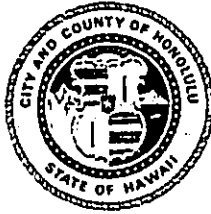
DEPT OF  
WASTEWATER  
MGT. CONTROL

'95 MAY 18 P2:36

RECEIVED

DEPARTMENT OF WASTEWATER MANAGEMENT  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813



JEREMY HARRIS  
MAYOR

FELIX B. LIMTIACO, P.E.  
DIRECTOR

CHERYL K. OKUMA-SEPE, ESG.  
DEPUTY DIRECTOR

WEP 96-41

January 30, 1996

Mr. Keith K. Yamamoto  
BHP Gas Company  
515 Kamakee Street  
Honolulu, Hawaii 96842

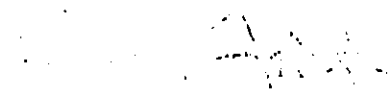
Dear Mr. Yamamoto:

Subject: Draft Environmental Assessment (EA) for Public Baths Force Main Replacement

Thank you for informing us about the underground utility gas main in the project vicinity. We have obtained the utility map from you and have forwarded the map to our project design team. The design team will take into consideration your utility gas main to minimize any potential conflicts with the existing gas facilities in the project area.

We trust that this reply addresses your comments. Should you have any other questions regarding our response, please contact Mr. Wesley Yokoyama at 527-5152.

Very truly yours,

  
FELIX B. LIMTIACO  
Director

RECEIVED

95-890

PL

LIT



WAIKIKI NEIGHBORHOOD BOARD NO. 9

95 JUN -5 AM 1:30

c/o NEIGHBORHOOD COMMISSION • CITY HALL, ROOM 400 • HONOLULU, HAWAII 96813

DEPT OF WASTEWATER MGT.  
DIVISION OF PLANNING  
& SERVICE CONTROL

95-0972

May 26, 1995

Felix B. Limtiaco, Director  
Department Of Wastewater Management  
City and County of Honolulu  
650 S. King Street  
Honolulu, HI. 96813

DEPT. OF  
WASTEWATER

95 JUN -5 17:09

RECEIVED

Dear Mr. Limtiaco,

In reviewing the draft Environmental Assesment for Public Bath Force Main Replacement, I submit the following comments.

While the matter has not gone before the Waikiki Neighborhood Board, our prior stand on major developments hold true in the proposed project.

There is no doubt the project is sorely needed as it has been for several years. The areas to be affected will certainly have a serious impact on vehicular and pedestrian traffic. The use of steel plates are necessary but it is a MUST that these plates be welded together at the close of construction each day in order to eliminate a "clang" when vehicular traffic crosses them.

Care and caution MUST be taken so as to NOT disrupt utilities. With our visitor and citizen mix, we cannot have a loss of utilities.

Construction noise goes with the territory. The hours of 9 A.M. to 4:30 P.M. would be requested so as not to disturb our mix of population.

Again, dust can create a major problem in such heavily populated areas of hotels, low and high rise dwellings. Care and caution becomes necessary to keep the inconvenience at a minimum.

Please keep us informed as to starting date and construction time.

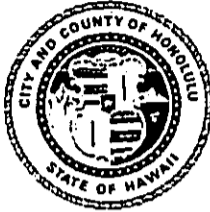
Mahalo

Sam Bren  
Chairman, Waikiki Neighborhood Board #9





DEPARTMENT OF WASTEWATER MANAGEMENT  
**CITY AND COUNTY OF HONOLULU**  
650 SOUTH KING STREET  
HONOLULU, HAWAII 96813



JEREMY HARRIS  
MAYOR

FELIX B. LIMTIACO, P.E.  
DIRECTOR  
CHERYL K. OKUMA-SEPE, ESQ.  
DEPUTY DIRECTOR

WEP 96-42

January 30, 1996

Mr. Sam Bren, Chairman  
Waikiki Neighborhood Board #9  
c/o Neighborhood Commission  
City Hall, Room 400  
Honolulu, Hawaii 96813

Dear Mr. Bren:

Subject: Draft Environmental Assessment (EA) for Public Baths Force Main Replacement

Thank you for your review of the above-mentioned project. The Final EA will be revised to indicate that the steel plates used to cover excavated areas will be spot welded together to minimize clanging from vehicular traffic. Additionally, the construction specifications will require the contractor to place the steel plates on level surfaces to the greatest degree possible to further minimize clanging noises.

As indicated in the Final EA, all appropriate measures have been and will continue to be taken to assure other utilities are not disrupted during the construction phase. We have, and will continue to coordinate our activities with the Board of Water Supply, HECO, BHP Gas Company, and Hawaiian Telephone Company.

While it would be desirable from a noise standpoint to curtail construction activities to the hours of 9:00 A.M. to 4:00 P.M., this would lengthen the construction period so that the noise would be experienced for a longer period. All construction activity will have to comply with the State Department of Health Noise Control regulations and we will use our best efforts to reduce noise during the early morning hours. Construction activities will be limited to the hours of 7:00 A.M. to 4:30 P.M.

Additionally, all construction activities will have to comply with Department of Health dust control measures and we will monitor this daily during construction of the project. We will also continue to keep affected property owners/representatives informed of the project to minimize disruptions to traffic, pedestrians, and businesses to the greatest degree practical.

Mr. Sam Bren, Chairman

-2-

January 30, 1996

We trust that this reply addresses your comments. Should you have any other questions regarding our response, please contact Mr. Wesley Yokoyama at 527-5152.

Very truly yours,

  
FELIX B. LIMTIACO  
Director

RECEIVED

'95 JUN -9 P1 52

DEPT OF WASTEWATER MGT.  
DIVISION OF PLANNING  
& SERVICE CONTROL



William A. Bonnet  
Manager  
Environmental Department

June 7, 1995

95-936  
PI.  
95-1007  
LRR PL  
WY

Mr. Felix B. Limtiaco  
Department of Wastewater  
Management  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

Dear Mr. <sup>Felix</sup>Limtiaco:

**Subject: Public Baths Force Main Replacement  
Draft Environmental Assessment (EA) for  
Waikiki, Honolulu, Hawaii**

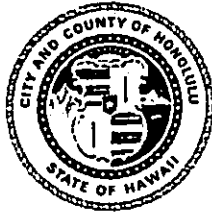
Thank you for the opportunity to comment on your April 20, 1995 Environmental Assessment report for the Waikiki public baths force main replacement project, as proposed by the Department of Wastewater Management of the City and County of Honolulu. We have reviewed the subject document and have no comments at this time on the proposed project. HECO shall reserve further comments pertaining to the protection of existing powerlines bordering the project area until construction plans are finalized.

Sincerely,

RECEIVED  
'95 JUN -8 P1:15  
DEPT. OF  
WASTEWATER  
MANAGEMENT

DEPARTMENT OF WASTEWATER MANAGEMENT  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813



JEREMY HARRIS  
MAYOR

FELIX B. LIMTIACO, P.E.  
DIRECTOR  
CHERYL K. OKUMA-SEPE, ESQ.  
DEPUTY DIRECTOR

WEP 96-43

January 30, 1996

Mr. William A. Bonnet  
Hawaiian Electric Company, Inc.  
P.O. Box 2750  
Honolulu, Hawaii 96840-0001

Dear Mr. Bonnet:

Subject: Draft Environmental Assessment (EA) for Public Baths Force Main Replacement

Thank you for your review of the above project. As requested, the project design team will consult you in finalizing your construction plans.

Very truly yours,

A handwritten signature in black ink, appearing to read "Felix B. Limtiaco", is written over a horizontal line.

FELIX B. LIMTIACO  
Director

  
**hawaiian REGENT**  
at Waikiki Beach

8/14/95  
db SYC

RECEIVED

AUG 14 11 A 0:57

August 9, 1995

Belt Collins Hawaii, Ltd.  
680 Ala Moana Boulevard, First Floor  
Honolulu, Hawaii 96814

Attention: Ms. Sarah Young

SUBJECT: PUBLIC BATHS FORCE MAIN REPLACEMENT

Dear Ms. Young,

Hawaiian Regent is totally supportive of replacing the existing 12-inch sewer force main and understand the problem of sewage back-ups and overflows.

We are located in the main path of where the proposed new 18-inch force main is to be installed which, if not well planned, will be very devastating to the hotel.

As you know Ohua Avenue is our main thoroughfare to our porte-cochere and parking facilities. In addition, we are planning on renovating our hotel beginning September 1996 - December 1998 about the same time this project is to begin.

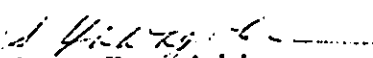
This project will now add several possible major problems:

- 1) Interference with traffic flow on both Ohua & Paoakalani.
- 2) Interference with inconveniencing tour buses from picking up their clients on both Ohua & Paoakalani sides of the hotel.
- 3) Disruption of service for tour agents to pull or drop off guest luggage at our loading docks.
- 4) Excessive noise from road construction and our renovations.

Belt Collins Hawaii, Ltd.  
August 9, 1995  
Page 2

Because of these concerns, we highly recommend the Micro-tunneling method which we understand reduces the surface disturbances of the construction, reduces the potential impact upon underground utilities and more importantly would be less disruptive to Hawaiian Regent Hotel.

Sincerely,

  
Steve Kawagishi,  
General Manager

cc: Mr. Felix B. Limtiaco,  
Director, Dept. of Wastewater Management  
City & County of Honolulu

Mr. David Dodge, President  
Waikiki Improvement Association

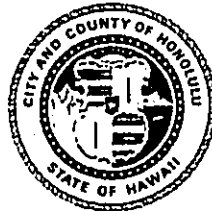
Ms. Christina Kemmer,  
Executive Director,  
Waikiki Development

Billy Ching, Chief Engineer  
Hawaiian Regent Hotel

file

DEPARTMENT OF WASTEWATER MANAGEMENT  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813



JEREMY HARRIS  
MAYOR

FELIX B. LIMTIACO, P.E.  
DIRECTOR

CHERYL K. OKUMA-SEPE, ESQ.  
DEPUTY DIRECTOR

WEP 96-44

January 30, 1996

Mr. Steve Kawagishi, General Manager  
Hawaiian Regent at Waikiki Beach  
2552 Kalakaua Avenue  
Honolulu, Hawaii 96815-3699

Dear Mr. Kawagishi:

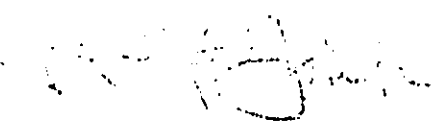
Subject: Draft Environmental Assessment (EA) for Public Baths Force Main Replacement

Thank you for your letter of August 9, 1995 regarding the subject project. We understand the proposed project will cause some short-term hardships on all properties along the construction project corridor. We will continue to work with you and other affected properties to minimize potential effects to the greatest degree possible. Traffic will be controlled via a Traffic Control Plan to be submitted to the Department of Transportation Services for their review and approval prior to construction. We will also send a copy of the approved construction traffic control plan for your information. Similarly, all construction activities will comply with the State Department of Health Noise and Fugitive Dust Control regulations and we will be monitoring this on a daily basis.

Your comments regarding micro-tunneling will be taken into consideration during the final design stages of the project. The exact construction method and schedule will be up to the contractor selected for the project. In any case, the contractor will be made aware of the need to minimize traffic disruptions and to control noise and dust via the construction contract specifications.

We trust that this reply addresses your comments. Should you have any other questions regarding our response, please contact Mr. Wesley Yokoyama at 527-5152.

Very truly yours,

  
FELIX B. LIMTIACO  
Director