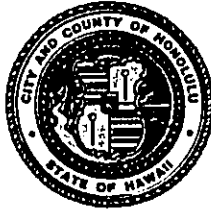


DEPARTMENT OF WASTEWATER MANAGEMENT  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813



'93 OCT -8 110421

OFFICE OF ENVIRONMENTAL  
QUALITY CONTROL

FRANK F. FASI  
MAYOR

KENNETH M. RAPPOLT  
DIRECTOR

FELIX B. LIMTIACO  
DEPUTY DIRECTOR

WPP 93-463

September 24, 1993

Mr. Brian J.J. Choy, Director  
Office of Environmental Quality Control  
220 South King Street, 4th Floor  
Honolulu, Hawaii 96813

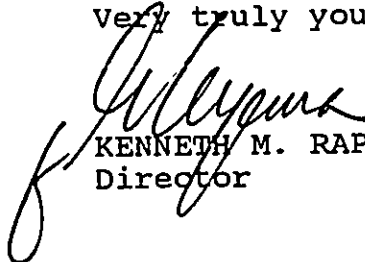
Dear Mr. Choy:

Subject: Negative Declaration for Kahaluu Housing  
Wastewater Pump Station, Force Main and Sewer System  
TMK 4-7-37:24, Kaneohe, Oahu, Hawaii

The Department of Wastewater Management has reviewed the comments received during the 30-day public comment period which began on July 8, 1993. The Department has determined that this project will not have a significant environmental effect and has issued a negative declaration. Please publish this notice in the ~~October 8, 1993~~ <sup>next</sup> OEQC Bulletin.

We have enclosed a completed OEQC Bulletin Publication Form and four copies of the final EA. Please contact Mr. Richard Leong at 527-5863 if you have any questions.

Very truly yours,

  
KENNETH M. RAPPOLT  
Director

Enclosures

*Force Main and Sewer Collection System*

NOTICE OF DETERMINATION  
NEGATIVE DECLARATION FOR THE PROPOSED  
KAHALUU HOUSING WASTEWATER PUMP STATION, FORCE MAIN  
AND SEWER COLLECTION SYSTEM

A. Proposing Agency

Department of Wastewater Management, City and County of Honolulu

B. Accepting Authority

Not applicable to a negative declaration.

C. Description of the Proposed Action

The Proposed project consists of construction of a wastewater pump station (WWPS) at the intersection of Kahekili Highway, Ahuimanu Road and Okana Road (also known as Kahaluu Cutoff Road) and installation of a force main along Kahekili Highway from the proposed WWPS to the Ahuimanu Wastewater Treatment Plant (WWTP), a distance of approximately one third of a mile. The new WWPS site is at Tax Map Key (TMK) 4-7-37:24. The proposed pump station will replace the existing Kahaluu Low-Rent Housing (temporary) sewage pump station that was constructed by the State and is located within the Federal Emergency Management Agency (FEMA) designated floodway. A collection system from the vicinity of the existing pump station to the new pump station will be required. The WWPS and force main are being sized to accommodate the additional flows which will be realized upon extension of the gravity sewer system to mauka residential areas (Kahaluu Sewers Improvement District, Section 5 and portions of Section 4) now serviced by individual cesspools.

D. Determination and Reasons Supporting the Determination

The proposed project would not have a significant effect on the environment and therefore preparation of an environmental impact statement is not required. The "Significance Criteria," Section 12 of Hawaii Administrative Rules Title 11, Chapter 200, "Environmental Impact Statement Rules," were reviewed and analyzed. Based on the analysis, the following were concluded:

1. *No irrevocable commitment to loss or destruction of any natural or cultural resource would result.* There are no significant natural resources which would be affected by the proposed project. It involves excavating a vacant lot, trenching within the right-of-way of existing paved surfaces, and removing an obsolete pump station. There are no known historic or cultural resources on the site.

2. *The action would not curtail the range of beneficial uses of the environment.* The proposed action would increase potential beneficial uses of the environment by eliminating existing cesspool discharges mauka of the State Department of Health designated "No Pass" line, and removing a potential hazard represented by the existing pump station which is sited within the 100-year floodway.
3. *The proposed action does not conflict with the state's long-term environmental policies or goals and guidelines.* The proposed action, by incorporating the proposed mitigation measures, would have no significant negative environmental impacts. Temporary impacts associated with construction can also be adequately mitigated. The proposed action would be supportive of other state goals and guidelines in the areas of public health, pollution control, and protection of the natural and built environments.
4. *The economic or social welfare of the community or state would not be substantially affected.* The proposed project would provide short-term economic benefits in the form of engineering and construction jobs, and long-term benefits to nearby residents in terms of public health, pollution control and protection of the natural and built environments.
5. *The proposed action does not substantially affect public health.* The proposed action would benefit public health by eliminating cesspool seepage into groundwater in an area with potential potable groundwater resources.
6. *No substantial secondary impacts, such as population changes or effects on public facilities, are anticipated.* The proposed action would not affect population growth or distribution, but would simply service residential areas already existing or planned. There are no provisions for expansion of the proposed facilities. No long-term negative effects are expected on any public facilities. The Ahuimanu WWTP, which will still be operational after completion of this project, has adequate capacity to treat the additional wastewater flows.
7. *No substantial degradation of environmental quality is anticipated.* The proposed action is expected to result in a long-term improvement in environmental quality as a consequence of eliminating cesspool systems in the area. There would be minor short-term increases in noise, emissions of air pollutants from mobile sources, and traffic congestion in the immediate area of construction.
8. *The proposed action does not involve a commitment to larger actions, nor would cumulative impacts result in considerable effects on the environment.* The proposed action is itself part of a larger facilities plan which is intended to

reduce the environmental effects of disposal of domestic wastewaters into cesspools.

9. *No rare, threatened or endangered species or their habitats would be affected.* The project site is in a mostly residential area. The pump station site is a grassy lot with a few small introduced trees. The force main and gravity sewer line would be installed beneath and/or along the shoulder of existing roadways. No protected species or important habitat would be affected.
10. *Air quality, water quality or ambient noise levels would not be detrimentally affected.* Each of these environmental characteristics would be affected by the proposed action, but to insignificant degrees. Operation of heavy equipment and other vehicles associated with the action would temporarily elevate ambient noise and concentrations of exhaust emissions in the immediate vicinity of the site during construction. Dewatering operations would increase freshwater delivery to coastal waters. Mitigation measures have been included in the design of the facilities to ensure compliance with applicable regulations.
11. *The project would not affect environmentally sensitive areas, such as flood plains, tsunami zones, erosion-prone areas, geologically hazardous lands, estuaries, fresh waters or coastal waters.* Part of the rationale for the project is to replace a sewage pump station which now sits within the 100-year flood hazard zone. No environmentally sensitive areas would be significantly affected.

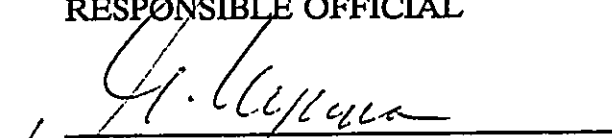
E. Supplementary Information

The Environmental Assessment (EA) for the proposed action and the results of the coordination undertaken with affected agencies and parties are attached to support the determination of a Negative Declaration.

F. Name, Address and Phone Number of Contact Person

Department of Wastewater Management  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813  
Richard Leong, (808) 527-5863

RESPONSIBLE OFFICIAL

  
Kenneth M. Rappolt  
Director

10-1-93  
Date

FINAL  
ENVIRONMENTAL ASSESSMENT

FOR


**KAHALUU HOUSING WASTEWATER  
PUMP STATION, FORCE MAIN  
AND SEWER COLLECTION SYSTEM**

Kaneohe, Koolaupoko, Oahu, Hawaii  
Tax Map Key: 4-7-37:24

Proposing Agency: **DEPT. OF WASTEWATER MANAGEMENT  
CITY AND COUNTY OF HONOLULU  
650 SOUTH KING STREET  
HONOLULU, HAWAII 96813**

This Document is prepared pursuant to Chapter 343, HRS.

Responsible Official:

  
\_\_\_\_\_  
Kenneth M. Rappolt  
Director, DWWM

10-1-93  
Date

Prepared by  
GK & Associates/  
SSFM Engineers, Inc.

## TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
1.0 Project Description	
1.1 Background .....	1
1.2 Pump Station .....	4
1.3 Force Main .....	5
1.4 Collection System .....	5
1.5 Project Cost and Schedule .....	6
2.0 Summary Description of the Affected Environment, Potential Environmental Impacts and Mitigation Measures	
2.1 Existing Site and Land Use .....	7
2.2 Topography and Soils .....	15
2.3 Climate and Air Quality .....	15
2.4 Water Resources .....	16
2.5 Flora and Fauna .....	18
2.6 Archaeology and Historical Sites .....	19
2.7 Social and Economic Environment .....	19
2.8 Recreational Activities .....	20
2.9 Utilities .....	20
2.10 Noise .....	20
2.11 Traffic .....	21
2.12 Views .....	22
2.13 Odor .....	22
3.0 Summary of Major Impacts and Alternatives Considered	
3.1 Major Impacts .....	23
3.2 No Action .....	23
3.3 Delayed Action .....	23
3.4 Alternate Designs .....	23
4.0 Preliminary Determination and Justification .....	24
5.0 List of References .....	26
6.0 List of Consulted Parties	
6.1 Pre-Assessment Consultation .....	27
6.2 Draft EA Review .....	28

**FIGURES**

1. Project Location .....	2
2. Project Site Showing Proposed Facilities .....	3
3. Existing Pump Station .....	7
4. Flood Hazard Map .....	9
5. Proposed Pump Station Site Looking East Across Kahekili Highway .....	10
6. Proposed Pump Station Site Looking South Across Ahuimanu Road .....	11
7. Proposed Pump Station Site Looking West From Okana Road .....	12
8. Proposed Force Main Route Looking South to Ahuimanu WWTP .....	13
9. Pipe Bridge Over Ahuimanu Stream Where Force Main Will Be Suspended ...	13
10. Proposed Gravity Sewer Line Route Looking East Along Ahuimanu Road ....	14
11. Proposed Gravity Sewer Line Route Looking West Along Ahuimanu Road ....	14
12. Ahuimanu Stream Looking Downstream .....	18

## 1.0 PROJECT DESCRIPTION

### 1.1 BACKGROUND

The proposed project consists of construction of a wastewater pump station (WWPS) at the intersection of Kahekili Highway, Ahuimanu Road and Okana Road (also known as Kahaluu Cutoff Road) and installation of a force main along Kahekili Highway from the proposed WWPS to the Ahuimanu Wastewater Treatment Plant (WWTP), a distance of approximately one third of a mile (SSFM Engineers, 1993). The new WWPS site is at Tax Map Key (TMK) 4-7-37:24. The proposed pump station will replace the existing Kahaluu Low-Rent Housing (temporary) package sewage pump station that was constructed by the State and is located within the Federal Emergency Management Agency (FEMA) designated floodway. A collection system from the vicinity of the existing pump station to the new pump station will be required. The WWPS and force main are being sized to accommodate the additional flows which will be realized upon extension of the gravity sewer system to mauka residential areas (Kahaluu Sewers Improvement District, Section 5 and portions of Section 4) now serviced by individual cesspools. The project location is shown on Figure 1.

The existing package pump station will remain in service during the period of construction. When the new system is operational, the old pump station will be removed, and the site restored and landscaped. The existing force main will be abandoned in place.

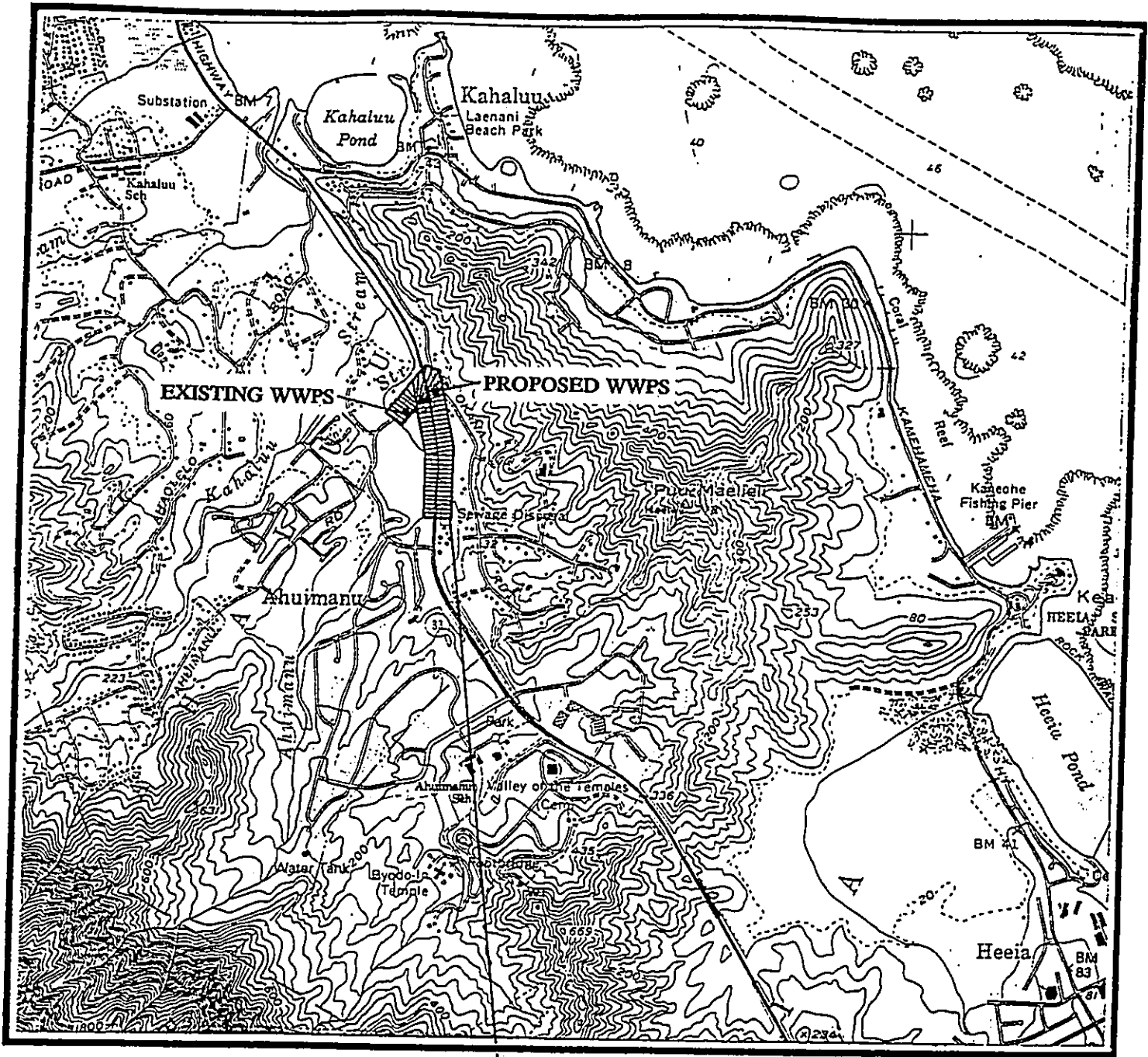
The pump station, force main and gravity sewer are being sized for a maximum population of 5,522 people within Kahaluu Sewers Improvement District Sections 4 (portion) and 5, and Hui Koolau and "A Country Place" cluster subdivisions. Inflow and infiltration have been accounted for in sizing the facilities. Design capacities are 0.552 MGD (383 gpm) average flow; 1.680 MGD (1,167 gpm) maximum flow; and 2.110 MGD (1,465 gpm) peak flow.

This project and the installation of new gravity sewers into Kahaluu Sewers I.D. Section 4 will proceed concurrently, and should be completed at approximately the same time. Once all facilities are operational, owners of affected houselots will be notified and will have 90 days within which to connect into the system. Subsequently, the use of cesspools will no longer be permitted in these areas.

It is planned that both the Ahuimanu WWTP and the Kaneohe WWTP will be converted into combined preliminary treatment facilities-pump stations, sending all flows to the Kailua WWTP. The Kailua plant is currently undergoing upgrading and expansion to accommodate these additional flows. The expansion of the Kailua WWTP will be complete by December 31, 1993, well before the scheduled completion of the Kahaluu Housing WWPS in 1997.



FIGURE 1  
PROJECT LOCATION

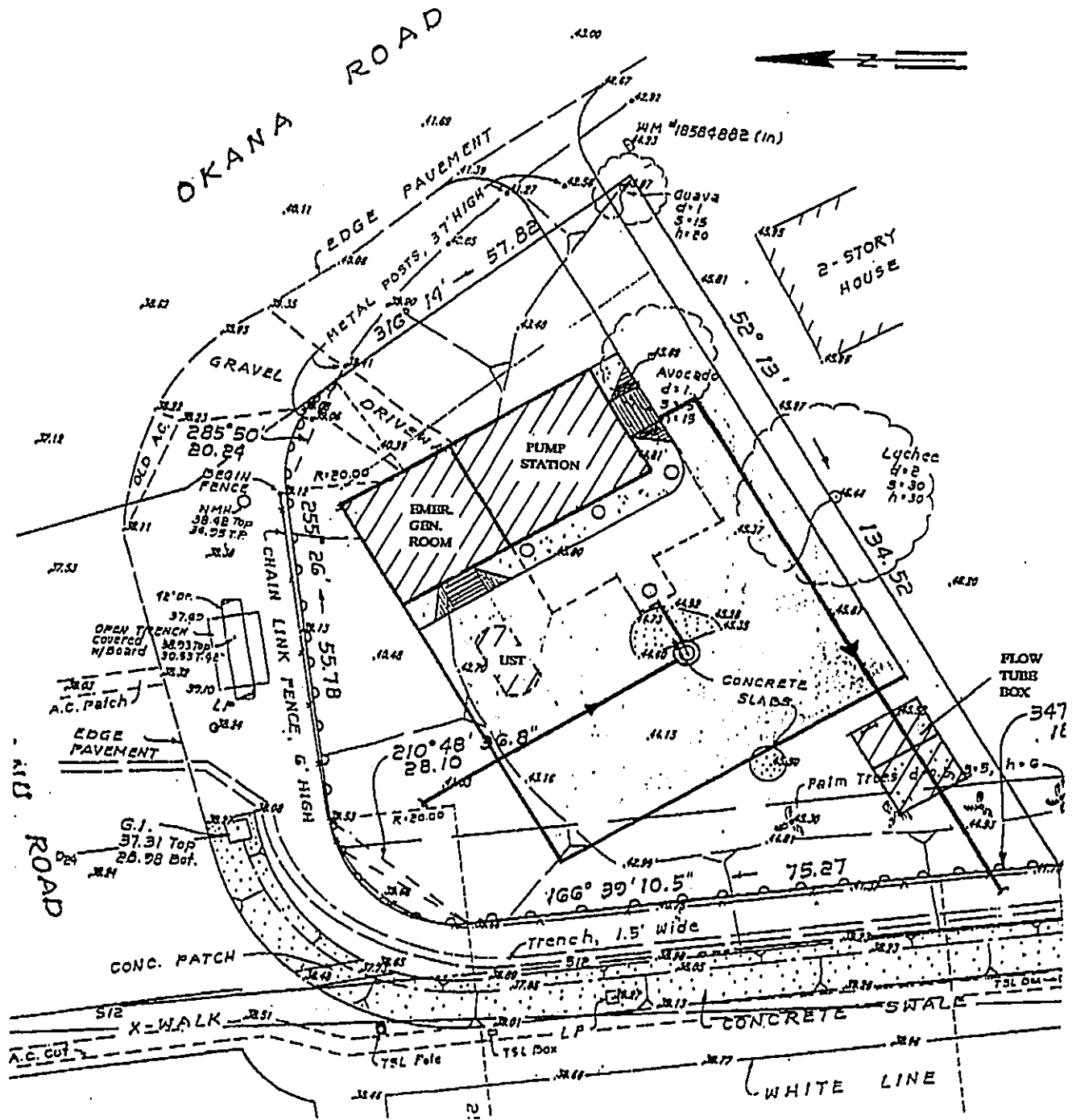


GENERAL PROJECT LOCATION



SCALE  
1" = 2,000'

**FIGURE 2**  
**PROJECT SITE SHOWING PROPOSED FACILITIES**



## 1.2 PUMP STATION

The pump station will consist of a pump station building, dry well, wet well, venturi/bypass chamber, driveway (large enough for tanker trucks), turnaround/parking area, electrical and telemetering control facilities, an emergency electrical generator and fuel storage, restroom, service sink and dry storage area. The station building, with a 22 foot by 46 foot footprint, will be oriented with its longitudinal axis perpendicular to the south property line. It thus presents its dominant side, approximately 16 feet high, towards Kahekili Highway. The site layout is shown in Figure 2. Access will be from Okana Road along a 12 foot asphalt driveway, as the State Department of Transportation restricts access from Kahekili Highway. A turnaround area and two parking stalls will be provided, as will concrete curbs and sidewalks around the building. A five foot high hollow tile wall will enclose the station. Gravel will be used as ground cover over some areas of the property where root intrusion is a concern, but other areas will be landscaped.

Below grade, a 30' X 18' X 35.5' high dry well will house the pumps, discharge piping, valving and appurtenances, and instrumentation. The dry well will enclose three identical pumps with capacities of 1100 gpm at 42 feet. Two 20 horsepower pumps will pump 1465 gpm at 49 feet through discharge nozzles of 6 inch diameter. The third pump will function as a standby in the event of excessive flows, or if one or both of the other pumps malfunction or require maintenance. Adjacent to the dry well will be a smaller wet well, divided into two compartments for ease of maintenance. The basement floor elevation will be approximately 36 feet below the existing ground elevation, or about 7.5 feet above Mean Sea Level (MSL). As further discussed below however, excavations for the building and sewer lines will extend below the dike-impounded groundwater table.

A 75 KW standby diesel generator will be provided for backup electrical service in the event of a commercial power failure. A combination automatic transfer/bypass switch will be provided for automatic generator start, transfer and stop. The bypass feature will enable operations personnel to maintain and safely test the transfer switch. A 200 amp receptacle and disconnect switch will also be provided to allow a portable generator to be connected in the event that the permanently installed standby generator fails or for load testing.

A 1,000 gallon, double-walled, fiberglass reinforced polyethylene (FRP) underground fuel storage tank with double wall piping will be installed to provide seven days of fuel for the standby generator. The installation will comply with all requirements for spill and overfill protection, and the tank will be fitted with an electronic leak detection system. The tank will be located adjacent to the generator room under the asphalt turnaround/parking area. A 50 gallon day tank with pump will be located within the generator room and serve to transfer the fuel from the underground tank to the generator. A standby pump will be provided for the day tank.

Appropriate indicator lights, alarms, recorders and other instrumentation will be provided for management and maintenance of the station. Instrumentation will be housed in a Motor Control Center located on the motor room floor at ground elevation (approximately 45.0 feet). Telemetry equipment will be provided for remote monitoring, control and alarm response via the Kailua Wastewater Treatment Plant to the Sand Island Wastewater Treatment Plant SCADA system.

### 1.3 FORCE MAIN

The 1,820 foot long, 12-inch, high density polyethylene (HDPE) pipe force main is proposed to exit the pump station at an invert elevation of approximately 38 feet. A venturi flow meter and bypass connections, located in an open top chamber, will be installed to measure the pumped flow rates and permit pumping with a portable pump from the wet well to the force main should the station's pumps become inoperative. An air release valve will be provided within the flow meter chamber at the high point of the force main before it drops to the highway. Discharge piping from the air release valve to the wet well will prevent spills within the flow meter chamber. Outside the pump station site the force main will parallel Kahekili Highway to the Ahuimanu WWTP, staying within the shoulder and lying adjacent to an existing 12-inch force main from the Kahaluu WWPS. The force main will cross over Ahuimanu Stream, suspended on pipe supports attached to the existing pipe bridge containing the 12-inch sewer force main. The pipe bridge lies adjacent to the automobile bridge. This portion of the force main will consist of stainless steel welded pipe. Coordination with the State Department of Transportation will be required. Excavation within the State highway will require a permit from the Department of Transportation.

### 1.4 COLLECTION SYSTEM

The gravity sewer system of Section 4 of the Improvement District is presently designed to terminate approximately 200 feet southwest of the existing pump station. To accommodate relocation of the WWPS, the gravity sewer system will be extended from the previous termination point to the wet well of the new pump station, a distance of approximately 1,030 feet. Only 100.5 feet of this new gravity sewer is included in this project for costing purposes; the remainder is included in ID Section 4. As presently proposed, the 18-inch polyurethane-lined ductile iron pipe will be buried beneath Ahuimanu Road at depths ranging from 15 to 28 feet. To avoid major traffic impacts, the pipe will be installed under Kahekili Highway without trenching using one of several possible methods including jacket and boring, tunneling or microtunneling.

## 1.5 PROJECT COST AND SCHEDULE

Excluding costs of land acquisition but including appropriate contingency factors, the expected costs of the project are as follows.

Gravity Sewer System (100.5 LF 18-inch) .....	\$144,500
Force Main (1675 LF 12-inch HDPE, 167 LF 12-inch SST, pipe support)	201,800
Pump Station	
Clearing, Grubbing and Grading .....	9,100
Excavation and Backfill .....	428,600
Site Work .....	58,200
Landscaping .....	28,000
Pump Station Structure .....	1,306,500
Equipment, Piping and Appurtenances .....	173,000
Venturi/Bypass Chamber and Appurtenances .....	50,000
Electrical and Telemetry Equipment .....	103,900
Standby Generator and Fuel System .....	105,000
Contingency (20%) .....	<u>\$521,700</u>
Total Estimated Cost .....	<u>\$3,130,000</u>

The anticipated schedule for completion of design and construction is as follows.

Design Completion .....	1994
Begin Construction .....	1996
Complete Construction .....	1997

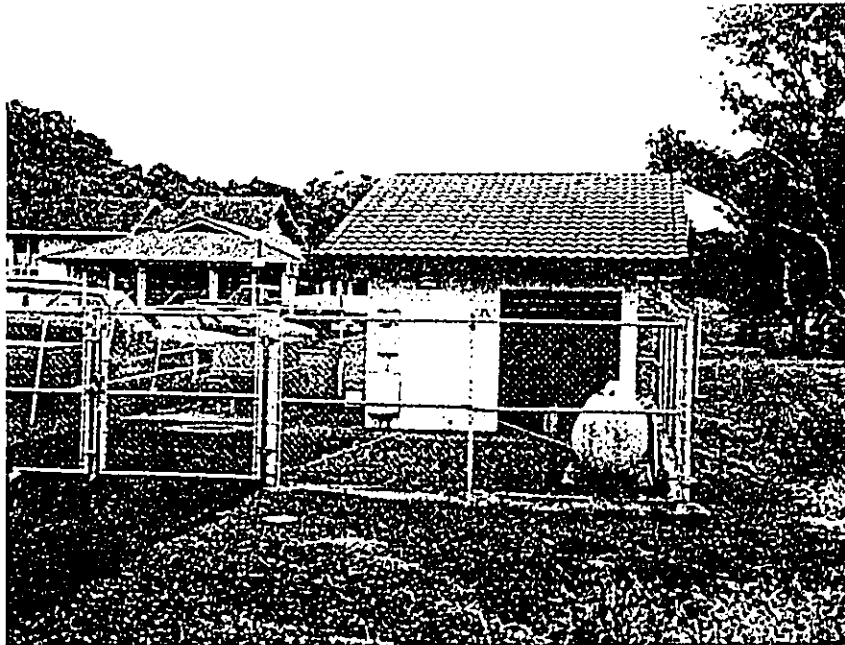
## 2.0 SUMMARY DESCRIPTION OF THE AFFECTED ENVIRONMENT, POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

### 2.1 EXISTING SITE AND LAND USE

#### Existing Pump Station Site

The existing pump station is located on Ahuimanu Road, adjacent to Ahuimanu Stream drainage channel just downstream of Kahekili Highway. The site encompasses an area of 5,377 square feet, but the pump station itself only occupies the 1,247 square feet enclosed in a fenced area 29 feet by 43 feet. Existing facilities and site improvements include a generator building, a 288 gallon propane tank, asphalt pavement, concrete pads and sidewalks, and gravel fill. The package (meaning prefabricated rather than built in place) pump station is underground with only the entrance manway visible (Figure 3). These facilities are sized to accommodate the flows from the Kahaluu Low-Rent Housing project and Hui Koolau Street sewers. The site of the existing pump station is within the 100-year floodway (Figure 4). To mitigate this potential hazard and keep the pump station at this site would require over 11 feet of fill.

FIGURE 3  
EXISTING PUMP STATION



### Proposed Pump Station Site

The proposed pump station site (Tax Map Key 4-7-37:24) is southeast of the intersection of Kahekili Highway, Ahuimanu Road and Okana Road, and encompasses an area of approximately 9,485 square feet. The site is relatively level and presently vacant. Ownership of the parcel has been transferred from the State to the City. The site is surrounded by roadways except for a residence to the south. Elevations on the site range from 46 feet along the adjacent property line to 39 feet along the roadways. Embankments remaining from roadway cuts give the site and those to the south an elevated appearance. The only permanent features on the site are a few small palm trees, an avocado tree and a concrete pad. The site appears well maintained and is presently used as an additional access and parking area by the neighbors (Figures 5, 6 and 7).

According to correspondence with the City's Department of Land Utilization concerning the proposed new site:


*The southern portion of the WWPS site (approximately 80 percent of the parcel), is located in a Special Flood Hazard Area (SFHA) of the Federal Flood Insurance Rate Map (FIRM) Panel No. 150001-0055-B, effective September 4, 1987. The SFHA is designated as Zone AE (Flood Fringe District) with a regulatory flood elevation of 42 feet NGVD. The remaining northern side of the parcel is designated Zone X (shaded), areas of 500-year flood, or areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile, or areas protected by levees from 100-year flood.*

*Construction of the proposed WWPS in Zone AE (Flood Fringe District) is subject to compliance with provisions of Section 7.10 of the LUO. A registered professional architect or engineer shall develop or review the design, specifications and plans and certify that the design and methods of construction are in accordance with accepted standards of practice for meeting the provisions of the Flood Hazard District regulations under Sec. 7.10 (LUO).*

The proposed pump station site is in the state's Urban Land Use District, as are all parcels adjoining the routes of the gravity sewer line and force main. City and County zoning of the pump station site is Country; the neighborhood is a mixture of parcels zoned Residential (R-10) and General Agriculture (AG-2). The site is designated agricultural on the County's Development Plan Land Use Map, and is consistent with the wastewater pump station designation on the Koolaupoko Development Plan Public Facilities Map. According to Honolulu's Land Use Ordinance (DLU, 1986), utility installations of Type A are a principal permitted use in Country zones as they are in either R-10 Residential or AG-2 Agricultural zones. Type A utility installations are those having minor impacts on adjacent land uses, and include wastewater pump stations. Maximum permitted building heights are 25 feet with adequate setbacks. The maximum permitted building area is 25% of the lot for non-agricultural structures. The proposed pump station would have a maximum height

**FIGURE 4  
FLOOD HAZARD MAP**

**LEGEND**

 SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD

**ZONE A** No base flood elevations determined.

**ZONE AE** Base flood elevations determined.

 FLOODWAY AREAS IN ZONE AE

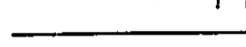
 OTHER FLOOD AREAS

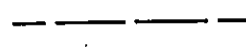
**ZONE X** Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.

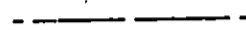
 OTHER AREAS

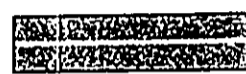
**ZONE X** Areas determined to be outside 500-year flood plain.

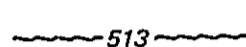
**ZONE D** Areas in which flood hazards are undetermined.

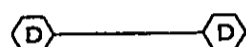
 Flood Boundary

 Floodway Boundary

 Zone D Boundary

 Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Different Coastal Base Flood Elevations Within Special Flood Hazard Zones.

 Base Flood Elevation Line; Elevation in Feet\*

 Cross Section Line

(EL 987)

RM7<sub>X</sub>

Flood Boundary

Floodway Boundary

Zone D Boundary

Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Different Coastal Base Flood Elevations Within Special Flood Hazard Zones.

Base Flood Elevation Line; Elevation in Feet\*

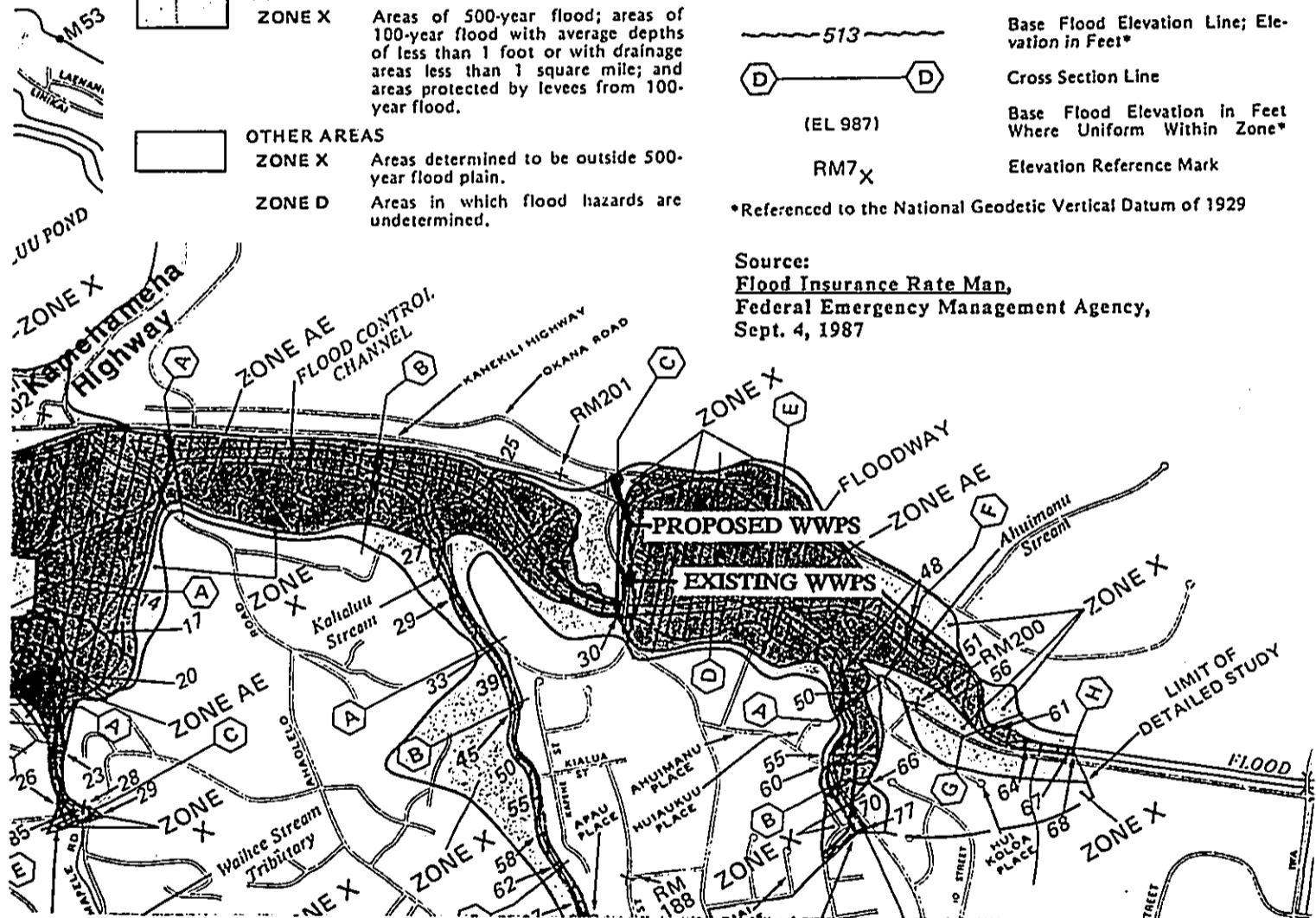
Cross Section Line

Base Flood Elevation in Feet Where Uniform Within Zone\*

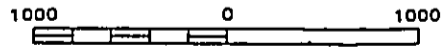
Elevation Reference Mark

\*Referenced to the National Geodetic Vertical Datum of 1929

Source:  
Flood Insurance Rate Map,  
Federal Emergency Management Agency,  
Sept. 4, 1987

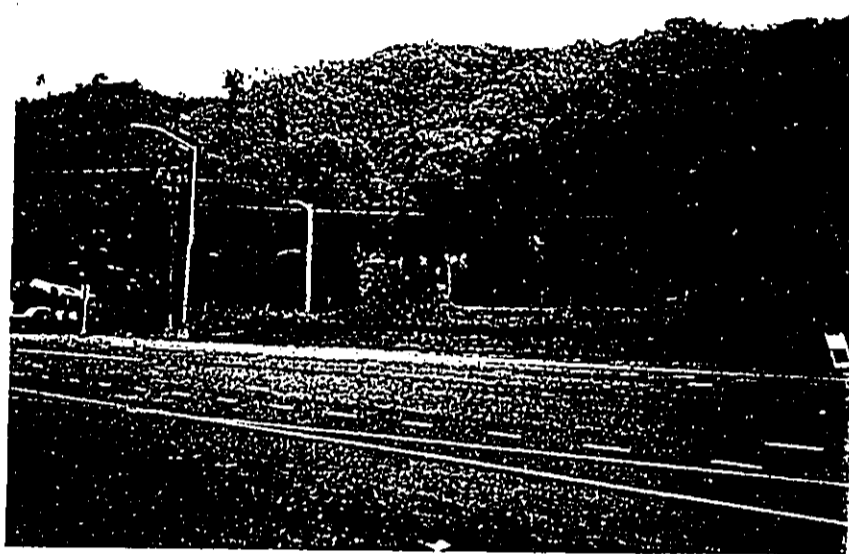


APPROXIMATE SCALE IN FEET





**FIGURE 5**  
**PROPOSED PUMP STATION SITE LOOKING EAST ACROSS KAHEKILI HIGHWAY**



of 16 feet and a footprint of 22 feet by 46 feet. The building area would therefore be 1,012 square feet, or 10.7% of the 9,485 square foot lot. The proposed design, therefore, complies with the applicable provisions of the LUO.

There will be no long-term interference with any existing or proposed use of surrounding properties, although during construction vehicular access to adjoining roadways or driveways may be occasionally hampered by trenching, repaving, construction materials deliveries, etc. Installation of the proposed force main along side Kahekili Highway (Figures 8 and 9) will have very minor impacts upon traffic and access, but the gravity sewer line will run beneath Ahuimanu Road (Figures 10 and 11) creating relatively greater inconveniences for residents of adjacent lots.

FIGURE 6  
PROPOSED PUMP STATION SITE LOOKING SOUTH ACROSS AHUIMANU ROAD

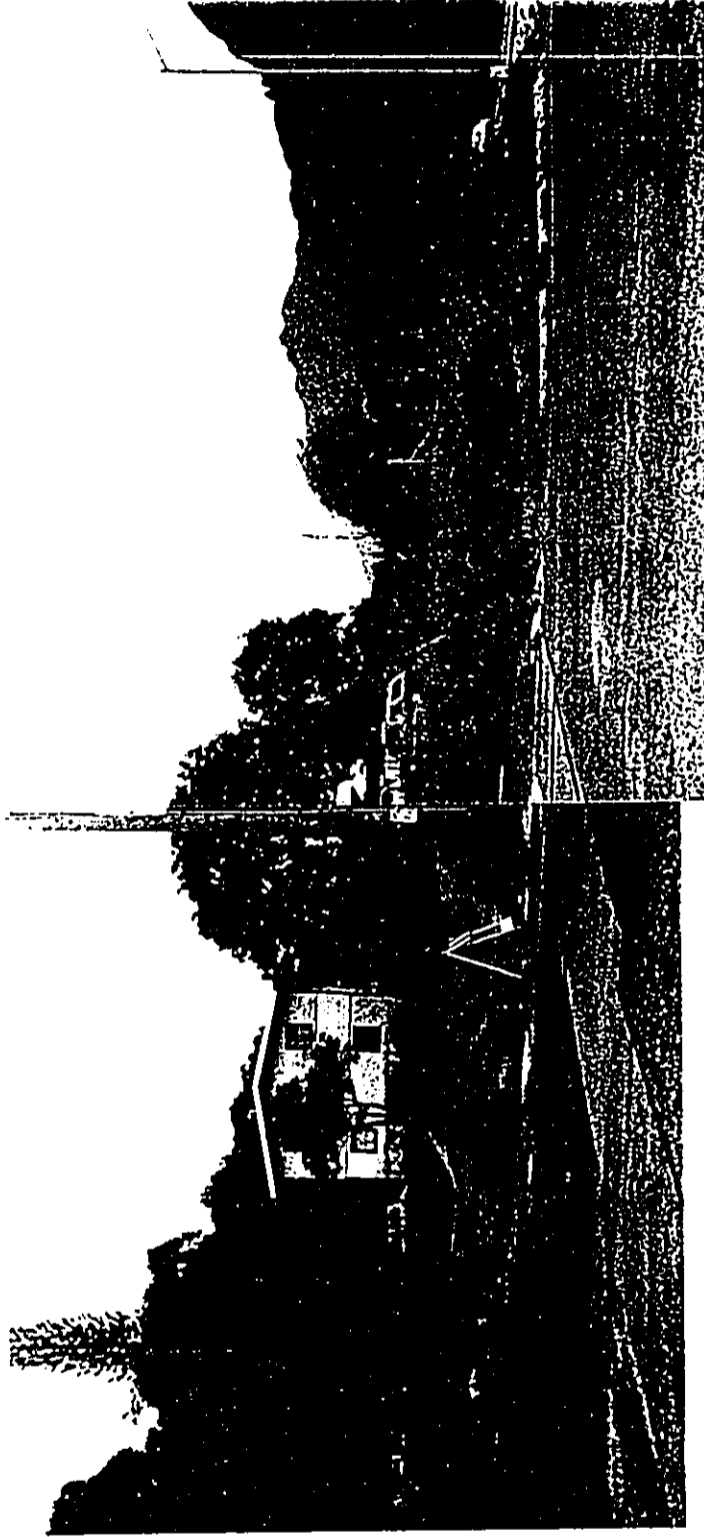


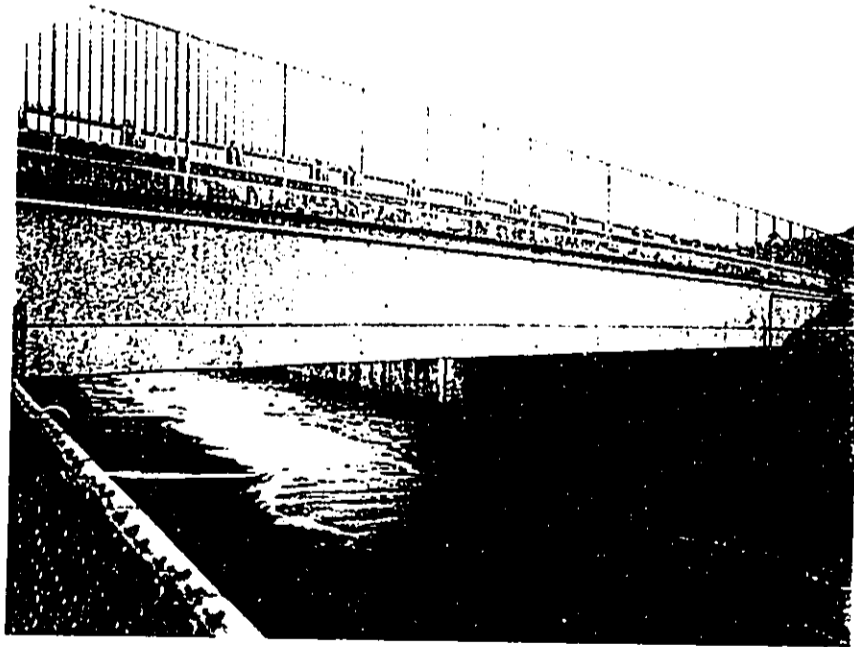
FIGURE 7  
PROPOSED PUMP STATION SITE LOOKING WEST FROM OKANA ROAD



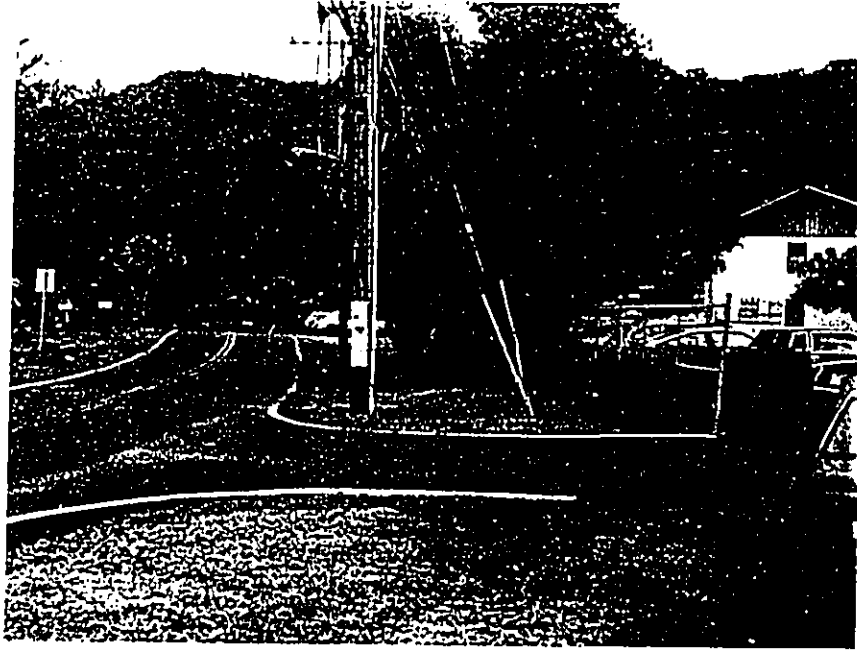
**FIGURE 8  
PROPOSED FORCE MAIN ROUTE LOOKING SOUTH ALONG  
KAHEKILI HIGHWAY TOWARDS AHUIMANU WWTP**



**FIGURE 9  
PIPE BRIDGE OVER AHUIMANU STREAM  
WHERE FORCE MAIN WILL BE SUSPENDED**



**FIGURE 10**  
**PROPOSED GRAVITY SEWER LINE ROUTE LOOKING EAST ALONG**  
**AHUIMANU ROAD FROM THE EXISTING PUMP STATION SITE**



**FIGURE 11**  
**PROPOSED GRAVITY SEWER LINE ROUTE LOOKING WEST ALONG**  
**AHUIMANU ROAD FROM KAHEKILI HIGHWAY**



## 2.2 TOPOGRAPHY AND SOILS

A geotechnical investigation of the pump station site and force main route was completed in January, 1993 (Geolabs-Hawaii, 1993). The proposed pump station will bear on very stiff to hard saprolite deposits. The proposed sewer line and force main will be underlain by stiff to medium dense alluvial deposits, with the exception of the western and southern portions of the project area, which are underlain by soft lagoonal deposits.

Groundwater levels were encountered above the proposed gravity sewer line invert elevations and the pump station basement floor elevation. Consequently, excavations will be temporarily shored with interlocking steel sheetpiling and cross-bracing. The sheetpiling and bracing system will have to comply with all applicable safety requirements. Dewatering will be required prior to installation and backfill of gravity sewer lines and construction of the sewage pump station below the groundwater levels.

Site grading will be required to limit the slope of the access driveway to 8%, but will be otherwise minimized. Maximum changes in elevation will be less than two feet. The existing drainage pattern will be maintained. Runoff flows down the embankments to a concrete-lined channel and grate inlet at the corner of Ahuimanu Road and Kahekili Highway.

Adherence to the City's Grading Ordinance, prompt paving and revegetation, and possibly scheduling site work during expected dry weather months would reduce erosion and sediment transport. The contractor will be required to prepare an erosion control plan prior to receiving a grading permit.

An NPDES General Permit under DOH Chapter 55 will be required for "Discharges Associated with Construction Activity Dewatering." Similarly, an NPDES General Permit will be required for "Discharges of Hydrotesting Waters." However, as the project would involve disturbance of less than five acres of total land area, an NPDES Permit for "Discharges of Storm Water Associated with Construction Activity" is not required.

## 2.3 CLIMATE AND AIR QUALITY

The climate is characterized by the persistence of trade winds, a strong gradient of increasing rainfall from the coast to the mountains, a concomitant gradient from sunny coastal areas to persistent cloudiness over nearby mountain crests, equable temperatures from day to day and season to season, and the infrequency of severe storms. Northeasterly trade winds prevail throughout the year, although their average frequency varies from more than 90 percent during the summer to only 50 percent in January. Annual rainfall in the project area averages about 75 inches (Univ. of Hawaii, 1983).

Air quality in Windward Oahu is generally very good due to the lack of stationary sources of pollutants and the effects of the tradewinds. During periods of light or calm

winds, however, "hot spots" where air pollutants may exceed short-term standards can occur in areas of traffic congestion.

Exhaust emissions during construction would be generated from vehicles and construction machinery. Fugitive dust will be generated during earthmoving activities and as a result of vehicular traffic.

Impacts due to exhaust emissions should be minimized by keeping all equipment properly tuned and maintained, as well as by minimizing unnecessary idle time. The contractor will be required to comply with Hawaii Administrative Rules 11-60 "Air Pollution Control" which contains restrictions on visible emissions from motor vehicles and fugitive dust generation.

To reduce fugitive dust emissions, exposed surfaces should be kept well watered whenever feasible. Wet cutting or dry cutting with other dust control measures should be used for asphaltic concrete pavements. The City and County of Honolulu will include special provisions in the construction contract to minimize fugitive dust emissions and erosion from trenching, stockpiling and other operations.

Once operational, the standby engine generator will be the only stationary source of air pollutants at the pump station. Standby engine generators of the type proposed are specifically exempt from permit requirements associated with construction and operation of a stationary source (Section 11-60-40, HAR).

## 2.4 WATER RESOURCES

According to Takasaki (1977), groundwater in the project area is mostly dike-impounded, moving into streams at elevations above 150 feet. Borings taken in the geotechnical survey (Geolabs-Hawaii, 1993) indicated the occurrence of groundwater at a depth of about 22 feet below the existing ground surface at the pump station site. Temporary dewatering of the site will be required. Pumping will have to be carefully monitored to insure that only clear water is pumped. Excessive pumping, which removes soil fines, may result in damage to the sides or bottom of the excavation. The following criteria were recommended to aid selection of the method of dewatering by the contractor.

- The method should result in the least disturbance or damage to the adjacent existing structures.
- The method should maintain stability of, and also provide safe and dry working conditions in the excavations.
- The method should be sufficiently flexible to allow modifications to accommodate various ground conditions.

The potential impact of the dewatering system selected on depressing the natural groundwater table must be carefully evaluated by the contractor prior to dewatering. Construction monitoring will be required; recommendations are as follows.

Prior to Excavations

- Conduct a photographic survey of existing buildings and structures adjacent to the proposed excavations to document present conditions.
- Install inclinometer casings at about 75 foot intervals along proposed gravity sewer and force main alignments to establish reference points for movement.
- Install settlement markers adjacent to existing structures.
- Install sets of two (2) observation wells perpendicular to and on each side of the proposed excavations to permit direct observations of the groundwater drawdown effect of dewatering.
- Employ a geotechnical engineer to observe sheetpiling installations.

During Excavations and Backfilling

- Monitor existing structures, inclinometer readings, settlement markers and observation wells and report any unusual findings immediately.
- Employ a geotechnical engineer to monitor critical work items such as sheetpile and bracing installation, dewatering, and backfilling. Recharging or pumping water back into the ground below the existing structures should be considered if dewatering adjacent to trench and basement excavations are found to create significant drawdown effects in the vicinity.

Post-Construction Monitoring

- All field instrumentation should be maintained in place and monitored on a biweekly basis for two months after the trench excavations have been backfilled and the basement structure completed. If no significant ground movement is detected, monitoring may then be discontinued.

Correspondence with the Army Corps of Engineers indicates that no Department of the Army permit will be required consequent to the Clean Water Act, the Rivers and Harbors Act of 1899, or the Marine Protection, Research and Sanctuaries Act.

Ahuimanu Stream passes under Kahekili Highway between the proposed pump station site and the Ahuimanu WWTP. The force main would be suspended from the pipe bridge over the stream. Ahuimanu Stream joins the other tributaries of the Kahaluu Stream system before discharging to Kaneohe Bay north of Kahaluu Pond. The Ahuimanu Stream and other tributaries of the Kahaluu Stream system are completely channelized through the project area and well upstream for flood control purposes. The streams are perennial, with natural flow to Kaneohe Bay year-round. The lined channels characteristic of the streams in the Kahaluu Stream system however, tend to spread the low-flow water into a thin sheet that provides no shelter for native fishes or crustaceans and causes excessive solar heating (Timbol and Maciolek, 1978) (Figure 12). In addition, along Ahuimanu Stream upstream



of the project site are elevated culverts which prohibit passage of those organisms requiring passage back and forth to the sea for completion of their life cycles.

Nevertheless, The Nature Conservancy of Hawaii reports that Kahaluu Stream is a rare natural community, and is recorded in the Hawaii Heritage Program Database as housing native stream species. Further, it is ranked "outstanding" by the Hawaii Stream Assessment Report.

## 2.5 FLORA AND FAUNA

The project site is within an area developed for residential and agricultural uses. No native habitat exists on the site or in immediately surrounding areas. The introduced grasses, shrubs and trees which prevail in the area provide some degree of habitat for the

**FIGURE 12**  
**AHUIMANU STREAM LOOKING DOWNSTREAM (NORTH) FROM THE BRIDGE,**  
**A SMALLER FLOOD CONTROL CHANNEL JOINS AT LEFT**



typical array of exotic birds and mammals that one would expect at this elevation and in this type of environment throughout the island. No candidate, endangered or threatened plant or animal species are known to exist on the site or use the site as habitat.

## 2.6 ARCHAEOLOGY AND HISTORICAL SITES

The State Historic Preservation Division was consulted in the pre-assessment process, and responded as follows:

*...A review of our records shows that there are no known historic sites at this parcel. The parcel has not been inventoried, so historic sites, especially subsurface deposits, might be present. Kahalu'u was a populous ahupua'a in traditional Hawaiian times. Recent excavations for the H3 corridor have shown that historic sites in this region are frequently buried beneath historic-era deposits. These sites include earth ovens, hearths, occupation deposits, cobble pavements, and terraces. It is possible that similarly buried historic sites are located at this parcel and along any new utilities corridors that might be excavated as part of the proposed project. Therefore, we look forward to reviewing construction plans so that we can determine whether an archaeological inventory survey will be needed to comply with the State Historic Preservation Laws.*

The gravity sewer line and the force main will be installed beneath surfaces previously excavated in the course of road construction. The proposed excavations however, may extend below previous excavations. The pump station site may have been grubbed and graded in the past, but it is unlikely that any prior excavations penetrated the ground surface to the depth planned for this project. Nevertheless, to comply with State Historic Preservation Laws, the City and County will submit construction plans to the Historic Preservation Division for evaluation of whether an inventory survey prior to construction or monitoring during construction will be necessary.

## 2.7 SOCIAL AND ECONOMIC ENVIRONMENT

The following projections are from the Department of Business and Economic Development (1988). The resident population on Oahu is projected to rise 23 percent, from 811,100 in 1985 to 999,500 in 2010. Oahu's de facto population, which includes visitors present but excludes residents temporarily absent, is projected to grow to 1,094,700 in 2010. The civilian job count, which was 473,100 in 1985, is projected to increase to 720,600 by 2010. Most gains are expected in trade, services and diversified agriculture. Per capita personal income is projected to rise from \$12,400 in 1985 to \$16,800 (in 1982 dollars) in 2010, or 35.5%.

The proposed project would provide short-term economic benefits in the form of engineering and construction jobs, and long-term benefits to nearby residents in terms of

public health and water quality. The estimated construction cost for the project is \$3,130,000 in 1993 dollars.

Expenses associated with cesspool pumping would cease, but homeowners would be assessed sewer user fees (set by City Council) and a service fee. The assessment for connection to the public sewer is currently \$0.16 per square foot. In addition, owners would be responsible for the cost of connecting their home to the City sewer system. For single family residences the current monthly user charge is composed of a base rate of \$24.85 plus a user fee of \$1.05 per 1,000 gallons of water use over the first 2,000 gallons. The City has adopted a "lifeline allowance" to assist those on a fixed income; there is no extra charge for those customers who use 2,000 gallons per month or less.

## **2.8 RECREATIONAL ACTIVITIES**

There are no public recreational facilities adjacent to the project area. Neither construction nor operation of the proposed facilities would hinder in any way use of any local or regional recreational facilities.

## **2.9 UTILITIES**

Both above ground and buried utility installations may be affected by the proposed work. Preliminary coordination with all affected utilities (electrical, water, sewer, telephone, cable TV, and gas) was done in the pre-assessment consultation, and will be continued during engineering design. The contractor will be required to verify utility locations and coordinate any temporary or permanent displacement so as to insure no interruption of service.

A two-inch water service line will be required to meet the needs of the station for lavatory, landscaping and mechanical equipment. According to consultation with the Board of Water Supply, there is presently no water meter serving the site. The availability of water will be determined when the building permit application is submitted. The applicant will be responsible for the prevailing Water System Facilities Charges and any applicable meter installation charges. The proposed project is subject to BWS cross-connection control requirements. A reduced pressure principle backflow prevention assembly should be installed immediately after the property valve prior to any branch piping. Construction plans will be submitted to the Board of Water Supply for their review and approval.

A request to Hawaiian Electric Company has been made for 480/277V, 3 phase, 4 wire service.

## **2.10 NOISE**

Preliminary engineering for the proposed project included an acoustical study (Ebisu & Assoc., 1992) which measured ambient noise at the site, reviewed acoustical design goals,

and provided acoustical recommendations. The study found that existing noise levels at the site are dominated by vehicle traffic on Kahekili Highway. Daytime background ambient noise levels ranged from 55 dBA to 78 dBA, with an average level of about 65 dBA. Nighttime traffic noise levels were estimated to be about 10 dBA less than daytime levels.

State Department of Health regulations impose daytime/nighttime noise limits of 55/45 dBA at the property line adjoining residential properties, in this case at the southern boundary of the site. The City and County of Honolulu Land Use Ordinance imposes noise regulations which are based on Octave Band Sound Levels. Converting the octave bands limits into dBA yields approximate limits of 56 dBA and 53 dBA for daytime and nighttime, respectively. The State nighttime limit of 45 dBA is therefore the most stringent of the regulations and was selected as the acoustical design goal. Recommendations presented in the Ebisu report would provide adequate daytime insulation. Additional additive treatments would be required to meet the nighttime limit. Since completion of the acoustical study, however, the pump station building site has been moved farther away from the nearest residences, and a 75 KW instead of the assumed 150 KW generator has been specified. These changes, and inclusion in the design of soundproofing recommendations in the areas of: exterior walls and roof; interior finish treatment of generator room; radiator and discharge air opening; intake air opening; exterior double door; engine exhaust mufflers; and, engine generator mounts, will allow the facility to meet regulatory noise levels.

The operation of construction equipment will raise ambient noise levels in the project vicinity. Construction equipment and on-site vehicles or devices requiring an exhaust of gas or air would have to be equipped with mufflers. In addition, all construction-related vehicles traveling on roadways must meet the vehicle noise level requirements set by the State (Hawaii Administrative Rules 11-42 "Vehicular Noise Control for Oahu").

## 2.11 TRAFFIC

Trenching across Kahekili Highway to the depth required to install the gravity sewer system would create significant disruptions of traffic flow. To avoid this potential impact, and maintain adequate traffic flow along this important arterial, a non-trenching method of pipe installation will be used in that area. Final selection of the method to be used will be based on feasibility and cost. Options include jacket and boring, tunneling and microtunneling.

Traffic along Ahuimanu Road will be affected during installation of the gravity sewer line. Standard specifications for traffic control will be used during construction. Appropriate signs and barriers will be required, and generally one lane will remain open during working hours (8:30 AM to 3:30 PM). After working hours trenches will be covered with a non-skid bridging material and all lanes will be open. It is not anticipated that off-duty police will be required for traffic control. Pedestrian traffic will be provided for. Alternate access via Ahuimanu Place is available.

Construction plans will be submitted to the State Department of Transportation and to the City and County Department of Transportation Services for review and approval of work in their respective rights-of-way.

#### **2.12 VIEWS**

The pump station site is adjacent to a major highway and two other roadways. The station building will be visible from the roads and from the surrounding residences. The City's intention is to landscape the site to blend with the surrounding area. No protected public views would be impacted.

#### **2.13 ODOR**

Although the wet well will be covered with a concrete slab, there may be minor odor problems because of the close proximity of the neighbors. To allow for future odor control should it become necessary, a vent pipe will be permanently installed through the wet well slab to above grade. This will allow future installation of a charcoal adsorber system, if necessary.

### **3.0 SUMMARY OF MAJOR IMPACTS AND ALTERNATIVES CONSIDERED**

#### **3.1 MAJOR IMPACTS**

Major beneficial impacts of the proposed project include reduction of the flood hazard to wastewater infrastructure and reduction of the amount of wastewater disposed of into cesspools. Indirectly, this will reduce potential impacts to groundwater, surface water, and coastal water resources, stream and coastal water biota, and public health, and bring additional areas of Oahu into compliance with the City's Facility Plan for Kahaluu and with the State Department of Health directives under Hawaii Administrative Rules, Title 11, Chapter 62, "Wastewater Systems."

Construction activities would create temporary negative impacts in the areas of noise, air quality, soil erosion and traffic. Mitigation measures will serve to minimize these impacts. The proposed WWPS will be visible from surrounding properties and roadways.

#### **3.1 NO ACTION**

The No Action Alternative would continue the current situation. That is, the existing pump station would remain within the 100-year flood hazard zone, and mauka houselots would continue to dispose of domestic wastewaters behind the Department of Health "No Pass" line. Both of these situations are unacceptable from both regulatory and environmental viewpoints, and this is not a viable or prudent option.

#### **3.2 DELAYED ACTION**

Delay of the project would only serve to increase its cost when construction ultimately takes place. Delaying the project would not eliminate its necessity.

#### **3.3 ALTERNATE DESIGNS**

The basic wastewater system interconnections were established in the Facilities Plan (GMP, 1984a). Given those requirements, the configuration of the site, and the space needed for the necessary facilities leaves little leeway in terms of alternative designs or site plans. The only alternative to the preferred site plan is one with the pump station building rotated ninety degrees to expose its shorter side to Kahekili Highway. While this would present a smaller profile from the highway, it would also greatly reduce the setback along that side of the property. The preferred design maximizes the setback, thereby minimizing the intrusion of the structure into the view from the highway.

#### 4.0 PRELIMINARY DETERMINATION AND JUSTIFICATION

The proposed project would not have a significant effect on the environment and therefore preparation of an environmental impact statement is not required. The "Significance Criteria," Section 12 of Hawaii Administrative Rules Title 11, Chapter 200, "Environmental Impact Statement Rules," were reviewed and analyzed. Based on the analysis, the following were concluded:

1. *No irrevocable commitment to loss or destruction of any natural or cultural resource would result.* There are no significant natural resources which would be affected by the proposed project. It involves excavating a vacant lot, trenching within the right-of-way of existing paved surfaces, and removing an obsolete pump station. There are no known historic or cultural resources on the site.
2. *The action would not curtail the range of beneficial uses of the environment.* The proposed action would increase potential beneficial uses of the environment by eliminating existing cesspool discharges mauka of the State Department of Health designated "No Pass" line, and removing a potential hazard represented by the existing pump station which is sited within the 100-year floodway.
3. *The proposed action does not conflict with the state's long-term environmental policies or goals and guidelines.* The proposed action, by incorporating the proposed mitigation measures, would have no significant negative environmental impacts. Temporary impacts associated with construction can also be adequately mitigated. The proposed action would be supportive of other state goals and guidelines in the areas of public health, pollution control, and protection of the natural and built environments.
4. *The economic or social welfare of the community or state would not be substantially affected.* The proposed project would provide short-term economic benefits in the form of engineering and construction jobs, and long-term benefits to nearby residents in terms of public health, pollution control and protection of the natural and built environments.
5. *The proposed action does not substantially affect public health.* The proposed action would benefit public health by eliminating cesspool seepage into groundwater in an area with potential potable groundwater resources.
6. *No substantial secondary impacts, such as population changes or effects on public facilities, are anticipated.* The proposed action would not affect population growth or distribution, but would simply service residential areas already existing or planned. There are no provisions for expansion of the

proposed facilities. No long-term negative effects are expected on any public facilities. The Ahuimanu WWTP, which will still be operational after completion of this project, has adequate capacity to treat the additional wastewater flows.

7. *No substantial degradation of environmental quality is anticipated.* The proposed action is expected to result in a long-term improvement in environmental quality as a consequence of eliminating cesspool systems in the area. There would be minor short-term increases in noise, emissions of air pollutants from mobile sources, and traffic congestion in the immediate area of construction.
8. *The proposed action does not involve a commitment to larger actions, nor would cumulative impacts result in considerable effects on the environment.* The proposed action is itself part of a larger facilities plan which is intended to reduce the environmental effects of disposal of domestic wastewaters into cesspools.
9. *No rare, threatened or endangered species or their habitats would be affected.* The project site is in a mostly residential area. The pump station site is a grassy lot with a few small introduced trees. The force main and gravity sewer line would be installed beneath and/or along the shoulder of existing roadways. No protected species or important habitat would be affected.
10. *Air quality, water quality or ambient noise levels would not be detrimentally affected.* Each of these environmental characteristics would be affected by the proposed action, but to insignificant degrees. Operation of heavy equipment and other vehicles associated with the action would temporarily elevate ambient noise and concentrations of exhaust emissions in the immediate vicinity of the site during construction. Dewatering operations would increase freshwater delivery to coastal waters. Mitigation measures have been included in the design of the facilities to ensure compliance with applicable regulations.
11. *The project would not affect environmentally sensitive areas, such as flood plains, tsunami zones, erosion-prone areas, geologically hazardous lands, estuaries, fresh waters or coastal waters.* Part of the rationale for the project is to replace a sewage pump station which now sits within the 100-year flood hazard zone. No environmentally sensitive areas would be significantly affected.



## 5.0 LIST OF REFERENCES

- City and County of Honolulu, Department of Land Utilization. 1986. *Land Use Ordinance*.
- Ebisu, Y. & Associates. 1992. "Preliminary Acoustical Recommendations for Emergency Generator Treatment: Kahaluu Housing Wastewater Pump Station and Force Main." Prep. for SSFM Engineers. 9pp.
- Geolabs-Hawaii. 1993. "Geotechnical Engineering Exploration, Kahaluu Housing Wastewater Pump Station and Force Main, Kaneohe, Koolaupoko, Oahu, Hawaii." Prep. for SSFM Engineers. 31 pp + Appendices.
- GMP Associates. 1984a. *Kaneohe-Kailua Wastewater Facilities Plan*. Prep. for City and County of Honolulu, Division of Wastewater Management.
- GMP Associates. 1984b. *Revised Environmental Impact Statement for Kaneohe-Kailua Wastewater Facilities*. Prep. for City and County of Honolulu, Division of Wastewater Management.
- SSFM Engineers, Inc. 1993. "Preliminary Engineering Report for the Kahaluu Housing Wastewater Pump Station, Force Main & Wastewater Collection System." Prep. for City and County of Honolulu, Department of Wastewater Management.
- State of Hawaii, Department of Business and Economic Development. 1988. "Population and Economic Projections for the State of Hawaii to 2010 (Series M-K)."
- Takasaki, K.J. 1977. "Elements Needed in Design of a Ground-Water-Quality Monitoring Network in the Hawaiian Islands." U.S. Dept. of the Interior, Geological Survey, Water Supply Paper 2041.
- Timbol, A.S. and J.A. Maciolek. 1978. *Stream Channel Modification in Hawaii. Part A: Statewide Inventory of Streams, Habitat Factors and Associated Biota*. Prep for U.S. Dept of the Interior, Fish and Wildlife Service, Office of Biological Services, Stream Alteration Project. 157pp.
- University of Hawaii, Department of Geography. 1983. *Atlas of Hawaii*. University of Hawaii Press. Honolulu. 238 pp.

## 6.0 LIST OF CONSULTED PARTIES

### 6.1 PRE-ASSESSMENT CONSULTATION

All owners of record of parcels adjoining the pump station site and force main and collector system routes were consulted by letter. In addition, the following agencies, organizations and utilities were consulted. Substantive responses are indicated below with an asterisk (\*).

#### FEDERAL AGENCIES

U.S. Department of Agriculture, Soil Conservation Service  
U.S. Army Corps of Engineers, Pacific Ocean Division  
U.S. Department of the Interior, Fish and Wildlife Service  
U.S. Department of Commerce, National Marine Fisheries Service  
U.S. Environmental Protection Agency, Pacific Islands Contact Office

#### STATE AGENCIES

Department of Accounting and General Services  
Department of Business, Economic Development and Tourism  
Department of Land and Natural Resources  
\* Department of Land and Natural Resources, State Historic Preservation Division  
\* Department of Health  
Department of Health, Environmental Management Division  
\* Department of Transportation  
Hawaii Housing Authority  
\* Office of State Planning  
University of Hawaii, Water Resources Research Center  
University of Hawaii, Environmental Center

#### COUNTY AGENCIES

\* Board of Water Supply  
Building Department  
Department of Housing and Community Development  
\* Department of General Planning  
\* Department of Land Utilization  
Department of Parks and Recreation  
\* Department of Transportation Services  
Kaneohe Neighborhood Board No. 30

## UTILITIES

Hawaiian Electric Company  
Hawaiian Telephone Company  
GASCO, Inc.  
Oceanic Cablevision

## ORGANIZATIONS

Friends of Kaneohe Bay  
Hawaii's Thousand Friends  
Hui Malama 'Aina O Ko'olau  
Kupa'a He'eia  
Life of the Land  
Sierra Club, Hawaii Chapter  
Friends of He'eia State Park  
Conservation Council for Hawaii  
Natural Resources Defense Council  
Outdoor Circle  
The Nature Conservancy of Hawaii

### 6.2 DRAFT EA REVIEW

Copies of the Draft EA were provided to the same agencies, organizations and individuals included above on the master list provided by OEQC for the pre-assessment consultation. The list was supplemented to include parties who, during the pre-assessment consultation process, requested to receive copies of the Draft EA for their review and comment. These additional parties were as follows:

Mr. Albert Heu  
Mr. Joseph Moikeha  
Mrs. Katherine Higa

Letters containing substantive comments on the Draft EA, and responses to those comments are reproduced on the following pages.

47-040 OKANA ROAD  
KANEIOHE, HAWAII 96744  
JULY 14, 1983

Mr. George Krasnick, President  
GK & Associates  
294 Awakea Road  
Kailua, Hawaii 96734

Dear Mr. Krasnick:

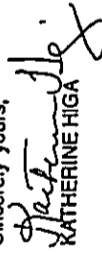
Subject: Transmittal of Draft Environmental Assessment for Kahaluu Housing  
Wastewater Pump Station, Force Main and Sewer Collection System

Thank you very much for sending me the above draft assessment. Below is a list of my concerns.

1. As a resident of Okana Road, what will be my cost of the installing a sewer line which according to your report will be mandatory. Will there be an assessment or monthly sewage fee?
2. Will the zoning of our area change?
3. Is there any reason why they cannot upgrade the Ahuimanu WWTP? The existing pump station near the Kahaluu Low-Rent Housing has a level land near it which they just cleaned up. Was that area considered?
4. If parts of that property is considered flood area, isn't it more expensive to have it there and what if it does flood?
5. Although the report says there will be no odor problem, what happens if there is electrical outage, overflow or broken pipeline?

I look forward to hearing from you regarding these concerns. I'm sure most of these concerns have been addressed and is because I really don't understand the technical language of this report.

Sincerely yours,

  
KATHERINE HIGA

# GK & ASSOCIATES

29A AWAKEA RD. • KAILUA, HAWAII 96734 • TEL/FAX (808) 262-2120

Ms. Katherine Higa  
September 17, 1993  
Page 2

September 17, 1993

Ms. Katherine Higa  
47-040 Okana Road  
Kaneohe, Hawaii 96744

Dear Ms. Higa:

Subject: Draft Environmental Assessment (DEA) for Kahaluu Housing  
Wastewater Pump Station, Force Main and Sewer Collection  
System

Thank you for your letter of July 14, commenting on the above DEA. The paragraphs below respond to your numbered concerns.

1. Costs associated with construction of the pump station, force main and sewer main will be borne by the City. Individual homeowners will be responsible for the costs associated with the lateral line, i.e., that portion of the system on the homeowners property running from the house to the sewer main. Each installation will be different because of the length of line needed and site constraints, and therefore you should consult a qualified plumbing contractor for an estimate of your costs. Additionally, homeowners will be assessed sewer user fees (set by City Council) and a service fee. As of July 1, 1993, a new rate schedule is in effect. The assessment for connection to the public sewer is currently \$0.16 per square foot. For single family residences the current monthly user charge is composed of a base rate of \$24.85 plus a user fee of \$1.05 per 1,000 gallons of water use over the first 2,000 gallons. The City has adopted a "lifetime allowance" to assist those on a fixed income; there is no extra charge for those customers who use 2,000 gallons per month or less. After connection to the sewer system, any expenses being incurred for cesspool pumping would, of course, cease. This information will be added to Section 2.7 of the Final Environmental Assessment.

2. Construction of the pump station and installation of the various sewer lines will have no effect on zoning in the area.

3. Long-range plans are to convert the Ahuimanu WWTP to a major pump station to route all sewage flows from the area to the Kailua WWTP for treatment and subsequent discharge through the Mokapu Outfall. A pump station and force main will still be required in the Kahaluu Housing area to move the sewage to the Ahuimanu facility. The area under and surrounding the existing pump station is within the 100-year floodway, and nothing

would be gained by relocating the station within the floodway. The northern portion of the proposed site, where the pump station would be constructed, is outside of the 100-year floodway in a zone of reduced flood hazard.

4. Although the southern portion of the proposed pump station site is in a Flood Fringe District, the northern portion of the site, where the pump station would be located, is outside this zone.

5. The pump station would be equipped with an emergency electrical generator which would automatically be activated in the event of a commercial power failure. In addition, provision would be made to allow a portable generator to be connected in the event of failure of both commercial power and the standby unit. In the event of a broken pipeline, the system could be shut down for repairs, and sewage pumped into tanker trucks for direct transport to the treatment plant. The volume of sewage spilled through a broken pipeline would cause an unavoidable but temporary odor problem.

Sincerely,



George Krasnick  
President

OK. 15/



294 AWAKEA RD. • KAILUA, HAWAII 96734 • TEL/FAX (808) 262-2120



1115 SOUTH STREET • SUITE 201 • HONOLULU, HAWAII • HAWAII • TEL: (808) 521-4200 • FAX: (808) 515-2910

July 15, 1993

George Krasnick  
GK & Associates  
294 Awakea Rd.  
Kailua, Hawaii 96734

Dear Mr. Krasnick,

Thank you for providing your Draft Environmental Assessment for the Kahaluu Housing Wastewater Pump Station for our review.

The Kahaluu Stream, which runs through the project area, is considered a rare natural community and is recorded in the Hawaii Heritage Program Database as housing native stream species. In addition, it is ranked "outstanding" by the Hawaii Stream Assessment Report.

If you have further questions or concerns regarding your project location or the Kahaluu Stream, you may contact the Hawaii Heritage Program.

Sincerely,

*Roy Kam*

Roy Kam  
Data Manager

RED SEA QUARTER  
5 HAWAII AVENUE  
PO BOX 21212  
AIEA, HI 96701  
ROBERT C. CHRY  
ROBERT C. CHRY

SANDRA GALE  
NANCY A. DRAK  
CAROL ANN  
FRANK J. HARRIS  
SANDY HONG

KENNETH F. LAMONTE  
LARRY E. LINDSEY  
THOMAS C. LIPPETT  
FRANK J. LINDSEY  
ALBERT J. LIPPETT

CHARLES J. PETERSON  
C. DAVID PETERSON  
H. JIMMY L. PETERSON  
LUCY L. PETERSON  
K. THOMAS PETERSON

WALTER B. BAKER  
WALTER B. BAKER  
LIZARD D. BAKER  
LIZARD D. BAKER  
LIZARD D. BAKER  
LIZARD D. BAKER

International Paper Corporation, 1115 North Lynn Street, Arlington, Virginia 22209

Recycled Paper

September 17, 1993

Mr. Roy Kam, Data Manager  
The Nature Conservancy of Hawaii  
1116 Smith Street, Suite 201  
Honolulu, Hawaii 96817

Dear Mr. Kam:

Subject: Draft Environmental Assessment (DEA) for Kahaluu Housing Wastewater Pump Station, Force Main and Sewer Collection System

Thank you for your letter of July 15, 1993 relative to the above DEA. As your comments seem to indicate a higher ecological value for Kahaluu Stream than do the references in the DEA, further clarification was sought and received from Debbie Roberts of your staff. The information provided is included in the amended Section 2.4 of the Final Environmental Assessment.

Sincerely,

*George Krasnick*

George Krasnick  
President

✓ok

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



July 21, 1993

FRANK F. FASL, Mayor  
WALTER O. WATSON, JR., Chairman  
MAURICE H. YALOWITZ, Vice Chairman  
SISTER M. DAVLYAH CHICK, D.S.F.  
JOHN W. ANDERSON, JR.  
REX D. JOHNSON  
MELISSA Y. LUM  
C. MICHAEL STREET  
KAZU HAYASHIDA  
Manager and Chief Engineer

Mr. George Krasnick  
GK and Associates  
294 Awakea Road  
Kailua, Hawaii 96734

Dear Mr. Krasnick:

Subject: Your Letter of July 7, 1993 Regarding the Draft Environmental Assessment (EA) for the Proposed Kahaluu Housing Wastewater Pump Station, Force Main and Sewer Collection System Project, TMK: 4-7-037: 024, Ahuimanu Road

Thank you for allowing us to comment on the proposed Kahaluu Housing Wastewater Pump Station project.

Our pre-assessment comments of December 21, 1992 are still applicable and are incorporated in the Draft EA. Construction plans for the project should be submitted for our review and approval.

If you have any questions, please contact Roy Doi at 527-5235.

Very truly yours,

KAZU HAYASHIDA  
Manager and Chief Engineer

**GK &  
ASSOCIATES**

294 AWAKEA RD. • KAILUA, HAWAII 96734 • TEL/FAX (808) 262-2120

September 17, 1993

Mr. Kazu Hayashida, Manager and Chief Engineer  
Board of Water Supply  
City and County of Honolulu  
630 South Beretania Street  
Honolulu, Hawaii 96843

Dear Mr. Hayashida:

Subject: Draft Environmental Assessment (DEA) for Kahaluu Housing Wastewater Pump Station, Force Main and Sewer Collection System

Thank you for your letter of July 21, 1993 relative to the above DEA. Construction plans for the project will be submitted for your review and approval, and this requirement will be specified in Section 2.9 of the Final Environmental Assessment.

Sincerely,

George Krasnick  
President

KOHA WAHAE  
CONTINUED



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

July 26, 1993

Mr. George Krasnick, President  
GK & Associates  
294 Awakea Road  
Kailua, Hawaii 96734

Dear Mr. Krasnick:

Subject: Draft Environmental Assessment for Kahaluu Housing  
Wastewater Pump Station, Force Main, and Sewer  
Collection System

Thank you for your letter of July 7, 1993, requesting our review of the subject draft EA.

The applicant should just be reminded that plans for construction work within the State highways right-of-way must be submitted for our review and approval.

Sincerely,

  
Rex D. Johnson  
Director of Transportation

REF: JOHNSON  
DIRECTOR  
DEPUTY DIRECTORS  
JOYCE F. OSWINE  
KAWAII HOLT  
CALVIN A. TSUDA  
WIRE/RYE REFER TO:  
STP 8.5367

**GK &  
ASSOCIATES**

294 AWAKEA RD. • KAILUA, HAWAII 96734 • TEL/FAX (808) 262-2120

September 17, 1993

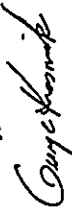
Mr. Rex D. Johnson, Director  
State of Hawaii  
Department of Transportation  
869 Punchbowl Street  
Honolulu, Hawaii 96813

Dear Mr. Johnson:

Subject: Draft Environmental Assessment (DEA) for Kahaluu Housing  
Wastewater Pump Station, Force Main and Sewer Collection  
System

Thank you for your letter of July 26, 1993 relative to the above DEA. Construction plans for the work within the State highways right-of-way will be submitted for your review and approval, and this requirement will be specified in Section 2.11 of the Final Environmental Assessment.

Sincerely,

  
George Krasnick  
President





DEPARTMENT OF THE ARMY  
U. S. ARMY ENGINEER DISTRICT, HONOLULU  
BUILDING 230  
FT. SHAFTER, HAWAII 96858-5440

REPLY TO  
ATTENTION OF:

Planning Division

July 27, 1993

Mr. George Krasnick, President  
GK & Associates  
294 Awakea Road  
Kailua, Hawaii 96734


Dear Mr. Krasnick:

Thank you for the opportunity to review and comment on the Draft Environmental Assessment for the Kahaluu Housing Wastewater Pump Station, Force Main and Sewer Collection System, Kahaluu, Oahu (FMK 4-7-37: 24). 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. After a full review of the plans and specifications, we did not find any potential for impact to regulated waters or wetlands within the Corps' jurisdiction; therefore, a DA permit will not be required for the project.

b. The flooding information presented on page 8 of the report is correct.

Sincerely,

  
Kieuok Cheung, P.E.  
Director of Engineering

**GK &  
ASSOCIATES**

294 AWAKEA RD. • KAILUA, HAWAII 96734 • TEL/FAX (808) 262-2120

September 17, 1993

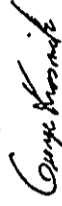
Mr. Kisuok Cheung, Director of Engineering  
Department of the Army  
U.S. Army Engineer District, Honolulu  
Building 230  
Fort Shafter, Hawaii 96858

Dear Mr. Cheung:

Subject: Draft Environmental Assessment (DEA) for Kahaluu Housing  
Wastewater Pump Station, Force Main and Sewer Collection  
System

Thank you for your letter of July 27, 1993 relative to the above DEA. Your determination that a Department of the Army permit will not be required for the proposed project will be added to Section 2.4 of the Final Environmental Assessment.

Sincerely,

  
George Krasnick  
President

DEPARTMENT OF TRANSPORTATION SERVICES  
CITY AND COUNTY OF HONOLULU

HONOLULU MUNICIPAL BUILDING  
540 SOUTH KING STREET  
HONOLULU HAWAII 96813



FRANK E. BASH  
MAYOR

JOSEPH M. MAGALDI, JR.  
DIRECTOR  
AMERICAN  
SOCIETY OF ENGINEERS

July 27, 1993

Mr. George Krasnick  
President  
GK & Associates  
294 Awakea Road  
Kailua, Hawaii 96734

Dear Mr. Krasnick:

Subject: Kahaluu Housing Wastewater Pump Station,  
Force Main and Sewer Collection System  
Draft Environmental Assessment (EA)  
THK: 4-7-37: 24

This is in response to your letter of July 7, 1993 requesting our comments on the subject draft EA.

Based on our review, we have no objections to the proposed project. Construction plans for all work within the City's right-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.

Should you have any questions, please contact Lance Watanabe of my staff at 523-4199.

Sincerely,

JOSEPH M. MAGALDI, JR.  
DIRECTOR

**GK &  
ASSOCIATES**

294 AWAKEA RD. • KAILUA, HAWAII 96734 • TEL/FAX (808) 262-2120

September 17, 1993

Mr. Joseph M. Magaldi, Jr., Director  
Department of Transportation Services  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

Dear Mr. Magaldi:

Subject: Draft Environmental Assessment (DEA) for Kahaluu Housing  
Wastewater Pump Station, Force Main and Sewer Collection  
System

Thank you for your letter of July 27, 1993 relative to the above DEA. Construction plans for work within the City's right-of-way, showing temporary detours for pedestrians and vehicles will be submitted to your department for review and approval. This requirement will be specified in Section 2.11 of the Final Environmental Assessment.

Sincerely,

George Krasnick  
President

PLANNING DEPARTMENT  
CITY AND COUNTY OF HONOLULU  
430 SOUTH KING STREET  
HONOLULU, HAWAII 96813



FRANKIE #151  
DIRECTOR

ROBIN FOSTER  
CHIEF PLANNING OFFICER  
ROLAND D. LUBY, JR.  
DEPUTY CHIEF PLANNING OFFICER

HH 7/93-1654

July 28, 1993

Mr. George Krasnick, President  
GK & Associates  
294 Awakea Road  
Kailua, Hawaii 96734

Dear Mr. Krasnick:

Draft Environmental Assessment (DEA) for  
Kahaluu Housing Wastewater Pump Station,  
Force Main and Sewer Collection System

In response to your request of July 7, 1993, we have reviewed the subject DEA and offer the following comments:

1. The proposed project site is designated for Agriculture use on the Koolaupoko Development Plan Land Use Map.
2. The proposed project is consistent with the Koolaupoko Development Plan Public Facilities Map, which shows symbols for a sewage pump station and sewer improvement district in the Kahaluu subject area.

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

Sincerely,

*Robin Foster*  
ROBIN FOSTER  
Chief Planning Officer

RF:ft

cc: Department of Wastewater Management  
Office of Environmental Quality Control

**GK &  
ASSOCIATES**

294 AWAKEA RD. • KAILUA, HAWAII 96734 • TEL/FAX (808) 262-2120

September 17, 1993

Mr. Robin Foster, Chief Planning Officer  
Planning Department  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

Dear Mr. Foster:

Subject: Draft Environmental Assessment (DEA) for Kahaluu Housing  
Wastewater Pump Station, Force Main and Sewer Collection  
System

Thank you for your letter of July 28, 1993 relative to the above DEA. We appreciate your confirmation of the information in Section 2.1 of the DEA regarding Development Plan Maps designations for the project site.

Sincerely,

*George Krasnick*  
George Krasnick  
President

UNITED STATES  
DEPARTMENT OF  
AGRICULTURE

SOIL  
CONSERVATION  
SERVICE

P. O. BOX 50004  
HONOLULU, HI  
96850-0001

**GK &  
ASSOCIATES**

294 AWAKEA RD. • KAIUA, HAWAII 96734 • TEL/FAX (808) 262-2120

August 3, 1993

September 17, 1993


Mr. George Krasnick, President  
GK Associates  
234 Awakea Rd.  
Kailua, Hawaii 96734

Dear Mr. Krasnick

Subject: Draft Environmental Assessment of Kahaluu Housing Wastewater  
Pump Station, Force Main and Sewer Collection System

We have reviewed the Environmental Assessment and have no major concerns. To prevent water quality impairment of the Kahaluu lagoon, we recommend the installation of management practices to minimize the risk of excavated material eroding into the existing drainageway.

Thank you for the opportunity to provide comment on this project which will provide improved sewage services for the Kahaluu community.

  
NATHANIEL R. CONNER  
State Conservationist

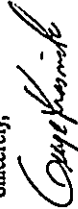
Mr. Nathaniel R. Conner, State Conservationist  
U.S. Department of Agriculture  
Soil Conservation Service  
P.O. Box 50004  
Honolulu, Hawaii 96850

Dear Mr. Conner:

Subject: Draft Environmental Assessment (DEA) for Kahaluu Housing  
Wastewater Pump Station, Force Main and Sewer Collection  
System

Thank you for your letter of August 3, 1993 relative to the above DEA. The contractor will be required to comply with all provisions of the City's Grading Ordinance. In addition, the contractor will be required to prepare an erosion control plan prior to receiving a grading permit. These measures will be adequate to minimize the impacts of sediment transport into Kahaluu Lagoon.

Sincerely,

  
George Krasnick  
President

JOHN W. ALDRIDGE  
GOVERNOR OF HAWAII



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

SEWER LINES, KAHALUU  
BOARD OF LAND AND NATURAL RESOURCES  
DEPUTY  
JOHN P. HIBBARD  
DONALD L. HANAUKE  
INDUSTRY DEVELOPMENT  
PROGRAM  
ADJUTANT GENERAL  
CONSERVATION AND  
ENVIRONMENTAL AFFAIRS  
RESOURCES DEVELOPMENT  
CONSERVATION AND  
RECREATION  
PROPERTY AND INTEREST  
ACQUISITION  
DIVISION  
LAND MANAGEMENT  
STATE PARKS  
WATER AND LAND DEVELOPMENT

August 4, 1993

George Krasnick, President  
GK & Associates  
294 Awakea Road  
Kailua, Hawaii 96734

LOC NO: 8845  
DOC NO: 93071d60

Dear Mr. Krasnick:

**SUBJECT:** Draft Environmental Assessment (DEA) for Kahaluu Housing Wastewater Pump Station, Force Main, and Sewer Collection System  
Kahaluu, Koolau, Oahu  
TRM:4-737: 24

Thank you for the opportunity to review this document. This DEA faithfully reproduces our comments during pre-assessment consultations for this project. In these comments we asked to review construction plans so that we can determine whether an archaeological inventory survey will be needed to comply with the State Historic Preservation Laws. The DEA proposes instead that the City and County include in the construction documents provisions for notification of the Historic Preservation Division upon unearthing of historic structures, artifacts or especially burials. This proposal would not comply with the State Historic Preservation Laws because identification of historic properties would be left to unspecified construction personnel who, in all probability, do not meet the minimal qualifications of an archaeologist. Also, this proposal leaves the identification of historic sites that might be present to the construction phase of the project, when the possibilities for useful data recovery or other forms of mitigation are often constrained.

Therefore, we reiterate our earlier request to review construction plans, so that we can propose, or concur with a proposal from the developer, either to complete an inventory survey prior to construction, or to institute some form of inventory survey through monitoring of construction activities by a qualified archaeologist.

If you have any questions please call Tom Dye at 587-0014.

Sincerely yours,

*Don Hibbard*  
DON HIBBARD, Administrator  
State Historic Preservation Division

TD:jt

**GK & ASSOCIATES**

294 AWAKEA RD. • KAILUA, HAWAII 96734 • TEL/FAX (808) 262-2120

September 17, 1993

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

Dear Mr. Hibbard:

**Subject:** Draft Environmental Assessment (DEA) for Kahaluu Housing Wastewater Pump Station, Force Main and Sewer Collection System

Thank you for your letter of August 4, 1993 relative to the above DEA. Section 2.6 of the Final Environmental Assessment will be amended to stipulate the requirement that construction plans be submitted for your advance review and determination whether an archaeological inventory survey will be needed.

Sincerely,

*George Krasnick*  
George Krasnick  
President

JOHN W. WELLS  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 631  
HONOLULU, HAWAII 96809

KEITH W. ANGE-CHAMBERS  
BOARD OF LAND AND NATURAL RESOURCES  
DEPT. OF LAND AND NATURAL RESOURCES  
1505 KALANIANA'OLE  
DRIVE  
HONOLULU, HAWAII 96813

AQUACULTURE DEVELOPMENT  
PROGRAM  
ADULTIC RESOURCES  
BOATING AND OCEAN RECREATION  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
CONSERVATION AND  
RESOURCES ENFORCEMENT  
DIVISION OF LAND AND NATURAL RESOURCES  
PLANNING AND DEVELOPMENT  
STATE PARKS  
WILDLIFE AND LAND DEVELOPMENT

AUG 12 1993

FILE NO.: 94-016  
DOC. NO.: 3323

REF:OCEA:SKK

Mr. G. Krasnick -2- File No.: 94-016

However, the DEA instead proposes that the City and County include in the construction documents provisions for notification of HFD upon unearthing of historic structures, artifacts or especially burials. This proposal would not comply with the historic preservation review process because identification of historic properties would be left to unspecified construction personnel who, in all probability, do not meet the minimal qualifications of an archaeologist. Also, this proposal leaves the identification of historic sites that might be present to the construction phase of the project, when the possibilities for useful data recovery, or other forms of mitigation, are often constrained.

Therefore, HFD reiterates their earlier request to review construction plans so that they can propose, or concur with a proposal from the developer, either to complete an inventory survey prior to construction, or to institute some form of inventory survey through monitoring of construction activities by a qualified archaeologist.

Division of Aquatic Resources

The Division of Aquatic Resources comments that the proposed project is adjacent to a Kahaluu stream tributary. Measures should be taken to prevent sediment loading of the stream from runoff during the construction phase. The project will be environmentally beneficial because it will relocate the existing wastewater pump station to higher ground where it will be less likely to be inundated by flooding.

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

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

Very truly yours,

*John P. Keppeler*  
JOHN P. KEPPERER  
KEITH W. ANGE

Mr. George Krasnick, President  
GK & Associates  
294 Awahea Road  
Kailua, Hawaii 96734

Dear Mr. Krasnick:

SUBJECT: Draft Environmental Assessment (DEA) for the  
Kahaluu Housing Wastewater Pump Station, Force Main  
and Collection System: Kaneohe, Oahu, TMK: 4-4-37: 34

We have reviewed the DEA information for the subject project transmitted by your letter dated July 7, 1993, and have the following comments:

Brief Description:

The proposed project involves the construction of a wastewater pump station at the intersection of Kahakili Highway, Ahimannu Road and Okana Road, the installation of a force main along approximately 1,700 feet of Kahakili Highway from the pump station to the Ahimannu Wastewater Treatment Plant. The pump station will replace the existing temporary Kahaluu low-rent housing pump station that is located within a Federal Emergency Management Agency (FEMA) designated floodway. A collection system for the area near the existing station to the new pump station will be required.

Historic Preservation Division

The Historic Preservation Division (HPD) comments that the DEA faithfully reproduces their comments made during the pre-assessment consultation for this project. In these comments, HPD asked to review construction plans so that they could determine whether an archaeological inventory survey will be needed to comply with the State Historic Preservation laws.

**GK &  
ASSOCIATES**

294 AWAKEA RD. • KAILUA, HAWAII 96734 • TEL/FAX (808) 262-2120

September 17, 1993

Mr. Keith Ahue, Director  
State of Hawaii  
Department of Land and Natural Resources  
P.O. Box 621  
Honolulu, Hawaii 96809

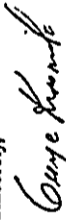
Dear Mr. Ahue:

Subject: Draft Environmental Assessment (DEA) for Kahaluu Housing  
Wastewater Pump Station, Force Main and Sewer Collection  
System

Thank you for your letter of August 12, 1993 relative to the above DEA. With respect to the comments from the State Historic Preservation Division, section 2.6 of the Final Environmental Assessment will be amended to stipulate the requirement that construction plans be submitted for advance review and determination whether an archaeological inventory survey will be needed.

With respect to the comments provided by the Division of Aquatic Resources, the contractor will be required to comply with all provisions of the City's Grading Ordinance. In addition, the contractor will be required to prepare an erosion control plan prior to receiving a grading permit. These measures will be adequate to minimize the impacts of sediment transport into the Kahaluu Stream system.

Sincerely,



George Krasnick  
President