

ENVIRONMENTAL IMPACT STATEMENT
FOR
16-INCH WATERLINE ALONG KAMEHAMEHA HIGHWAY
FROM HEEIA TO KOLOKIO STREET
KANEŌHE, KOOLAUPOKO, OAHU, HAWAII

BOARD OF WATER SUPPLY / CITY AND COUNTY OF HONOLULU



MARCH 1980

CITY AND COUNTY OF HONOLULU Office of Environmental Quality Control
BOARD OF WATER SUPPLY Office of the Governor
550 Halekauwila Street
Tani Office Building, Third Floor
Honolulu, Hawaii 96813

REVISED
ENVIRONMENTAL IMPACT STATEMENT
FOR
16-INCH WATER LINE ALONG KAMEHAMEHA HIGHWAY
FROM HEEIA TO KOLOKIO STREET
KANEOME, KOOLAUPOKO, OAHU, HAWAII

TMK: 4-6-02, 11, 18, 19, 21, 22, & 30
TMK: 4-5-14, 15, 17, 18, 19, 20, 27, 28, 50, & 71

This Environmental Document is Submitted
Pursuant to Chapter 343, HRS

PROPOSING AGENCY:

BOARD OF WATER SUPPLY
City and County of Honolulu
630 South Beretania Street
Honolulu, Hawaii 96843

Responsible Official: *Kazu Hayashida* Date 3/4/80
Kazu Hayashida
Manager & Chief Engineer

PREPARED BY:

R. M. TOWILL CORPORATION
677 Ala Moana Blvd., Suite 1016
Honolulu, Hawaii 96813

ACCEPTING AUTHORITY: Mayor City and County of Honolulu

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU

630 SOUTH BERETANIA

HONOLULU, HAWAII 96843



FRANK F. FASI, Mayor
YOSHIE H. FUJINAKA, Chairman
DAT QUON PANG, Vice Chairman
RYOKICHI HIGASHIONNA
TERESITA R. JUBINSKY
WALLACE S. MIYAHIRA
ROBERT A. SOUZA
CLAUDE T. YAMAMOTO

April 17, 1980

KAZU HAYASHIDA
Manager and Chief Engineer

Mr. Donald A. Bremner
Chairman
Environmental Quality Commission
550 Halekauwila Street
Honolulu, Hawaii 96813

Dear Mr. Bremner:

Subject: Revised Environmental Impact
Statement (EIS) for 16-Inch
Waterline Along Kamehameha
Highway From Heeia to
Kolokio Street

The revised EIS was accepted by Mayor Fasi as required by the Environmental Impact Statement Regulations. Enclosed are twenty (20) copies of the revised EIS and a copy of the letter indicating Mayor Fasi's acceptance.

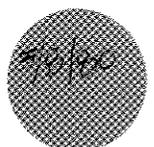
Should you have questions or require additional information, please call Lawrence Whang at 548-5221.

Very truly yours,

KAZU HAYASHIDA
Manager and Chief Engineer

Encl.

cc: R. M. Towill Corporation



APR 18 1980

RECEIVED
BO OF WATER SUPPLY
APR 3 10 45 AM '80

March 28, 1980

TO : HONORABLE FRANK F. FASI, MAYOR
VIA : EDWARD Y. HIRATA, MANAGING DIRECTOR
FROM : KAZU HAYASHIDA, BOARD OF WATER SUPPLY
SUBJECT: FINAL ENVIRONMENTAL IMPACT STATEMENT FOR
16-INCH WATERLINE ALONG KAMEHAMEHA HIGHWAY
FROM HEEIA TO KOLOKIO STREET

We recommend your acceptance of the FIS for our proposed waterline project. The environmental statement complies with all the requirements of Chapter 343, Hawaii Revised Statutes.

Enclosed for your use is a copy of the document.

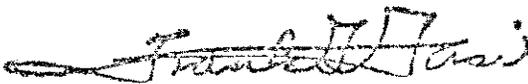
Should you have questions or require additional information, please call Lawrence Whang at 548-5221.


KAZU HAYASHIDA
Manager and Chief Engineer

CONCURRED:


EDWARD Y. HIRATA
Managing Director

ACCEPTED:


FRANK F. FASI, MAYOR
City and County of Honolulu

cc: Mr. Edward Y. Hirata
Managing Director

APR 03 1980

APR 18 1980



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SUMMARY

The 16-inch water line project along Kamehameha Highway from Heeia Street to Kolokio Street is located in Kaneohe Town on the windward side of Oahu. The project involves installation of a 16-inch distribution line, new fire hydrants, and interconnection lines with other mains.

The objective of the proposed action is to stabilize fluctuations in water pressures existing under the present system. This will improve water service and increase fire flow quantities. In addition, 9 new fire hydrants will be installed to meet hydrant spacing as specified in the Board of Water Supply's Rules and Regulations.

The project will require trenching operations along the 7,900-foot path of the pipe. Approximately 6,300 cubic yards of earth will be excavated with most of it to be used for backfill.

Estimated construction cost for the project is \$2.1 million. Funding will be from Capital Improvements Program monies of the Board of Water Supply.

The adverse impacts of the project are all of short term nature associated with construction activities. The benefits derived are of long term nature and is felt to outweigh the temporary inconveniences. In addition, mitigative measures will be taken to minimize the adverse impacts.

Other alternatives suggested included the no action option. This was considered unacceptable as it will not satisfy the Board of Water Supply's program to provide improved and optimum water service to its users. Other options investigated included looking into alternative alignments or delaying the project. No other alignments were found to be feasible and a delay of the project will increase construction costs.

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SECTION I
DESCRIPTION OF THE PROJECT

A. PROJECT LOCATION

The proposed 16-inch water line project is situated in Kaneohe, Koolaupoko, Oahu, Hawaii, and is located within that portion of Kamehameha Highway which passes through Kaneohe Town between Kolokio and Heeia Street, in the Koolaupoko District, on the windward side of Oahu as shown on Figures 1 and 2.

B. STATEMENT OF OBJECTIVES

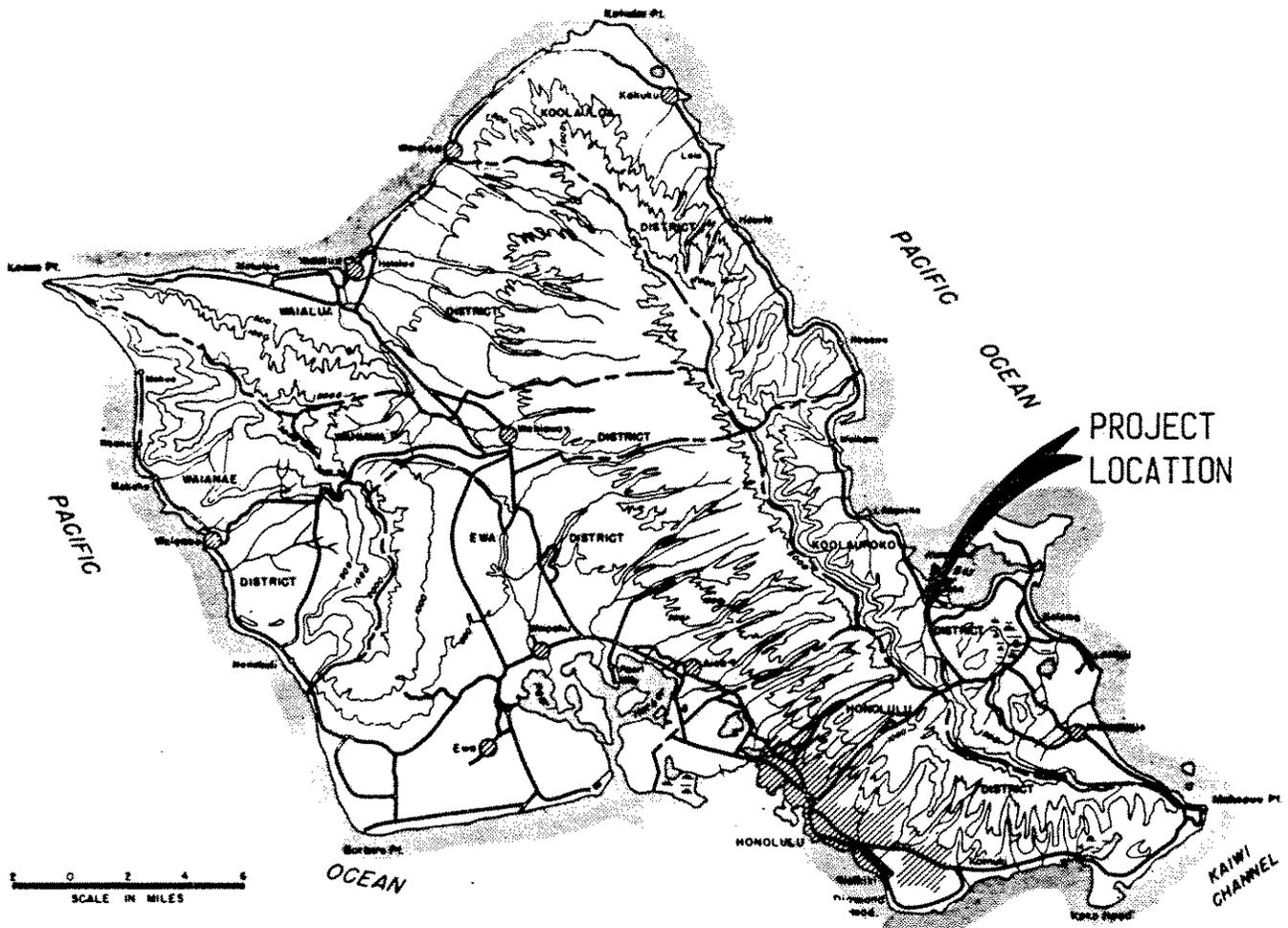
The objective of the project is to improve water service in the area by installing a 16-inch distribution line to connect two existing water mains (24 inches and 16 inches) in the area. This is expected to stabilize fluctuations in water pressures existing under the present system and result in improved water services and increase fire flow quantities. In addition, 9 new fire hydrants will be provided in areas where existing hydrant spacing do not meet zoning requirements. For a more flexible water system, interconnections to other mains along side streets intersecting Kamehameha Highway are proposed.

C. TECHNICAL DESCRIPTION

1. System Description

The existing water system in the area consists of a 30-inch and a 16-inch transmission main and a varying 8- to 6-inch distribution main. The 30-inch main transmits water from Punaluu to Kailua Town. The 16-inch main is a high pressure main which primarily serves higher elevation areas. Distribution mains provide service to lots along Kamehameha Highway, some being connected to the 30-inch and some to the 16-inch main. The distribution mains are also connected to the 2.0 MG, Kapunahala 272 Reservoir System.

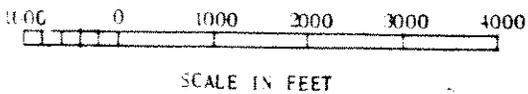
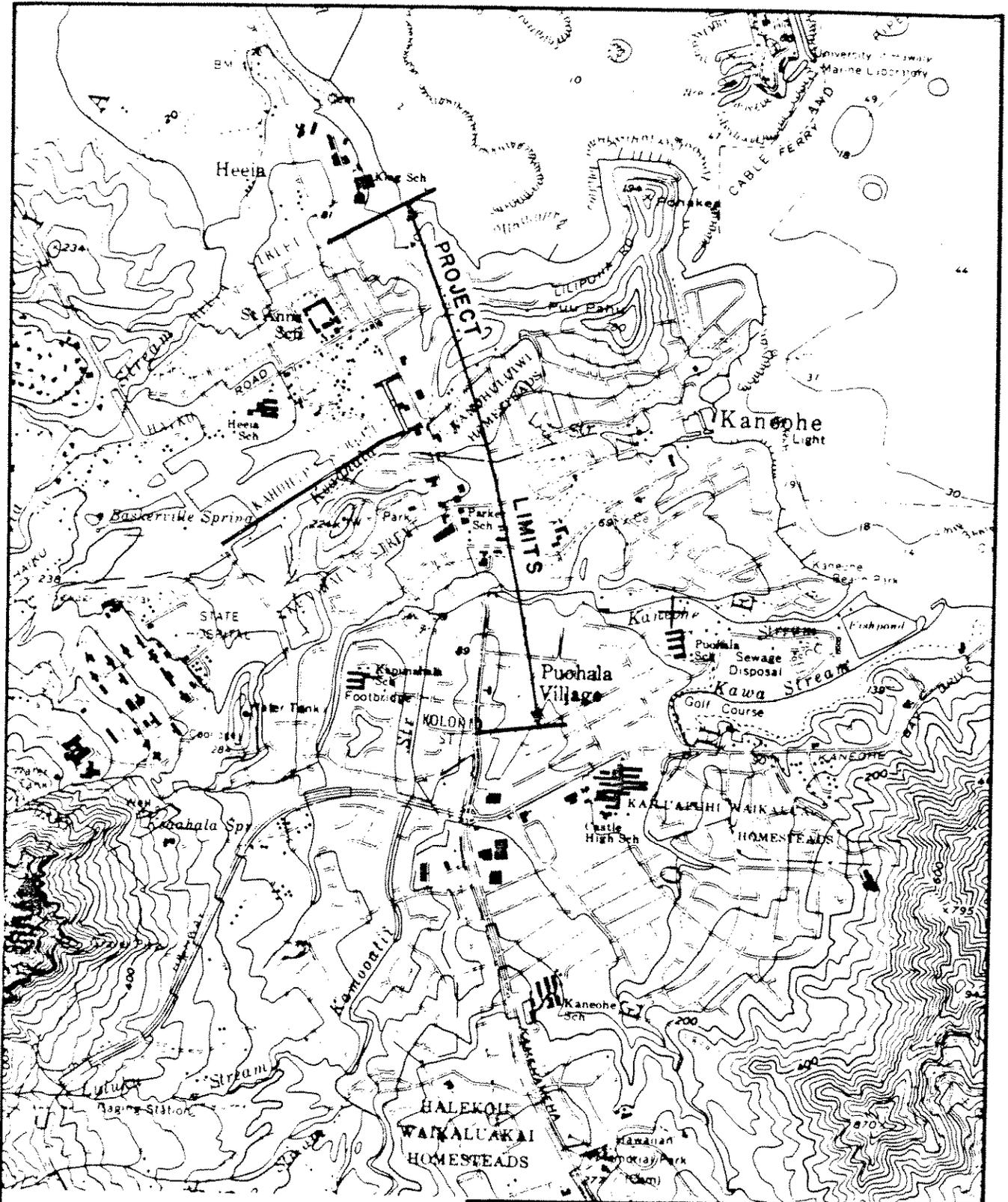
At the Kolokio Street end of the project, an existing 24-inch main is connected to both the 30-inch and 16-inch transmission mains but the valves at the interconnection are kept closed and water is supplied from the Kapunahala Reservoir System. A



ISLAND OF OAHU

CITY AND COUNTY OF HONOLULU BOARD OF WATER SUPPLY
ENVIRONMENTAL IMPACT STATEMENT 16 INCH WATERLINE ALONG KAMEHAMEHA HIGHWAY HEEIA STREET TO KOLOKIO STREET
LOCATION MAP
R. M. TOWILL CORPORATION PLANNERS-ENGINEERS-SURVEYORS-PHOTOGRAMMETRISTS

FIGURE 1



CITY AND COUNTY OF HONOLULU
BOARD OF WATER SUPPLY

ENVIRONMENTAL IMPACT STATEMENT
16 INCH WATERLINE ALONG KAMEHAMEHA HIGHWAY
HEEIA STREET TO KOLOKIO STREET

SITE PLAN

R. M. TOWILL CORPORATION
PLANNERS-ENGINEERS-SURVEYORS-PHOTOGRAMMETRISTS

FIGURE 2

future reservoir will be built at elevation 272 feet and will be connected to the existing 16-inch Heeia Street main. The Board of Water Supply plans to meet the objectives stated by proposing to install a new 16-inch distribution main connecting the existing 16-inch main at Heeia Street to the 24-inch main at Kolokio Street.

Approximately 7,900 lineal feet of 16-inch water main is proposed for installation along Kamehameha Highway between Heeia and Kolokio Street. Beginning from its connection to an existing 16-inch water main at Heeia Street, the new main will pass through the residential and business districts of Kaneohe Town and terminate at its connection to the existing 24-inch water main at Kolokio Street approximately 600 feet from the Kamehameha Highway-Likelike Highway intersection. Along this route, eight interconnections will be made to existing distribution mains running along intersecting streets as follows:

- a. Connection to the 12-inch main along Lilipuna Road opposite Haiku Road.
- b. Connection to the 12-inch main at Mehana Street.
- c. Connection to the 12-inch main along Kahuhipa Street opposite Lilipuna Road.
- d. Connection to the 16-inch main along William Henry Road opposite Keaahala Road.
- e. Connection to the 8-inch main along Waikalua Road opposite Paleka Road.
- f. Connection to the 4-inch main at Meli Place.

- g. Connection to the 12-inch main along Pua Inia Street.
- h. Connection to the 3-inch main at Hoene Place.

The general layout of the existing and proposed water mains is shown in Figure 3.

The entire line will be within the existing road right-of-way under County jurisdiction and no land acquisition or easements will be required. Two major streams, Kaneohe and Keaahala Streams, will require crossings by the new main. At these crossings, the water line will be suspended under the existing bridge structure spanning these streams. The proposed main will be installed as close as possible to the roadway edge to minimize traffic disruption.

2. Construction Details

The proposed project will involve trenching through an existing asphaltic concrete roadway, installation of a 16-inch water main, backfilling and restoring the roadway with a pavement section at least equal in thickness to the existing section.

The water line will be designed in accordance with the Water System Standards of the Board of Water Supply. Included will be necessary valves, valve boxes and manholes, jacketing and all other appurtenances necessary for operation of the system. Trenching operations will meet minimum cover requirements. Trench widths of 30 inches will be used with a minimum water line depth of about 5 feet to the pipe invert to provide the required 3-foot cover over the pipe. When encountering utility lines, the main will go under if utility lines are less than 5 feet in depth and over if the lines are greater than 6 feet deep. Excavated material not needed for refill will be hauled away.

Construction will be permitted only from 8:30 a.m. to 3:30 p.m. All necessary requirements for rechannelizing traffic will be the responsibility of the Contractor.

During non-working hours, the trench will be covered with safe, non-skid bridging material. All temporary traffic control signs and devices will be removed and all lanes will be open to traffic. Immediately after trenching and pipe laying across driveways and intersecting streets, the trench will be covered with safe non-skid materials to provide access at all times.

The Contractor will be required to submit to the Manager of the Board of Water Supply, for approval, a sketch showing the locations of sampling points and a plan or schedule delineating the method or steps proposed to be used to accomplish the chlorination of the new main. Safe and proper disposal of the chlorinated water (generally into the closest existing storm drainage system) to safeguard public health and environment in accordance with the applicable requirements of the Board of Health and the City's Department of Public Works, Division of Engineering, will be the responsibility of the Contractor.

Connections to the existing water mains will be made with tapping tees and valves and structural struts to minimize disruption of water service.

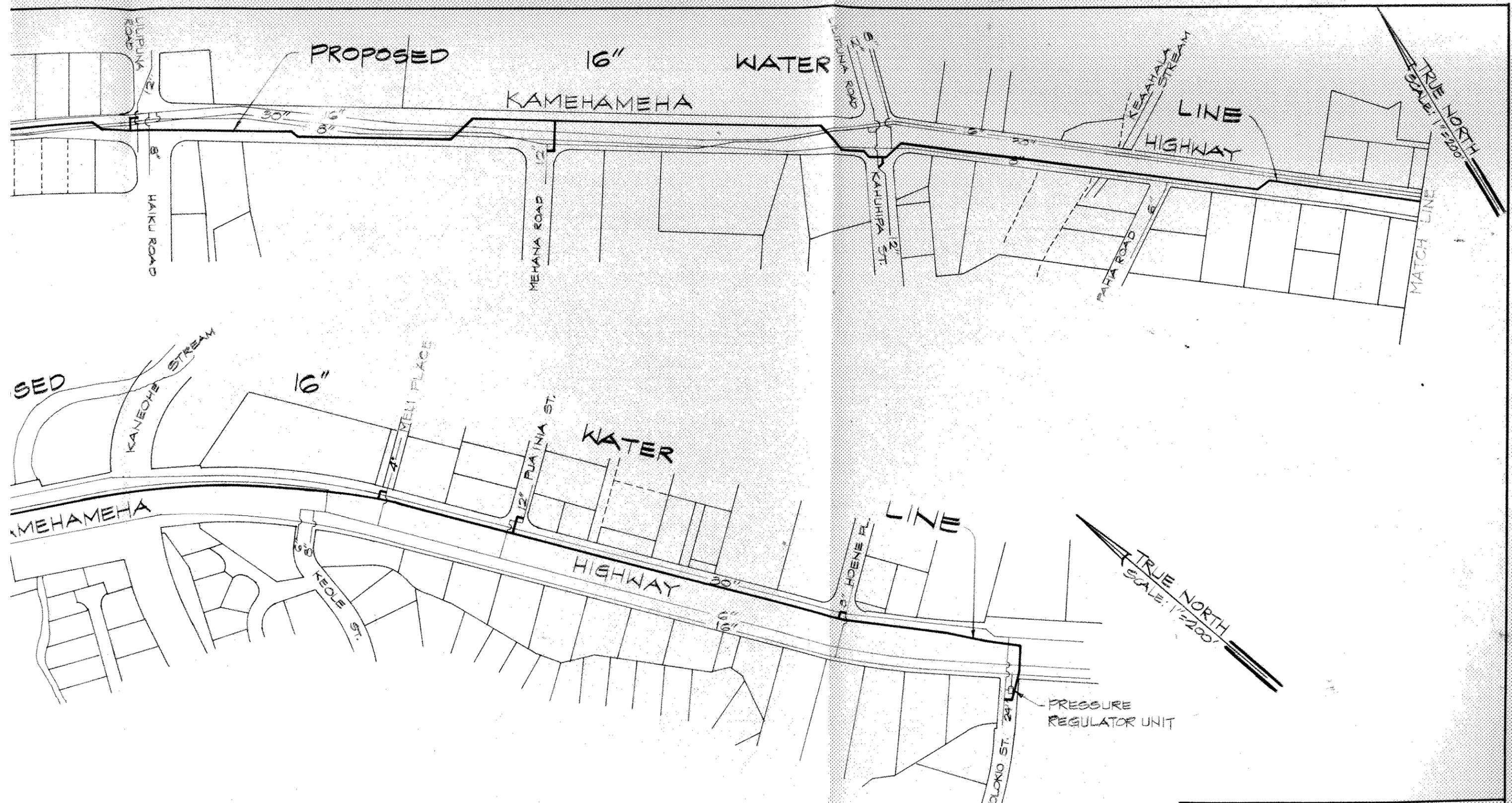
D. ECONOMIC CHARACTERISTICS

1. Use of Public Funds

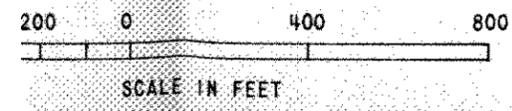
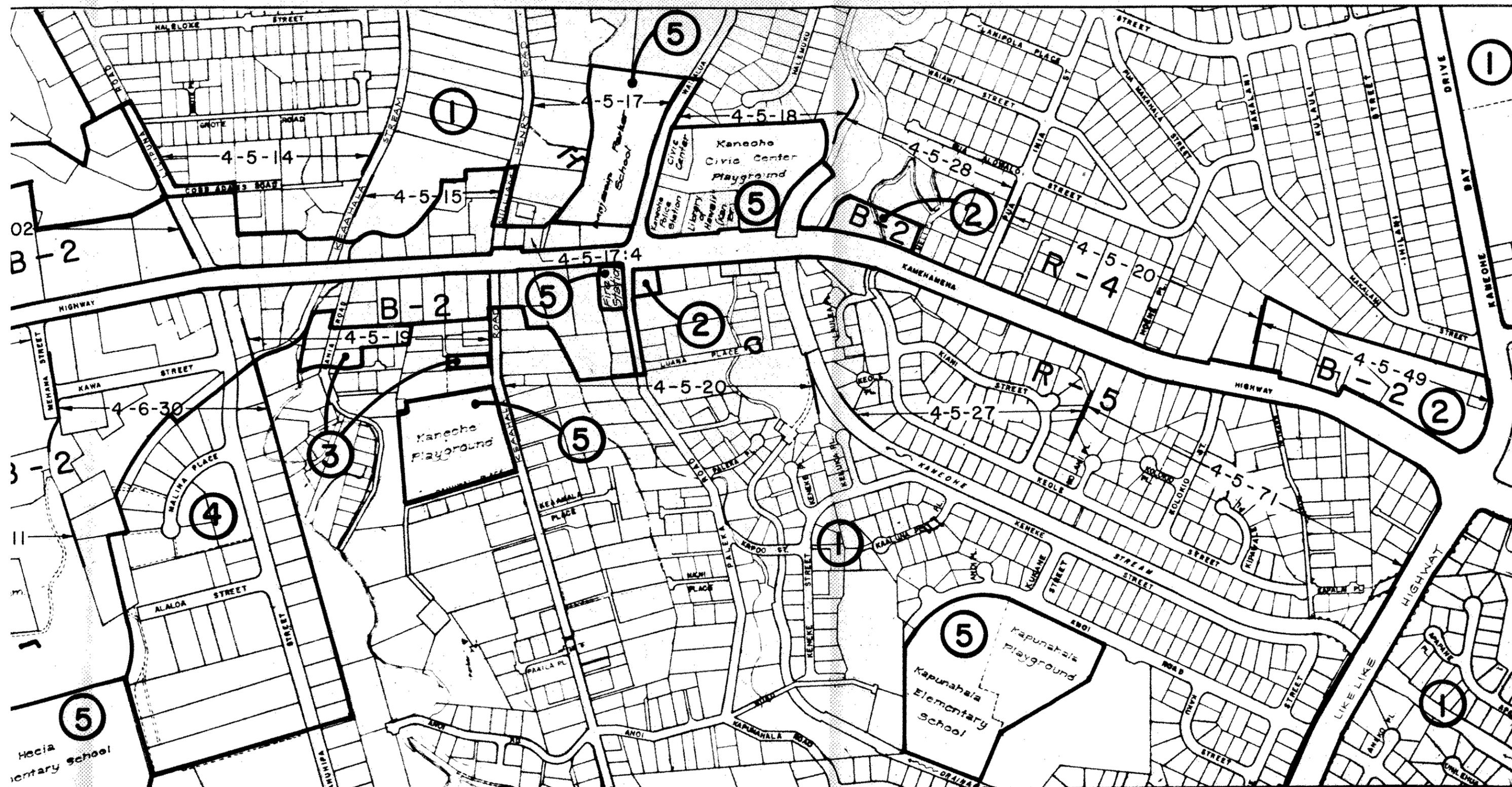
Preliminary construction cost for the project is estimated to be approximately \$2.1 million and will be funded through the Capital Improvements Program monies of the Board of Water Supply.

2. Phasing and Timing

A tentative schedule shows that construction is planned for the fiscal year ending in 1981.



CITY AND COUNTY OF HONOLULU BOARD OF WATER SUPPLY
ENVIRONMENTAL IMPACT STATEMENT 16 INCH WATERLINE ALONG KAMEHAMEHA HIGHWAY HEEIA STREET TO KOLOAKO STREET
EXISTING & PROPOSED 16" WATERLINE
R. M. TOWILL CORPORATION PLANNERS-ENGINEERS-SURVEYORS-PHOTOGRAMMETRISTS



- | | |
|---------------|-------------------------------|
| ① RESIDENTIAL | ④ INDUSTRIAL |
| ② COMMERCIAL | ⑤ PUBLIC AND STATE FACILITIES |
| ③ APARTMENT | 4-6-11 TAX MAP KEY |

CITY AND COUNTY OF HONOLULU
 BOARD OF WATER SUPPLY
 ENVIRONMENTAL IMPACT STATEMENT
 16" INCH WATERLINE ALONG KAMEHAMEHA HIGHWAY
 HEEIA STREET TO KOLOKIO STREET
 LAND USE AND ZONING MAP
 R. M. TOWILL CORPORATION
 PLANNERS-ENGINEERS-SURVEYORS-PHOTOGRAMMETRISTS

FIGURE 4

Construction contract time for this project is estimated to be about 8 months, with the actual pipe laying and trenching taking an estimated 4 months.

E. SOCIAL CHARACTERISTICS

The project is designed toward upgrading the existing water system in the area to meet acceptable water supply standards. Increased fire flow will be available to provide adequate fire protection for the area. The improved water service will not encourage further economic or residential development in the area.

F. ENVIRONMENTAL CHARACTERISTICS

The proposed project will require temporary trenching along the 7,900 feet of pipeline. Approximately 6,300 cubic yards of material will be excavated with 500 to 1,000 cubic yards required to be removed from the site.

The City and County has developed improvement district plans for the future widening of Kamehameha Highway from 40 feet to 80 feet, beginning 500 feet north of the Lilipuna Road-Heeia Street intersection towards Heeia. The proposed horizontal and vertical alignment of the new water line anticipates future grades and utilities proposed under the improvement district plans.



SECTION II

DESCRIPTION OF ENVIRONMENTAL SETTING

A. REGIONAL DISTRICT

The environment affected by the proposed project is centered in a portion of Kaneohe Town, located on the windward side of Oahu, 5 miles northeast of downtown Honolulu as shown in Figure 1.

1. Historical

The Kaneohe and adjacent areas began as one of the most productive agricultural areas as a result of the availability of large quantities of fresh water, primarily from constantly flowing springs located high in the surrounding mountains. Major farming crops included taro, sugarcane, rice and pineapple. Livestock and cattle were also supported dating back to the time of the first records taken in the 1800's.

Gradual urban development and reduction of agriculture began in the mid 1800's. Agricultural production continued to drop until in the 1930's, decreases became significant. Urbanization was well underway by 1950.

In the past decade, the rapid growth of Honolulu and resulting high expense of housing has generated a large influx of residents to windward Oahu. This has resulted in an extensive increase in residential and commercial development in Kaneohe.

2. Demography

Kaneohe Town as listed in the State of Hawaii Data Book (1977) is given an urban designation. The town has experienced tremendous growth in population (96 percent) from 1960 to its 1970 census population of 29,903. At the time of the 1970 census there were 7,181 households, median income was \$13,725 and employment was centered in the civilian labor force. The town is one of two densely populated residential centers (the other Kailua) on the windward water district.

Kaneohe includes approximately 30 percent of the population on the windward water district. The Board of Water Supply projected population increase to be served for 2020 for the windward area is 120 percent from the 1970 census population.

3. Land Use in the Region

The current land use in the Kaneohe Town area is shown in Figure 4 and the City and County zoning policy of the region is also shown. The area is essentially well developed and current land use corresponds to zoning regulations.

4. Climate

The average rainfall in the area is 60 inches. Prevailing northeast tradewinds of about up to 14 mph maintain a cool climate with an average temperature of 70°F. Average relative humidity in the area is about 70 percent.

5. Soils

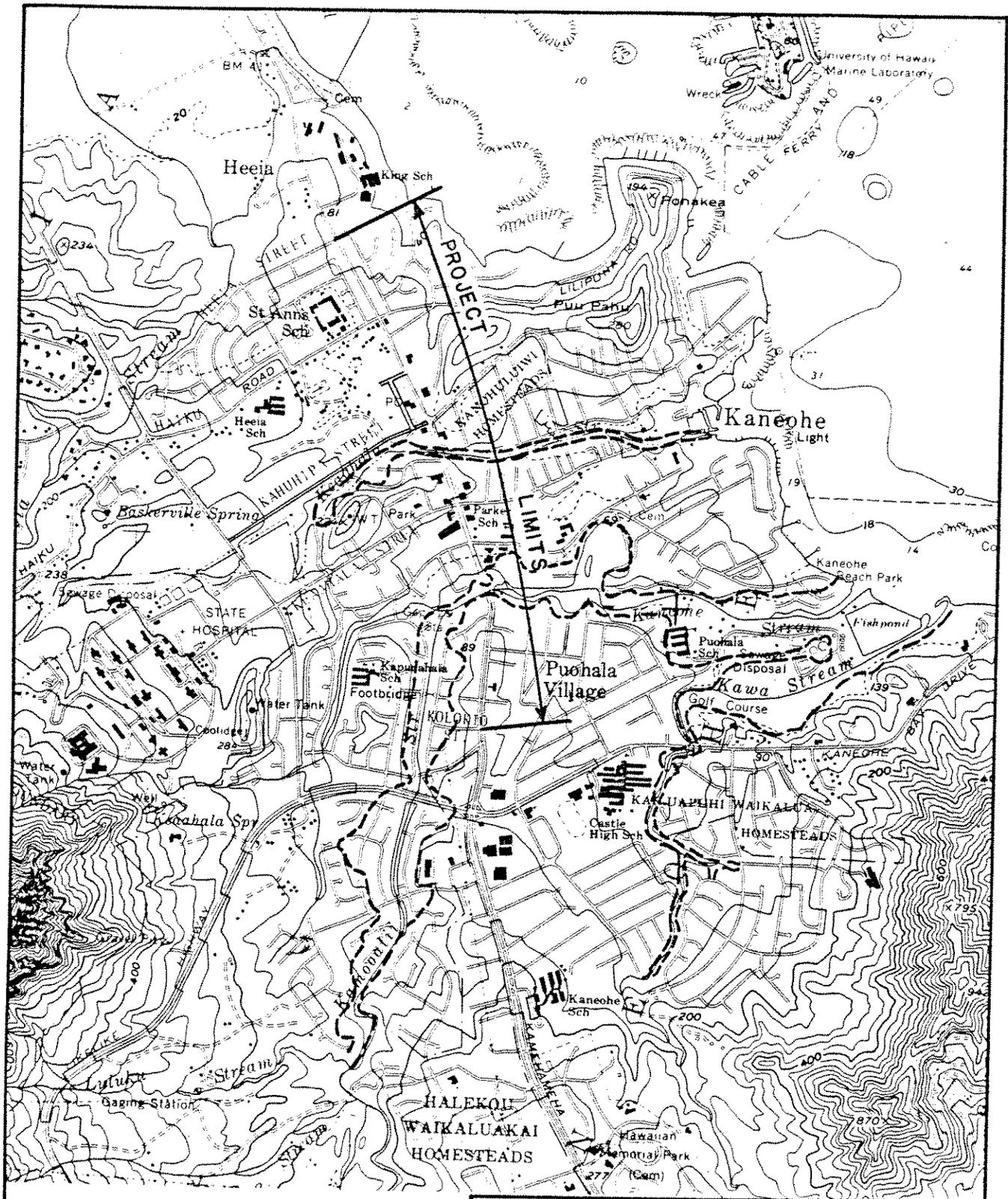
The primary soil type found in the immediate area of Kaneohe Town is of the silty clay type. The predominant type is Lolekaa silty clay (LoB, LoE, LoF) with lesser amounts of Alaeloa (AeE) and Hanalei (HnB) silty clay and a small amount of mixed fill land (FL). Classification is based on USDA soil survey (USDA 1972).

6. Flooding

The Kaneohe area is subject to some flooding by both the Keaahala Stream and Kamooalii Stream (Kaneohe Stream). The Flood Insurance Rate Map, City and County of Honolulu (USDC 1974), delineates the 100-Year Flood Area as shown in Figure 5. The projected 100-year flood levels at these two bridges are below the respective bridge girders and the proposed water line inverts as shown in Figures 6 and 7, respectively.

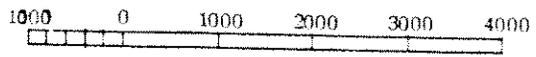
7. Subsurface Water

The Site Plan map in Figure 2 shows the contour of the area. Ground surface elevations vary from 40 feet above MSL at



LEGEND

100 YEAR FLOOD PLAIN



SCALE IN FEET

<p>CITY AND COUNTY OF HONOLULU BOARD OF WATER SUPPLY</p>
<p>ENVIRONMENTAL IMPACT STATEMENT 16 INCH WATERLINE ALONG KAMEHAMEHA HIGHWAY HEEIA STREET TO KOLOKIO STREET</p>
<p>100-YEAR FLOOD MAP</p>
<p>R. M. TOWILL CORPORATION PLANNERS-ENGINEERS-SURVEYORS-PHOTOGRAMMETRISTS</p>

FIGURE 5

KEAAHALA STREAM
BRIDGE CROSSING

EXISTING GROUND
PROFILE

85

BRIDGE
GIRDER

INVERT OF PROPOSED
16" W.L.

APPROXIMATE
ELEVATION
100 YR. FLOOD = 78.0

75

65



SCALES IN FEET

CITY AND COUNTY OF HONOLULU
BOARD OF WATER SUPPLY

ENVIRONMENTAL IMPACT STATEMENT
16 INCH WATERLINE ALONG KAMEHAMEHA HIGHWAY
HEEIA STREET TO KOLOKIO STREET

100 YR FLOOD LEVEL
AT KEAAHALA STREAM

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Figure 6

KANEHOE BRIDGE
STREAM CROSSING

EXISTING
GROUND
PROFILE

85

75

INVERT

OF PROPOSED

BRIDGE
ABUTMENT

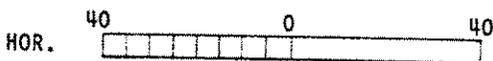
BRIDGE GIRDER

16" W.L.

APPROXIMATE
ELEVATION
100 YR. FLOOD = 45.0

65

STREAM INVERT
ELEVATION = 28.00



SCALES IN FEET

CITY AND COUNTY OF HONOLULU
BOARD OF WATER SUPPLY

ENVIRONMENTAL IMPACT STATEMENT
16 INCH WATERLINE ALONG KAMEHAMEHA HIGHWAY
HEEIA STREET TO KOLOKIO STREET
100 YR FLOOD LEVEL
AT KANEHOE STREAM

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Figure 7

Kaneohe Stream to over 90 feet. Pipe invert elevations ranged from about 58 to 90 feet above MSL. Groundwater tables in the windward area (USGS 1978) ranged from about 12 to 18 feet above MSL. The pipe and construction operations will be above the water table and no impact on groundwater should occur.

8. Other Projects

There are no major ongoing projects in the area affecting the project. However as part of the Mayor's beautification project, the Department of Parks and Recreation, City and County of Honolulu, has plans for landscaping the Kamehameha Highway medial strip from the Keole Street intersection on towards the Likelike Highway intersection. The plans call for planting of rainbow shower trees, poinciana trees, relocation of some of the existing coconut trees and future planting of hibiscus.

At the Kolokio Street end of the project, the proposed water line will cross the Kamehameha Highway medial strip where landscaping plans are presently being completed. This portion of the alignment has been coordinated with the Department of Parks and Recreation to insure that there will be no conflict between the two projects.

Projects planned for the future include the street widening of Kamehameha Highway described in Chapter I, Section F.

B. IMMEDIATE PROJECT AREA

1. Physical Description of Area

The entire project, except at bridge crossings, will be constructed within the asphaltic concrete roadway pavement of Kamehameha Highway and intersecting streets where interconnections to existing distribution water mains will be made between Kolokio and Heeia Streets.

Kamehameha Highway is the major thoroughfare passing through Kaneohe Town which is the central business area of the Kaneohe district. Prior to the construction of the Kahekili Highway which bypasses Kaneohe Town, it was part of the highway system circling the Island of Oahu.

From the beginning of the project at Heeia Street, Kamehameha Highway is a 40-foot road with two lanes of traffic for a distance of about 700 feet after which it transitions to four lanes at the Lilipuna Road-Haiku Road intersection. This area is a residential zone and no parking is permitted along both sides of the highway. Wooden fences and hedges along the property lines on both sides completely isolate the residences from the highway. Access to the residential lots is from the roads within the subdivision.

Between Lilipuna Road-Haiku Road intersection and Waikalua Road-Paleka Road intersection, the highway passes through the central business district of Kaneohe Town. Within this area, the highway is a fully improved road with asphaltic concrete pavement, concrete curbs, gutters and sidewalks. A 20-foot reinforced concrete bridge spans Keaahala Stream which crosses under the highway in this area. Between the Lilipuna Road-Haiku Road intersection and the Lilipuna Road-Kahuhipa Road intersection no on-street parking is permitted and there are five traffic lanes with the center lane marked for channelized left turn movements into the abutting business parking areas. The remainder of the business district has four lanes of traffic with a limited number of parallel parking on both sides of the street.

From the Pali end of the main business district at the Waikalua Road-Paleka Road intersection to the end of the project, Kamehameha Highway is a four-lane divided highway with a landscaped medial strip, concrete curbs, gutters and sidewalk

along the makai side and A.C. curbs and sidewalks on the mauka side. The area is primarily residential zoned but includes several spot business zones. No on-street parking is permitted along both sides of the roadway. A 90-foot reinforced concrete bridge spans Kaneohe Stream within this section.

2. Topography and Drainage of Pipeline Site

The general terrain of the project area is relatively flat. The elevations at the Heeia Street and Kolokio Street which are the two ends of the project are approximately 74 feet and 95 feet, respectively. Within the ends, the roadway has a gentle undulating profile, with average grades of about 1 percent to 2 percent, a maximum grade of about 4.5 percent and elevations ranging from a low of about 54 feet to a high of about 97 feet. Adequate existing drainage systems collect storm runoff falling on the roadway and conveys the runoff to natural drainageways.

3. Historic and Archaeological Sites

The Historic Sites Division of the Department of Land and Natural Resources recognizes 4 natural, historical or archaeological sites in the region of the project. Historical sites in this region include the Heeia Fishpond (TMK 4-6-5-1), Leleahina Heiau (TMK 4-6-14-5), Kanohuluiwi Pond (TMK 4-5-57-1, 9) and Kawaiwae Heiau (TMK 4-5-33-1). None of these sites are in the immediate area of the project.

4. Flora and Fauna

The project is located totally within the road right-of-way of a busy thoroughfare. No fauna is present in this area. Existing landscaping within the road right-of-way will not be disrupted by this project.

5. Soils

The entire water line will be installed in the road right-of-way and hence surface cover of the project area consist of asphalt roadway. The project area is nearly fully developed and concrete or soil sidewalks fronting developments line the highway. Surface cover is characteristic of urbanized areas.

6. Drainage

Existing storm drains provide drainage to the area. Subsequent discharge is into Kaneohe and Keaahala Streams which also provide a natural drainage for surface runoff in the area.

7. Land Use and Ownership

The City and County Land Use Zoning and Tax Map Key numbers of the lands along Kamehameha Highway and the surrounding areas are illustrated on Figure 4. Within the project limits, about 50 percent of the frontages abutting Kamehameha Highway is in residential use, zoned R-4 and R-5, and the remaining half is in commercial use, zoned B-2.

The residential areas at both ends of the project are completely subdivided. With the exception of about 3 empty lots, all of the residential lots are occupied by well kept and landscaped middle income, single family residences. Between Heeia Street and Lilipuna-Haiku Roads, wooden fences and hedges along the property lines completely isolate the residences from Kamehameha Highway and access to these lots are from interior subdivision roads.

The central business district lies between Lilipuna Road-Haiku Road and Waikalua-Paleka Roads (see Figure 3). With the exception of a small 8,300 square foot parcel (TMK: 4-5-17-4) and a large 24.6-acre parcel (TMK: 4-6-11-1) with a 790-foot frontage along Kamehameha Highway, the entire business district is completely developed. Heeia Development Company has the development rights to the large parcel which is owned by B. P. Bishop Estate. At the present time, no definite plans for development of this business property has been formulated.

Several community and public facilities are concentrated in the vicinity of Waikalua Road. These include Benjamin Parker School and playground, the Kaneohe Police Station, Kaneohe Fire Station, City and County Emergency Ambulance Unit, Kaneohe Library and Kaneohe Community Center. The City and County Satellite City office, State Unemployment Claims Office and Kaneohe Post Office are located in the central business area.

There are approximately 100 businesses of various types within the business area along Kamehameha Highway. Following is a listing of the major businesses:

<u>Business Type</u>	<u>Number</u>
Banks	3
Industrial Loan, Savings & Loan	9
Dentists	9
Medical Building (Physicians, Surgeons & Opticians)	1
Automobile Dealership	1
Service Stations	8
Super Markets	3
Major Drug Store	1
Department Stores	2
Clothing and Fabrics	4
Fast Food; Drive-Ins, Coffee Shops	8
Restaurants	10
Bakeries	2
Bars and Liquors	7
Hair Stylists and Barbers	7
Laundry and Washerettes	4

8. Traffic Conditions

Kamehameha Highway, being the principal access road to Kaneohe Town, is a heavily travelled thoroughfare. Traffic counts, conducted by the City and County's Department of Transportation Services during a 24-hour period in July 1977, showed that over 14,000 cars passed through the business district along both the Heeia bound and Pali bound lanes. During the day time period from 6:00 a.m. to 7:00 p.m. the traffic in both directions

was in excess of 11,000 cars in both directions, with approximately half of the traffic occurring during the hours of 8:30 a.m. and 3:30 p.m.

Based upon the statistics from this traffic count, the figures in the following table were compiled to provide some traffic indicators.

<u>Time Period</u>	<u>Heeia Bound Traffic</u>		<u>Pali Bound Traffic</u>	
	<u>Total</u>	<u>Ave. Hourly</u>	<u>Total</u>	<u>Ave. Hourly</u>
6:00 AM to 8:30 AM	1,285	514	2,450	980
8:30 AM to 3:30 PM	6,260	894	6,105	872
3:30 PM to 7:00 PM	3,785	1,082	3,090	883
TOTAL 13-Hour Traffic	11,330		11,645	
TOTAL 24-Hour Traffic	14,182		14,734	

9. Existing Utilities

There are many storm and sanitary sewer lines, gas lines and electrical conduits within the project area. Construction plans will therefore be coordinated with the Divisions of Engineering and Wastewater Management.



SECTION III

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

The project area falls within an area designated as urban on the State Land Use District Boundary Map. The County General Plan designations and zoning of the project site and surrounding areas are shown on Figure 4. At both ends of the project, the property abutting Kamehameha Highway is in residential use zoned R-4 and R-5. Kaneohe Town along Kamehameha Highway is in commercial use, zoned B-2. Benjamin Parker School and playground, Kaneohe Fire Station, City and County Emergency Ambulance Unit, Kaneohe Library, Kaneohe Police Station and Kaneohe Civic Center are concentrated in the vicinity of Waikalua Road.

The proposed Kaneohe 16-inch water line project does not conflict with any approved or proposed, State or County land use plans, policies and controls.

The water line is to be installed entirely within the City-owned Kamehameha Highway where existing utilities are present and therefore will not conflict with land use plans. The new water line will improve the existing system to meet required standards for water service and fire protection for the present population; the line is not intended to provide excess capacity, therefore, it will not contribute to further growth of the area.

Keaahala Stream and Kaneohe Stream are within the 100-Year Flood Zone as indicated in the Flood Rate Map, City and County of Honolulu (USDC 1974) and shown on Figure 5. However, the flood water levels at both streams are below the inverts of the proposed water line as shown on Figures 6 and 7.



SECTION IV
PROBABLE IMPACT OF THE PROPOSED ACTION
ON THE ENVIRONMENT

A. SHORT TERM

Several short term physical and socio-economic impacts will arise from construction and installation of the new pipeline.

1. Dust

Dust will be generated during excavation and backfilling operations. This could cause minor disturbances to residents in the proximity of the site. The impact would be temporary and no long term air quality impairment should occur.

Dust control measures, such as sprinkling, will be implemented to reduce dust levels generated. Equipment used at the project will be required to have proper air pollution control devices to minimize vehicle emissions.

2. Noise

Construction will be confined to normal hours, previously stated (8:30 a.m. to 3:30 p.m.). Noise levels are expected to rise from construction equipment and vehicular activities during construction. The ranges of noise levels to be expected from various construction equipment are tabulated in Figure 8. Noise generated by the project must conform to the State Department of Health's "Public Health Regulations, Chapters 44A and 44B." A noise permit for the project will be required from the Noise and Radiation Branch of the Department of Health and the Contractor must comply with the conditions issued with the permit. All equipment at the project site will be required to have mufflers for noise control.

Possible temporary disruptions during construction to educational facilities nearby may occur. The Benjamin Parker School is next to the roadway and interference from construction noise may occur. Kapunahala Elementary School (300 yards) and Heeia Elementary School (400 yards) are distant enough that disruption should be minimal.

FIGURE 8
CONSTRUCTION EQUIPMENT NOISE RANGES

		NOISE LEVEL (dba) AT 50 FT					
		60	70	80	90	100	110
EARTH MOVING	COMPACTERS (ROLLERS)		H				
	FRONT LOADERS		-----				
	BACKHOES		-----				
	TRACTORS		-----				
	SCRAPERS, GRADERS		-----				
	PAVERS				H		
	TRUCKS			-----			
MATERIALS HANDLING	CONCRETE MIXERS		-----				
	CONCRETE PUMPS			H			
	CRANES (MOVABLE)		-----				
	CRANES (DERRICK)				H		
STATIONARY	PUMPS		H				
	GENERATORS		-----				
	COMPRESSORS		-----				
IMPACT EQUIPMENT	PNEUMATIC WRENCHES			-----			
	JACK HAMMERS AND ROCK DRILLS			-----			
	PILE DRIVERS (PEAKS)					-----	
OTHER	VIBRATOR		-----				
	SAWS		-----				

Note: Based on Limited Available Data Samples

Source: Noise From Construction Equipment and Operations Building Equipment, and Home Appliances, EPA, 1971

Figure 8

3. Traffic

During construction of the water line, traffic will be significantly affected particularly within the business area, and to a lesser degree within the residential area. At least one lane of traffic will be closed during excavation, pipe laying, backfilling and repaving operations. Although every attempt will be made to confine the alignment within the traffic lane closest to the curb line, in some areas existing underground utilities already occupying this lane will force the alignment to encroach into the adjoining lane. Construction in these areas may close two lanes of traffic. It may be necessary to temporarily detour traffic around the construction area to the adjoining opposing traffic lane. This constriction of the normal four lanes of traffic to two lanes of traffic will further impede traffic flow.

Traffic may be impeded significantly in the area between Haiku and Heeia Roads where there are only 2 lanes presently, requiring 2-way traffic to be routed onto a single lane.

Along its route, the water line will pass through five major intersections already crowded with an existing maze of criss-crossing underground utilities, including storm drains, sewers, water mains, gas mains, electric and telephone ducts. The proposed water line will generally be required to cross under these utilities. Trenching will be deeper than normal and for the most part, will be done by hand to preclude possible damage to existing utilities. In addition, where interconnections to the existing water mains along the intersecting streets are required, water valves must be installed in reinforced concrete manholes. Construction through the major intersections will therefore proceed at a slower rate than normal, prolonging the inconvenience to users of the highway.

4. Water and Utility Service

Connections to existing mains will be accomplished by tapping tees and valves with structural struts and disruption to water service will be minimal. The water line will be routed under existing utilities and no disruption to these lines is expected.

5. Flora and Fauna, Natural or Historic or Archaeological Sites

There will be no significant impact on wildlife or flora and fauna in the area as a result of this project since the construction work will be within the road right-of-way of a busy thoroughfare which is not inhabited by any significant wildlife. There are no known natural, historic or archaeological sites within the project area. Landscaping within the road right-of-way will not be disrupted by this project. The entire project falls within City owned rights-of-way and no land acquisition or additional easements are required.

6. Chlorinated Water Disposal

Disposal of chlorinated water (initially at least 50 mg/l) directly into existing storm drains and subsequently into adjacent streams is not expected to be detrimental. Mitigative measures will be taken to reduce the chlorine to below less than the safe level of 0.5 mg/l. Disposal is to be coordinated with the Division of Engineering and monitored by BWS inspectors.

B. LONG TERM

No long term physical effects are expected to arise from installation of the main.

There will not be any long term adverse socio-economic impacts arising from further development in the area. With the exception of 3 vacant residential lots, a 8,300 square foot commercial lot and a large 24.6 acre commercial lot, the area is fully developed and subdivided. Existing utilities, including water service, are adequate for the development of these vacant parcels. The adverse impacts are all temporary and are those normally associated with construction work of this nature.

The long term beneficial impacts far outweigh the minor short term adverse effects. The new distribution line will provide for better pressures and volumes and improve water service. In addition, the new line and fire hydrants will assure adequate fire protection for the community.



SECTION V

PROBABLE ADVERSE IMPACTS WHICH CANNOT BE AVOIDED

Short term adverse effects associated with construction activities are unavoidable. Temporary air pollution from dust, noise from construction equipment and disruption of traffic flow from water pipe placement will occur. In addition, water service may be disrupted at times.

No adverse long term effects are expected.

SECTION VI
ALTERNATIVES TO THE PROPOSED PROJECT

A. NO PROJECT

The no project alternative will result in the continued use of the present system with its undesirable fluctuations in water pressures and increased breakage as the smaller existing service main deteriorates. Also, the fire protection system will remain substandard and present an unsafe condition for the residents in the immediate area. This alternative will not satisfy the objectives of the Board of Water Supply's continuing program to provide improved and optimum water service to its users.

B. DELAY OF PROJECT

Delay of the project will initially have the same effect as "No Project." Construction at a later date will result in increased construction costs.

C. ALTERNATIVE ALIGNMENTS

No alternative alignments are feasible other than along Kamehameha Highway.

SECTION VII

RELATIONSHIP BETWEEN LOCAL SHORT TERM USES
AND LONG TERM PRODUCTIVITY

The proposed installation of the 16-inch main in Kaneohe will result in no long term loss of environmental resources. Short term effects and disruptions will occur only during the construction period. The installation of the pipe will upgrade existing water service for the life of the pipe system and satisfy fire hydrant spacing specifications. Problems of inadequate fire protection and existing undesirable fluctuations in water pressure and increased breakage of smaller existing mains due to deterioration will be alleviated.

SECTION VIII
MITIGATIVE MEASURES

Short term impacts associated with construction activities are expected. Adjacent areas are to be subjected to some dust, fumes, noise, traffic impedance and possibly some water service disruption.

Dust control measures, such as sprinkling, will be implemented to reduce dust levels generated from the excavation and backfilling. Fumes from equipment on site will be controlled by the requirement of having proper air pollution control devices.

Noise generated by the project must conform to the State Department of Health's "Public Health Regulations, Chapters 44A and 44B." A noise permit will be required from the Noise and Radiation Branch of the Department of Health. Mufflers will be required on equipment to control noise levels. Construction during normal working hours will be utilized.

Roads will remain open and traffic rerouted where necessary. To minimize the adverse impact on traffic, construction will be limited during the non-peak hours between 8:30 a.m. and 3:30 p.m. In addition, appropriate traffic signs, barricades, signalmen and off-duty police officers will be used to direct and control traffic during construction. The Contractor will be required to comply with the traffic control requirement of the Manual on Uniform Traffic Control Device for Streets and Highways. During non-working hours, all trenching will be bridged by safe non-skid material, all temporary traffic control devices removed, and all lanes of traffic will be open to normal traffic flow. Trenches crossing intersecting streets and driveways will be bridged with safe non-skid material immediately after trenching operations to provide access at all times.

No long term impacts are expected. The Contractor will be required to restore all improvements, damaged as a result of the construction, including pavements, embankments, curbs, signs, landscaping, structures, utilities, walls, fences, etc.

Chlorinated water to be disposed of in existing drainage systems will be dechlorinated or diluted to safe levels.

SECTION IX
IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS
OF RESOURCES

The resources that will be irreversibly and irretrievably committed will be funds, construction materials, labor, fuel and energy required during the construction and installation of the proposed water line and appurtenances.

SECTION X

AGENCIES AND ORGANIZATIONS CONSULTED

City and County of Honolulu

Department of Housing and Community Development

Department of Public Works

Division of Refuse Collection and Disposal

State of Hawaii

Department of Planning and Economic Development

Department of Health

Department of Land and Natural Resources

Federal

Farmers Home Administration, Department of Agriculture

U. S. Fish and Wildlife Service, Department of Interior

Private Organizations

Kaneohe Community Association

Life of the Land

Kaneohe Neighborhood Board



SECTION XI
LIST OF NECESSARY PERMITS

Permits will be required from the following agencies:

A. Federal Government

None.

B. State of Hawaii

1. Department of Health (Phone: 548-3075) Noise Permit

C. City and County of Honolulu

1. Department of Public Works - Engineering Division (Phone: 523-4921) Trenching Permit
2. Department of Transportation Services - Traffic Engineering (Phone: 523-4021) Street Usage Permit



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- Devaney, D. M., et al, Kaneohe: History of Change (1778-1950), prepared for U. S. Army Corps of Engineers, September 1976.
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- U. S. Department of Agricultural, Soil Survey of Islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawaii, August, 1972
- U. S. Department of Commerce, Flood Insurance Rate Map, Bureau of Census, Geography Division, 1974.
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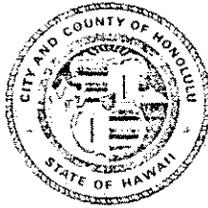
APPENDIX A

COMMENTS AND REPLIES TO THE EIS



DEPARTMENT OF LAND UTILIZATION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813 • (808) 523-4411

79-4444



RECEIVED
BD OF WATER SUPPLY
NOV 9 4 03 PM '79
TYRONE T. KUSAO
DIRECTOR
79/EC-4 (SM)
LU10/79-4597

FRANK F. FASI
MAYOR

November 8, 1979

Asst. Mgr. *[Signature]*
P/E

MEMORANDUM

TO : KAZU HAYASHIDA, MANAGER & CHIEF ENGINEER
BOARD OF WATER SUPPLY

FROM : TYRONE T. KUSAO, DIRECTOR

SUBJECT : ENVIRONMENTAL IMPACT STATEMENT (EIS) FOR 16-INCH
WATERLINE ALONG KAMEHAMEHA HIGHWAY FROM HEEIA TO
KOLOKIO STREET

We have reviewed the subject document and offer the following comments:

1. General Comment: We are returning the eight copies of this document in order that the figures (plates) can be included in the final edition. Please return one copy for our files.
2. Reference: Page III-1.

Comment: The section on "Relationship of Proposed Action to Land Use Plans, Policies and Control for the Affected Area" should disclose the State Land Use Designation, County Zoning, County General Plan designation, and other special designations, if there are any (e.g. SMA or Flood Hazard) for the project site.

3. Reference: Page IV-2.

Comment: What is the anticipated duration of construction for the proposed project? How long will the interruption of traffic occur?

4. Reference: Page VI-1.

Comment: It is stated that "no alternative alignments are feasible"; we would like to know why. Perhaps the inclusion of the figures can clarify this matter.

[Signature]

MEMO TO KAZU HAYASHIDA
PAGE 2

We hope these comments will be helpful in the preparation of the final EIS. If there are any questions, please call Sampson Mar of our staff at 523-4256.

Very truly yours,



TYRONE T. KUSAO
Director of Land Utilization

TTK:s1

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU

630 SOUTH HERETANIA

HONOLULU, HAWAII 96843



FRANK F. FASI, Mayor
YOSHIE H. FUJINAKA, Chairman
DAT QUON PANG, Vice Chairman
RYOKICHI HIGASHIONNA
TERESITA R. JUBINSKY
WALLACE S. MIYAHIRA
ROBERT A. SOUZA
CLAUDE T. YAMAMOTO

November 21, 1979

KAZU HAYASHIDA
Manager and Chief Engineer

TO : MR. TYRONE T. KUSAO
DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM : KAZU HAYASHIDA
BOARD OF WATER SUPPLY

SUBJECT: YOUR LETTER OF NOVEMBER 8, 1979, ON THE
ENVIRONMENTAL IMPACT STATEMENT FOR
16-INCH WATERLINE ALONG KAMEHAMEHA HIGHWAY
FROM HEEIA TO KOLOKIO STREET

We offer the following response to your comments:

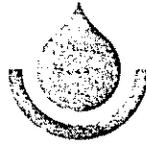
1. "General Comment: We are returning the eight copies of this document in order that the figures (plates) can be included in the final edition. Please return one copy for our files."

We return as requested one copy of the document with the missing figures included.

2. The section on "Relationship of Proposed Action to Land Use Plans, Policies, and Control for the Affected Area" should disclose the State Land Use Designation, County Zoning, County General Plan designation, and other special designations if there are any (e.g. SMA or Flood Hazard) for the proposed site."
(Ref. Page III-1)

The State and County land use designations with any other special designations will be incorporated into the finalized document.

3. "What is the anticipated duration of construction for the proposed project? How long will the interruption of traffic occur?" (Ref. Page IV-2)



COPY

Mr. Tyrone T. Kusao
Page 2

November 21, 1979

The construction contract time for this project is estimated to be about eight months, with the actual pipe laying and trenching taking an estimated four months (Ref. Page 1-5). Interruption to traffic would be for the duration of the project.

4. "It is stated that 'no alternative alignments are feasible'; we would like to know why. Perhaps the inclusion of the figures can clarify this matter." (Ref. Page VI-1)

The proposed pipeline project will provide nine additional fire hydrants in the central business district. Should the pipeline be routed elsewhere, the existing mains in the area are inadequate to provide the additional fire flows.

Also, there are distribution mains currently being served from our high-pressure transmission main along Kamehameha Highway. This results in fluctuating pressures to consumers on the system. By transferring the distribution mains from the high-pressure transmission main to the new 16-inch main, the problem of fluctuating pressures will be minimized. If the 16-inch main was routed elsewhere, the transfer of service would not be possible.

Should you have questions or require additional information, please call Lawrence Whang at 548-5221.

KAZU HAYASHIDA
Manager and Chief Engineer

cc: R. M. Towill Corp.

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII



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BD OF WATER SUPPLY

Nov 19 12 56 PM '79

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

GEORGE A. L. YUEN
DIRECTOR OF HEALTH

VERNE C. WAITE, M.D.
DEPUTY DIRECTOR OF HEALTH

HENRY N. THOMPSON, M.A.
DEPUTY DIRECTOR OF HEALTH

JAMES S. KUMAGAI, PH.D., P.E.
DEPUTY DIRECTOR OF HEALTH

TADAO BEPPU
DEPUTY DIRECTOR OF HEALTH

November 15, 1979

In reply, please refer to:
File: EPHS-SS

MEMORANDUM

To: Mr. Kazu Hayashida, Manager
Board of Water Supply

From: Deputy Director for Environmental Health

Subject: Environmental Impact Statement (EIS) for 16-Inch Waterline
Along Kamehameha Highway from Heeia to Kolokio Steet,
Kaneohe, Koolaupoko, Oahu

Thank you for allowing us to review and comment on the subject EIS.

Please supplement Item A2 of Section IV, "Probable Impact of the Proposed Action on The Environment," with, "The contractor must comply with the conditions issued with the permit."

We realize that the statements are general in nature due to preliminary plans being the sole source of discussion. We, therefore, reserve the right to impose future environmental restrictions on the project at the time final plans are submitted to this office for review.

Jov Brian J. Choy
JAMES S. KUMAGAI, Ph.D.

cc: OEQC
Dept. of Land Utilization



COPY

November 26, 1979

Dr. James S. Kumagai
Deputy Director of Health
Department of Health
P. O. Box 3378
Honolulu, Hawaii 96801

Dear Dr. Kumagai:

Subject: Your Letter of November 15, 1979
on the Environmental Impact
Statement (EIS) for 16-Inch
Waterline Along Kamehameha Highway
from Heeia to Kolokio Street,
Kaneohe, Koolaupoko, Oahu

Thank you for your comments. The statement: "The contractor must comply with the conditions issued with the permit," will be added to Item A2 of Section IV.

Should you have questions or require additional information, please call Lawrence Whang at 548-5221.

Very truly yours,

KAZU HAYASHIDA
Manager and Chief Engineer

cc: R. M. Towill Corp.

RECEIVED
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3274 Loke Pl.
 Honolulu, HI 96816
 November 29, 1979

ASST. MGR. *AKR*
 P/E

Mr. Kazu Hayashida, Manager
 Board of Water Supply
 630 South Beretania St.
 Honolulu, HI 96813

Dear Mr. Hayashida:

I have two questions regarding the initial environmental impact statement for the 16 inch waterline along Kamehameha Highway from Heeia to Kolokio Street in Kaneohe.

1. Does the statement "a tentative schedule shows that construction is planned for the fiscal year ending in 1981" on Page I-4, under sub-title "Phasing and Timing", mean that if all is okay to proceed with the project, it will commence sometime in 1980?

2. On Page II-6, the last paragraph, its stated that the "Heeia Development Company has the development rights to the large parcel which is owned by B. P. Bishop Estate. At the present time, no definite plans for development of this business property has been formulated". Isn't there plans to develop that business property into the Windward Mall shopping center? If that shopping center project starts, will it effect the Board of Water Supply's project in any way?

Mahalo for all your past responses to my inquiries.

Very truly yours,

Roy E. Shigemura

Roy E. Shigemura

R

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



FRANK F. FASI, Mayor
YOSHIE H. FUJINAKA, Chairman
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RYOKICHI HIGASHIONNA
TERESITA R. JUBINSKY
WALLACE S. MIYAHIRA
ROBERT A. SOUZA
CLAUDE T. YAMAMOTO

December 13, 1979

KAZU HAYASHIDA
Manager and Chief Engineer

Mr. Roy E. Shigemura
3274 Loke Place
Honolulu, Hawaii 96816

Dear Mr. Shigemura:

Subject: Your Letter of November 29, 1979,
Commenting on the EIS Preparation
Notice for 16-Inch Waterline Along
Kamehameha Highway from Heeia to
Kolokio Street

Thank you for your interest in our waterline project. We have the following response to your questions:

1. Does the statement "a tentative schedule shows that construction is planned for the fiscal year ending in 1981" on Page I-4, under sub-title "Phasing and Timing," mean that if all is okay to proceed with the project, it will commence sometime in 1980?

Start of construction for this project could begin anytime between July 1980 and June 1981 if the project is approved for funding in fiscal year 1981 and the EIS is approved.

2. On Page II-6, the last paragraph, its (SIC) stated that the "Heeia Development Company has the development rights to the large parcel which is owned by B. P. Bishop Estate. At the present time, no definite plans for development of this property has been formulated." Isn't there plans to develop that business property into the Windward Mall Shopping Center? If that shopping center project starts, will it effect (SIC) the Board of Water Supply's project in any way?

Definite plans for the Windward Mall development were submitted to us after the EIS Preparation Notice was filed.

The shopping center's water demand would be served from the proposed 16-inch main but will not affect the project.



COPY

Mr. Roy E. Shigemura
Page 2

December 13, 1979

Should you have questions or require additional information,
please call Lawrence Whang at 548-5221.

Very truly yours,

Kazu Hayashida
KAZU HAYASHIDA
Manager and Chief Engineer

cc: R. M. Towill Corporation



K. Cheung

DEPARTMENT OF THE ARMY

79-4729

U. S. ARMY ENGINEER DISTRICT, HONOLULU
BUILDING 230
FT. SHAFTER, HAWAII 96858

RECEIVED
DD OF WATER SUPPLY
DEC 3 12 05 PM '79

PODED-PV

30 November 1979

Mr. Tryone Kusao, Director
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Asst. Dir. [Signature]
P/E

Dear Mr. Kusao:

We have reviewed the Environmental Impact Statement for the 16-inch Water Line along Kamehameha Highway from Heeia to Kolokio Street, Kaneohe, Koolaupoko, Oahu, that was transmitted to us by the Environmental Quality Commission.

The project does not affect any of the U.S. Army Corps of Engineers projects or areas of jurisdiction. The waterline requires two stream crossings, Kaneohe and Keaahala Streams, but the waterline will be suspended under existing bridge structures spanning the streams (page I-3, 2nd paragraph). Thus, a Department of the Army permit is not required for the stream crossings.

The waterline will cross the Keaahala Flood Control Channel and the Kaneohe Stream flood hazard areas. The waterline suspended beneath the bridge structures should be constructed so that the waterline does not increase any flood hazards in the stream areas. If the waterline will be susceptible to flood inundations the system should be designed to minimize or eliminate infiltration of flood waters into the system.

We are glad to assist and participate in the environmental review process.

Sincerely yours,

KISUK CHEUNG
Chief, Engineering Division

[Handwritten mark]

PODED-PV
Mr. Tryone Kusao

30 November 1979

CF:

Mr. Kazu Hayashida, Manager
Board of Water Supply
630 South Beretania Street
Honolulu, Hawaii 96813

Environmental Quality Commission
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813 (w/EIS)

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



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FRANK F. FASI, Mayor
YOSHIO H. FUJINAKA, Chairman
DARLETON PANG, Vice Chairman
RYOICHI HIGASHIONNA
TERESITA R. JUBINSKY
WALLACE S. MIYAHIRA
ROBERT A. SOUZA
CLAUDE T. YAMAMOTO

December 7, 1979

KAZU HAYASHIDA
Manager and Chief Engineer

Mr. Kisuk Cheung
Chief, Engineering Division
U. S. Army Engineer District,
Honolulu
Department of the Army
Building 230
Ft. Shafter, Hawaii 96858

Dear Mr. Cheung:

Subject: Your Letter of November 30, 1979
to Mr. Tyrone Kusao on the
Environmental Impact Statement
for the 16-Inch Waterline Along
Kamehameha Highway from Heeia to
Kolokio Street, Kaneohe

Thank you for your comments. The waterline will be designed so that it will not obstruct floodflows in the stream and will minimize or eliminate infiltration of flood waters into the system.

Should you have questions or require additional information, please call Lawrence Whang at 548-5221.

Very truly yours,

KAZU HAYASHIDA
Manager and Chief Engineer

cc: Dept. of Land Utilization
R. M. Towill ✓

Whang



University of Hawaii at Manoa

79 4815
RECEIVED
BD OF WATER SUPPLY
DEC 8 11 46 AM '79

Environmental Center
Crawford 317 • 2550 Campus Road
Honolulu, Hawaii 96822
Telephone (808) 948-7361

*Assl. Dir. 11/27/79
r/c*

Office of the Director

November 28, 1979

RE:0291

Mr. Tyrone Kusao, Director
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Kusao:

Environmental Impact Statement
16-Inch Waterline Along Kamohameha Highway from Heeia to Kolokio Street
Kaneohe, Koolaupoko, Oahu, Hawaii

The Environmental Center review of the above cited EIS has been prepared with the assistance of staff members Doak Cox, Barbara Vogt, and Vincent Shigekuni.

In general the EIS addresses the potential environmental impacts that can be expected to occur from the proposed project. We note a change in the description from the earlier Environmental Assessment from the present EIS concerning the installation of the proposed waterline at the bridge crossings of Kaneohe and Keaahala streams that needs further clarification.

On page 3, the earlier assessment states:

"Two major streams, Kaneohe and Keaahala streams, will require crossings by the new main. At these crossings, the waterline will be offset (emphasis ours) and attached to the downstream side of the existing bridge structure spanning these streams."

From this description it could be construed that the waterline would be installed alongside the existing bridge structure. On page 1-3 of the present Environmental Impact Statement the installation of the proposed waterline at the Kaneohe and Keaahala stream crossings is described as follows:

"At these crossings, the waterline will be suspended under (emphasis ours) the existing bridge structure spanning these streams."

The change from "offset" to "suspended" indicates a probable loss in clearance between the bridge and the stream. If the loss is substantial, the suspended waterline could present an obstruction to debris floating under the

[Handwritten signature]

November 28, 1979

-2-

Tyrone Kusao

bridge flood conditions. We suggest that a water surface profile be provided for these stream crossings showing the present and probable 100-year flood water levels.

We note the coordination of the proposed project with that of the Department of Parks and Recreation project in landscaping Kamehameha Highway. The Environmental Center has always supported efforts of interagency coordination.

Thank you for the opportunity to review this document.

Sincerely,


Doak C. Cox

DCC/cy

cc: Kazu Hayashida, BWS
Donald Bremner, EQC
Richard O'Connell, QEQC
Barbara Vogt
Vincent Shigekuni

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU

630 SOUTH BERETANIA

HONOLULU, HAWAII 96843



COPY

FRANK F. FASI, Mayor
YOSHIE H. FUJINAKA, Chairman
DAN QUON PANG, Vice Chairman
TSUKIKIHI HIGASHIONNA
TERESITA R. JUBINSKY
WILLACE S. MIYAHIRA
ALBERT A. SOUZA
CLAUDE T. YAMAMOTO

December 28, 1979

KAZU HAYASHIDA
Manager and Chief Engineer

Dr. Doak C. Cox
Environmental Center
2550 Campus Road
Crawford 317
Honolulu, Hawaii 96822

Dear Dr. Cox:

Subject: Your Letter of November 28, 1979,
on the Environmental Impact Statement
for 16-Inch Waterline along Kamehameha
Highway from Heeia to Kolokio Street

Thank you for your comments on our environmental document.

In answer to your comment on the bridge crossings, the main will be suspended under the bridges at both Keaahala Stream and Kaneohe Stream. In addition, it will be offset to the downstream edge of the bridge at the Kaneohe Stream crossing. (Refer to attachments.)

The main crossing will be coordinated with both the State and the Corps of Engineers.

A water surface profile will be incorporated into the environmental document to show the clearance between the pipe invert and the 100-year flood level.

Should you have questions or require additional information, please call Lawrence Whang at 548-5221.

Very truly yours,

L.G. Rathbourn
KAZU HAYASHIDA
Manager and Chief Engineer

Attach.

cc: R. M. Towill Corporation

L. Whang
GEORGE R. ARIYOSHI
GOVERNOR



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Dec 7 3 51 PM '79

79-474
RICHARD O'CONNELL
DIRECTOR
TELEPHONE NO.
548-6915

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
OFFICE OF THE GOVERNOR
550 HALEKAUWILA ST.
ROOM 301
HONOLULU, HAWAII 96813

December 5, 1979

Honorable Frank F. Fasi
Mayor City and County of Honolulu

Dear Mayor Fasi:

SUBJECT: Environmental Impact Statement for
16-Inch Waterline Along Kamehameha Highway
From Heeia to Kolokio Street, Kaneohe, Oahu

We have reviewed the subject environmental impact statement
and offer the following comments:

- 1) Page IV-1. Has consideration been given to the effects
on air quality during construction-related
traffic disruptions?

The discussion on noise impact should also
include the effects on the nearby residences
and businesses.
- 2) Page IV-3. To what extent will the businesses listed
on page 11-7 be disturbed during the
construction? Will access be provided
during trenching activities?
- 3) Page IX-1. The commitment of labor, construction materials,
fuel, and capital for the project should be
included in this section.

We trust that our comments will be helpful to you in the
preparation of the revised statement. Thank you for the
opportunity to review this EIS.

Sincerely,

R. O'Connell
Richard L. O'Connell
Director

cc: Kazu Hayashida
Board of Water Supply

PM



COPY

December 14, 1979

Mr. Richard L. O'Connell
Director
Office of Environmental
Quality Control
Room 301
550 Halekauwila Street
Honolulu, Hawaii 96813

Dear Mr. O'Connell:

Subject: Your Letter of December 5, 1979
Commenting on the Environmental
Impact Statement for 16-Inch
Waterline Along Kamehameha Highway
from Heeia to Kolokio Street,
Kaneohe, Oahu

We acknowledge receipt of your letter by the Mayor's office and thank you for reviewing and commenting on our environmental document. Answers to your comments will be incorporated into the revised environmental impact statement.

In response to your comments, we offer the following:

1. "Has consideration been given to the effects on air quality during construction-related traffic disruptions?"

We have considered the effects on air quality. Although air quality will decrease while construction is taking place, it will be similar to the drop in air quality during peak traffic hours. As a mitigative measure, the contractor will be required to work from 8:30 a.m. to 3:30 p.m., Monday to Friday. Also, dust will be controlled by periodic watering by the contractor.

2. "The discussion on noise impact should also include the effects on the nearby residences and businesses."

December 14, 1979

Any increase in noise levels would primarily be attributed to construction equipment. A chart showing the anticipated noise levels from construction equipments will be added to the revised EIS.

3. "To what extent will the businesses listed on page II-7 be disturbed during the construction? Will access be provided during trenching activities?"

The primary impact to businesses during construction would be ingress and egress from their premises by customers and employees. Some dust will be generated, but will be controlled by periodic watering. Access to all properties along the project route will be provided at all times (p. VIII-1).

4. "The commitment of labor, construction materials, fuel, and capital for the project should be included in this section." (p. IX-1)

The commitment of labor, materials, fuel, and capital will be included in the section on "Irreversible and Irrecoverable Commitments of Resources."

Should you have questions or require additional information, please call Lawrence Whang at 548-5221.

Very truly yours,

Kazu Hayashida
KAZU HAYASHIDA
Manager and Chief Engineer

cc: Mayor Frank F. Fasi
✓ R. M. Towill Corporation

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

79-4386-71
Info only

FRANK F. FASI
MAYOR



RECEIVED
BD OF WATER SUPPLY
NOV 6 12 55 PM '79
WALLACE MIYAHIRA
DIRECTOR AND CHIEF ENGINEER
ENV 79-360

Asst. Mgr. NKA
P/E

November 1, 1979

MEMORANDUM

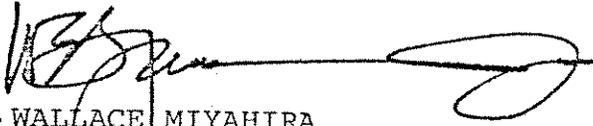
TO : MR. TYRONE KUSAO, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM : WALLACE MIYAHIRA, DIRECTOR AND CHIEF ENGINEER

SUBJECT: EIS FOR 16-INCH WATERLINE ALONG KAMEHAMEHA HIGHWAY
FROM HEEIA TO KOLOKIO STREET, KANEOHE, OAHU, HAWAII

We have reviewed the subject EIS and have the following comment.

1. Appropriate maps of the construction site, project service areas, etc., should be included in the EIS.


WALLACE MIYAHIRA
Director and Chief Engineer

cc: Board of Water Supply

Lary

GEORGE R. ARIYOSHI
GOVERNOR

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Nov 8 3 57 PM '79



JOHN FARIAS, JR.
CHAIRMAN, BOARD OF AGRICULTURE

YUKIO KITAGAWA
DEPUTY TO THE CHAIRMAN

79-4399
Info only

STATE OF HAWAII
DEPARTMENT OF AGRICULTURE
1428 SO. KING STREET
HONOLULU, HAWAII 96814

Asst. Mgr. [Signature]
P/E

November 2, 1979

MEMORANDUM

TO: Mr. Tyrone T. Kusao, Director
Department of Land Utilization
City and County of Honolulu

SUBJECT: EIS for 16-inch waterline along Kanehineia
Highway from Heeia to Kalohio Street, Kaneohe,
Koolauoko, Oahu

The Department of Agriculture has reviewed the subject EIS
and has no comments to offer.

We appreciate the opportunity to comment.

[Signature]
JOHN FARIAS, JR.
Chairman, Board of Agriculture

cc: *[Signature]* Kazu Hayashida, Board of Water Supply
EOC

79-4338

Info only

RECEIVED
BD OF WATER SUPPLY
Nov 6 1979

State of Hawaii
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL
3949 Diamond Head Road
Honolulu, Hawaii 96816

5 NOV 1979

HIENG

Asst. Mgr. *[Signature]*
P/E

Mr. Tyrone Kusao, Director
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Gentlemen:

16-Inch Waterline Along Kamehameha Highway
from Heeia to Kolokio Street
Kaneohe, Kookaupoko, Oahu, Hawaii

Thank you for sending us a copy of the "16-Inch Waterline along
Kamehameha Highway from Heeia to Kolokio Street, Kaneohe, Kookaupoko,
Oahu, Hawaii" Environmental Impact Statement. We have no comments to
offer at this time.

Sincerely,

signed

WAYNE R. TOMOYASU
Major, CE, HARNG
Contr & Engr Officer

cc:
Board of Water Supply
(Mr. Kazu Hayashida, Mgr)

GEORGE R. ARIYOSHI
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF SOCIAL SERVICES AND HOUSING
HAWAII HOUSING AUTHORITY
P. O. BOX 17907
HONOLULU, HAWAII 96817

November 7, 1979

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BD OF WATER SUPPLY

79-4473
Info only

NOV 11 1979
FRANKLIN Y. K. SUNN
EXECUTIVE DIRECTOR

WILLIAM A. HALL
ASSISTANT EXEC. DIRECTOR

IN REPLY REFER

TO: 0-158.1/2795

Mr. Tyrone Kusao, Director
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Asst. Mgr. *[Signature]*
P/E

Dear Mr. Kusao:

SUBJECT: EIS for 16-inch Waterline along Kamehameha
Highway from Heeia to Kolokio Street

The Hawaii Housing Authority has received the subject
Environmental Impact Statement and has no comment to offer.

Thank you for allowing us the opportunity to review the
EIS.

Sincerely,

FRANKLIN Y. K. SUNN
Original Signed

FRANKLIN Y. K. SUNN
Executive Director

cc: Mr. Kazu Hayashida, Manager
Board of Water Supply
Environmental Quality Commission
Office of the Governor

DSSH

HW:rmk

DEPARTMENT OF THE ARMY
HEADQUARTERS UNITED STATES ARMY SUPPORT COMMAND, HAWAII
FORT SHAFTER, HAWAII 96858

RECEIVED 79-4438
BD OF WATER SUPPLY Info only

APZV-EHE-E

NOV 1979

Asst. mgr. HR
P/E

Mr. Tyrone Kusao, Director
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Kusao:

The Environmental Impact Statement (EIS) for 16-Inch Waterline Along Kamehameha Highway From Heeia to Kolokio Street, Kaneohe, Koolaupoko, Oahu, Hawaii, has been reviewed and we have no comments to offer at this time. There are no Army installations or activities in the vicinity of the proposed project.

Sincerely,

Original signed by

PETER D. STEARNS
COL, EN
Director of Engineering and Housing

CF:
Kazu Hayashida, Manager
Board of Water Supply
630 South Beretania Street
Honolulu, Hawaii 96813

11/13/79

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Nov 13 1 11 PM '79

77-4452
Wife only

Asst. Mgr. *[Signature]*
P/E

November 8, 1979

STP 8.5825

Mr. Tyrone Kusao, Director
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Kusao:

Subject: EIS - 16-Inch Waterline Along
Kamehameha Highway from Heeia
to Kolokio Street, Kaneohe,
Koolauoko, Oahu

Thank you very much for giving us the opportunity to
review and comment on the above-captioned EIS. We have
no substantive comments to offer which could improve the
Statement.

Very truly yours,

[Signature]

AM LEONG KAM

State Transportaton Planner

ALK:jk

cc: HWY-P
OEQC
Kazu Hayashida

L. Whang

79-4466
Info only

STATE OF HAWAII
DEPARTMENT OF PLANNING AND
ECONOMIC DEVELOPMENT
P. O. Box 1357
Honolulu, Hawaii 96804

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BOARD OF WATER SUPPLY
NOV 14 12 13 PM '79

November 9, 1979

Ref. No. 0254

Asst. Mgr. [Signature]
P/E

Mr. Tyrone Kusao, Director
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

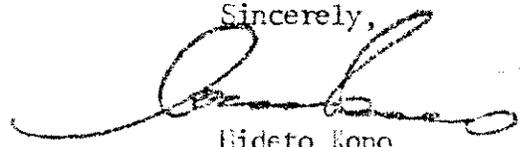
Dear Mr. Kusao:

Subject: Environmental Impact Statement for 16-Inch Waterline
Along Kanehameha Highway from Heeia to Kolokio Street

We have reviewed the subject EIS and find that it has adequately identified the major environmental impacts which can be anticipated to result from the proposed project.

We have no further comments to offer at this time but appreciate the opportunity to review and comment upon this matter.

Sincerely,



Nideto Kono

cc: ✓ Mr. Kazu Hayashida, Manager
Board of Water Supply
City and County of Honolulu

Ph

HEADQUARTERS
NAVAL BASE PEARL HARBOR
BOX 110
PEARL HARBOR, HAWAII 96860

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Asst. Dir. *[Signature]*
P/E

Mr. Tyrone Kusao, Director
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Kusao:

Environmental Impact Statement for 16-inch Waterline
along Kamehameha Highway from Heeia to Kokokio Street
Kaneohe, Koolaupoko, Oahu, Hawaii

The Environmental Impact Statement for the 16-inch waterline along
Kamehameha Highway from Heeia to Kolokio Street forwarded by the State
Environmental Quality Commission has been reviewed and the Navy has no
comments to offer. The EIS is being returned to the Commission by copy
of this letter.

The opportunity to review the subject EIS is appreciated.

Sincerely,

[Signature]

J. W. CARL
LIEUTENANT COMMANDER, CEC, USN
DEPUTY FACILITIES ENGINEER
BY DIRECTION OF THE COMMANDER

Copy to:
BWS
State EQC (w/EIS)

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Info only
2

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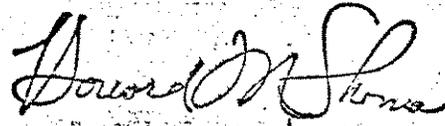
November 14, 1979

TO: MR. T. KUSAO, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM: HOWARD M. SHIMA
DIRECTOR AND BUILDING SUPERINTENDENT

SUBJECT: EIS FOR 16-INCH WATERLINE ALONG KAMEHAMEHA
HIGHWAY FROM HEEIA TO KOLOKIO STREET

We have reviewed the subject EIS preparation notice and have no comments to offer.



HOWARD M. SHIMA
Director and Building Superintendent

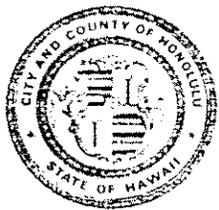
AF:jo
cc: J. Harada
Board of Water Supply

L. Young

DEPARTMENT OF TRANSPORTATION & WATER SUPPLY
CITY AND COUNTY OF HONOLULU
HONOLULU MUNICIPAL BUILDING
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

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FRANK F. FASI
MAYOR

ROBERT R. WAY
DIRECTOR

TE10/79-3265

November 16, 1979

P/E

MEMORANDUM

TO : TYRONE KUSAO, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM : ROBERT R. WAY, DIRECTOR

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT FOR 16-INCH WATERLINE
ALONG KAMEHAMEHA HIGHWAY FROM HEEIA TO KOLOKIO STREET

The Environmental Impact Statement on page IV-2, indicates that motorists will be inconvenienced during the construction period. It should be noted that bus service will also be affected since there are several bus stops located along the project route.

ROBERT R. WAY
Director

✓ cc: Board of Water Supply

An

L. Whang

79-4-53
Info only

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
CITY AND COUNTY OF HONOLULU

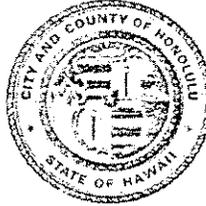
650 SOUTH KING STREET
HONOLULU, HAWAII 96813
PHONE 523-4161

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P/E

FRANK F. FASI
MAYOR

EDWARD Y. HIRATA
MANAGING DIRECTOR



BARRY CHUNG
DIRECTOR

MYRA M. TAKASAKI
DEPUTY DIRECTOR

November 26, 1979

Environmental Quality Commission
State of Hawaii
550 Halekauwila Street, Rm. 301
Honolulu, Hawaii 96813

Gentlemen:

Subject: 16-Inch Waterline Along Kamehameha
Highway from Heeia to Kolokio Street,
Kaneohe, Koolaupoko, Oahu, Hawaii
Environmental Impact Statement

We have reviewed the environmental impact statement
for the 16-inch waterline along Kamehameha Highway in Kaneohe
and have no comment.

Thank you for forwarding the EIS for our review.

Per your request, we are returning the copy of the EIS.

Very truly yours,

Barry Chung
Barry Chung

Enc.

cc: Department of Land Utilization
Board of Water Supply

Ph

cc: Kazu Hayashida

h. Chang

77-4-11-0
In Reply

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
HONOLULU, HAWAII

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Asst. Mgr. *[Signature]*
P/E

Mr. Tyrone Kusao, Director
Department of Land Utilization
City and County of Honolulu
650 South King St.
Honolulu, HI 96813

Dear Mr. Kusao:

Subject: EIS for 16-inch Waterline Along Kanehamcha Highway
From Heeia to Kolokio Street, Kaneohe, Oahu

We reviewed the subject environmental impact statement and have
no comments to offer.

Thank you for the opportunity to review this document.

Sincerely,

[Signature]

Jack P. Kanalz
State Conservationist

cc:
Kazu Hayashida, Manager
Board of Water Supply
630 South Beretania Street
Honolulu, Hawaii 96813

Donald A. Bremner, Chairman
Environmental Quality Commission
Office of the Governor
550 Halekauwila St., Room 301
Honolulu, Hawaii 96813

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DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 15TH AIR FORCE WING (PACAF)
HICKAM AIR FORCE BASE, HAWAII 96853

For info
only

79-4936



13 DEC 1979

REPLY TO
ATTN OF: DEEV (Mr Shiroma, 449-1831)

SUBJECT: EIS for 16-Inch Waterline Along Kamehameha Highway from Heeia to
Kolokio Street

TO: Mr Tyrone Kusao, Director
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, HI 96813

ASST. MGR. *[Signature]*
P/E

1. This office has reviewed the subject EIS and has no comment to render relative to the proposed project.
2. We greatly appreciate your cooperative efforts in keeping the Air Force apprised of your project and thank you for the opportunity to review the document.

Original signed by

ROBERT Q. K. CHING
Chief, Engrg & Envmtl Plgn Div
Directorate of Civil Engineering

Cy to: Mr Kazu Hayashida, Manager
Board of Water Supply
630 South Beretania St.
Honolulu, HI 96813

APPENDIX B

COMMENTS AND REPLIES TO THE EIA



Whang



University of Hawaii at Manoa

79 4815
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Environmental Center
Crawford 317 • 2550 Campus Road
Honolulu, Hawaii 96822
Telephone (808) 948-7361

*Assl. Dir. 11/27/79
r/c*

Office of the Director

November 28, 1979

RE:0291

Mr. Tyrone Kusao, Director
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Kusao:

Environmental Impact Statement
16-Inch Waterline Along Kamohameha Highway from Heeia to Kolokio Street
Kaneohe, Koolaupoko, Oahu, Hawaii

The Environmental Center review of the above cited EIS has been prepared with the assistance of staff members Doak Cox, Barbara Vogt, and Vincent Shigekuni.

In general the EIS addresses the potential environmental impacts that can be expected to occur from the proposed project. We note a change in the description from the earlier Environmental Assessment from the present EIS concerning the installation of the proposed waterline at the bridge crossings of Kaneohe and Keaahala streams that needs further clarification.

On page 3, the earlier assessment states:

"Two major streams, Kaneohe and Keaahala streams, will require crossings by the new main. At these crossings, the waterline will be offset (emphasis ours) and attached to the downstream side of the existing bridge structure spanning these streams."

From this description it could be construed that the waterline would be installed alongside the existing bridge structure. On page 1-3 of the present Environmental Impact Statement the installation of the proposed waterline at the Kaneohe and Keaahala stream crossings is described as follows:

"At these crossings, the waterline will be suspended under (emphasis ours) the existing bridge structure spanning these streams."

The change from "offset" to "suspended" indicates a probable loss in clearance between the bridge and the stream. If the loss is substantial, the suspended waterline could present an obstruction to debris floating under the

[Handwritten signature]

November 28, 1979

-2-

Tyrone Kusao

bridge flood conditions. We suggest that a water surface profile be provided for these stream crossings showing the present and probable 100-year flood water levels.

We note the coordination of the proposed project with that of the Department of Parks and Recreation project in landscaping Kamehameha Highway. The Environmental Center has always supported efforts of interagency coordination.

Thank you for the opportunity to review this document.

Sincerely,


Doak C. Cox

DCC/cy

cc: Kazu Hayashida, BWS
Donald Bremner, EQC
Richard O'Connell, QEQC
Barbara Vogt
Vincent Shigekuni

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU

630 SOUTH BERETANIA

HONOLULU, HAWAII 96843



COPY

FRANK F. FASI, Mayor
YOSHIE H. FUJINAKA, Chairman
DAN QUON PANG, Vice Chairman
TSUKIKIHI HIGASHIONNA
TERESITA R. JUBINSKY
WILLACE S. MIYAHIRA
ALBERT A. SOUZA
CLAUDE T. YAMAMOTO

December 28, 1979

KAZU HAYASHIDA
Manager and Chief Engineer

Dr. Doak C. Cox
Environmental Center
2550 Campus Road
Crawford 317
Honolulu, Hawaii 96822

Dear Dr. Cox:

Subject: Your Letter of November 28, 1979,
on the Environmental Impact Statement
for 16-Inch Waterline along Kamehameha
Highway from Heeia to Kolokio Street

Thank you for your comments on our environmental document.

In answer to your comment on the bridge crossings, the main will be suspended under the bridges at both Keaahala Stream and Kaneohe Stream. In addition, it will be offset to the downstream edge of the bridge at the Kaneohe Stream crossing. (Refer to attachments.)

The main crossing will be coordinated with both the State and the Corps of Engineers.

A water surface profile will be incorporated into the environmental document to show the clearance between the pipe invert and the 100-year flood level.

Should you have questions or require additional information, please call Lawrence Whang at 548-5221.

Very truly yours,

L.G. Rathbourn
KAZU HAYASHIDA
Manager and Chief Engineer

Attach.

cc: R. M. Towill Corporation

L. Whang
GEORGE R. ARIYOSHI
GOVERNOR



RECEIVED
BD OF WATER SUPPLY
Dec 7 3 51 PM '79

79-474
RICHARD O'CONNELL
DIRECTOR
TELEPHONE NO.
548-6915

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
OFFICE OF THE GOVERNOR
550 HALEKAUWILA ST.
ROOM 301
HONOLULU, HAWAII 96813

December 5, 1979

Honorable Frank F. Fasi
Mayor City and County of Honolulu

Dear Mayor Fasi:

SUBJECT: Environmental Impact Statement for
16-Inch Waterline Along Kamehameha Highway
From Heeia to Kolokio Street, Kaneohe, Oahu

We have reviewed the subject environmental impact statement and offer the following comments:

- 1) Page IV-1. Has consideration been given to the effects on air quality during construction-related traffic disruptions?

The discussion on noise impact should also include the effects on the nearby residences and businesses.
- 2) Page IV-3. To what extent will the businesses listed on page 11-7 be disturbed during the construction? Will access be provided during trenching activities?
- 3) Page IX-1. The commitment of labor, construction materials, fuel, and capital for the project should be included in this section.

We trust that our comments will be helpful to you in the preparation of the revised statement. Thank you for the opportunity to review this EIS.

Sincerely,

R. O'Connell
Richard L. O'Connell
Director

cc: Kazu Hayashida
Board of Water Supply

PM



COPY

December 14, 1979

Mr. Richard L. O'Connell
Director
Office of Environmental
Quality Control
Room 301
550 Halekauwila Street
Honolulu, Hawaii 96813

Dear Mr. O'Connell:

Subject: Your Letter of December 5, 1979
Commenting on the Environmental
Impact Statement for 16-Inch
Waterline Along Kamehameha Highway
from Heeia to Kolokio Street,
Kaneohe, Oahu

We acknowledge receipt of your letter by the Mayor's office and thank you for reviewing and commenting on our environmental document. Answers to your comments will be incorporated into the revised environmental impact statement.

In response to your comments, we offer the following:

1. "Has consideration been given to the effects on air quality during construction-related traffic disruptions?"

We have considered the effects on air quality. Although air quality will decrease while construction is taking place, it will be similar to the drop in air quality during peak traffic hours. As a mitigative measure, the contractor will be required to work from 8:30 a.m. to 3:30 p.m., Monday to Friday. Also, dust will be controlled by periodic watering by the contractor.

2. "The discussion on noise impact should also include the effects on the nearby residences and businesses."

December 14, 1979

Any increase in noise levels would primarily be attributed to construction equipment. A chart showing the anticipated noise levels from construction equipments will be added to the revised EIS.

3. "To what extent will the businesses listed on page II-7 be disturbed during the construction? Will access be provided during trenching activities?"

The primary impact to businesses during construction would be ingress and egress from their premises by customers and employees. Some dust will be generated, but will be controlled by periodic watering. Access to all properties along the project route will be provided at all times (p. VIII-1).

4. "The commitment of labor, construction materials, fuel, and capital for the project should be included in this section." (p. IX-1)

The commitment of labor, materials, fuel, and capital will be included in the section on "Irreversible and Irrecoverable Commitments of Resources."

Should you have questions or require additional information, please call Lawrence Whang at 548-5221.

Very truly yours,

Kazu Hayashida
KAZU HAYASHIDA
Manager and Chief Engineer

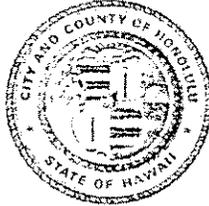
cc: Mayor Frank F. Fasi
✓ R. M. Towill Corporation

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

79-4386-71
Info only

FRANK F. FASI
MAYOR



RECEIVED
BD OF WATER SUPPLY
NOV 6 12 55 PM '79
WALLACE MIYAHIRA
DIRECTOR AND CHIEF ENGINEER
ENV 79-360

Asst. Mgr. NKA
P/E

November 1, 1979

MEMORANDUM

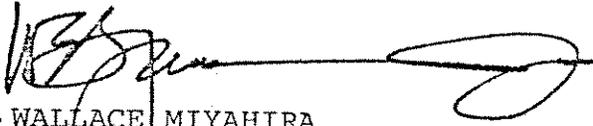
TO : MR. TYRONE KUSAO, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM : WALLACE MIYAHIRA, DIRECTOR AND CHIEF ENGINEER

SUBJECT: EIS FOR 16-INCH WATERLINE ALONG KAMEHAMEHA HIGHWAY
FROM HEEIA TO KOLOKIO STREET, KANEOHE, OAHU, HAWAII

We have reviewed the subject EIS and have the following comment.

1. Appropriate maps of the construction site, project service areas, etc., should be included in the EIS.


WALLACE MIYAHIRA
Director and Chief Engineer

cc: Board of Water Supply

Lary

GEORGE R. ARIYOSHI
GOVERNOR

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Nov 6 3 57 PM '79



JOHN FARIAS, JR.
CHAIRMAN, BOARD OF AGRICULTURE

YUKIO KITAGAWA
DEPUTY TO THE CHAIRMAN

79-4399
Info only

STATE OF HAWAII
DEPARTMENT OF AGRICULTURE
1428 SO. KING STREET
HONOLULU, HAWAII 96814

Asst. Dir. [Signature]
P/E

November 2, 1979

MEMORANDUM

TO: Mr. Tyrone T. Kusao, Director
Department of Land Utilization
City and County of Honolulu

SUBJECT: EIS for 16-inch waterline along Kanehimeia
Highway from Heeia to Kalohio Street, Kaneohe,
Koolauoko, Oahu

The Department of Agriculture has reviewed the subject EIS
and has no comments to offer.

We appreciate the opportunity to comment.

[Signature]
JOHN FARIAS, JR.
Chairman, Board of Agriculture

cc: *[Signature]* Kazu Hayashida, Board of Water Supply
EOC

79-4338

Info only

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BD OF WATER SUPPLY
Nov 6 1979

State of Hawaii
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL
3949 Diamond Head Road
Honolulu, Hawaii 96816

5 NOV 1979

HIENG

Asst. Mgr. *[Signature]*
P/E

Mr. Tyrone Kusao, Director
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Gentlemen:

16-Inch Waterline Along Kamehameha Highway
from Heeia to Kolokio Street
Kaneohe, Kooakaupoko, Oahu, Hawaii

Thank you for sending us a copy of the "16-Inch Waterline along
Kamehameha Highway from Heeia to Kolokio Street, Kaneohe, Kooakaupoko,
Oahu, Hawaii" Environmental Impact Statement. We have no comments to
offer at this time.

Sincerely,

signed

WAYNE R. TOMOYASU
Major, CE, HARNG
Contr & Engr Officer

cc:
Board of Water Supply
(Mr. Kazu Hayashida, Mgr)

GEORGE R. ARIYOSHI
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF SOCIAL SERVICES AND HOUSING
HAWAII HOUSING AUTHORITY
P. O. BOX 17907
HONOLULU, HAWAII 96817

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BD OF WATER SUPPLY

79-4473
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NOV 11 1979
FRANKLIN Y. K. SUNN
EXECUTIVE DIRECTOR

WILLIAM A. HALL
ASSISTANT EXEC. DIRECTOR

IN REPLY REFER

TO: 0-158.1/2795

November 7, 1979

Mr. Tyrone Kusao, Director
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Asst. Mgr. *[Signature]*
P/E

Dear Mr. Kusao:

SUBJECT: EIS for 16-inch Waterline along Kamehameha
Highway from Heeia to Kolokio Street

The Hawaii Housing Authority has received the subject
Environmental Impact Statement and has no comment to offer.

Thank you for allowing us the opportunity to review the
EIS.

Sincerely,

FRANKLIN Y. K. SUNN
Original Signed

FRANKLIN Y. K. SUNN
Executive Director

cc: Mr. Kazu Hayashida, Manager
Board of Water Supply
Environmental Quality Commission
Office of the Governor

DSSH

HW:rmk

DEPARTMENT OF THE ARMY
HEADQUARTERS UNITED STATES ARMY SUPPORT COMMAND, HAWAII
FORT SHAFTER, HAWAII 96858

RECEIVED 79-4438
BD OF WATER SUPPLY Info only

APZV-EHE-E

NOV 1979

Asst. mgr. HR
P/E

Mr. Tyrone Kusao, Director
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Kusao:

The Environmental Impact Statement (EIS) for 16-Inch Waterline Along Kamehameha Highway From Heeia to Kolokio Street, Kaneohe, Koolaupoko, Oahu, Hawaii, has been reviewed and we have no comments to offer at this time. There are no Army installations or activities in the vicinity of the proposed project.

Sincerely,

Original signed by

PETER D. STEARNS
COL, EN
Director of Engineering and Housing

CF:
Kazu Hayashida, Manager
Board of Water Supply
630 South Beretania Street
Honolulu, Hawaii 96813

11/13/79

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Wife only

Asst. Mgr. *[Signature]*
P/E

November 8, 1979

STP 8.5825

Mr. Tyrone Kusao, Director
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Kusao:

Subject: EIS - 16-Inch Waterline Along
Kamehameha Highway from Heeia
to Kolokio Street, Kaneohe,
Koolauloko, Oahu

Thank you very much for giving us the opportunity to
review and comment on the above-captioned EIS. We have
no substantive comments to offer which could improve the
Statement.

Very truly yours,

[Signature]

AM LEONG KAM

State Transportaton Planner

ALK:jk

cc: HWY-P
OEQC
Kazu Hayashida

L. Whang

79-4466
Info only

STATE OF HAWAII
DEPARTMENT OF PLANNING AND
ECONOMIC DEVELOPMENT
P. O. Box 1357
Honolulu, Hawaii 96804

RECEIVED
BOARD OF WATER SUPPLY
NOV 14 12 13 PM '79

November 9, 1979

Ref. No. 0254

*Asst. Mgr. [Signature]
P/E*

Mr. Tyrone Kusao, Director
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

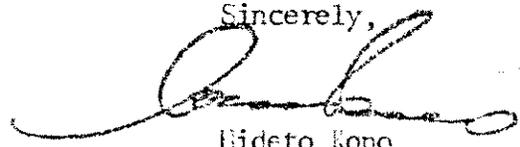
Dear Mr. Kusao:

Subject: Environmental Impact Statement for 16-Inch Waterline
Along Kanehameha Highway from Heeia to Kolokio Street

We have reviewed the subject EIS and find that it has adequately identified the major environmental impacts which can be anticipated to result from the proposed project.

We have no further comments to offer at this time but appreciate the opportunity to review and comment upon this matter.

Sincerely,



Nideto Kono

cc: ✓ Mr. Kazu Hayashida, Manager
Board of Water Supply
City and County of Honolulu

[Handwritten mark]

HEADQUARTERS
NAVAL BASE PEARL HARBOR
BOX 110
PEARL HARBOR, HAWAII 96860

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IN REPLY REFER TO:
002A:amn
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14 NOV 1979

Asst. Dir. *[Signature]*
P/E

Mr. Tyrone Kusao, Director
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Kusao:

Environmental Impact Statement for 16-inch Waterline
along Kamehameha Highway from Heeia to Kokokio Street
Kaneohe, Koolaupoko, Oahu, Hawaii

The Environmental Impact Statement for the 16-inch waterline along Kamehameha Highway from Heeia to Kolokio Street forwarded by the State Environmental Quality Commission has been reviewed and the Navy has no comments to offer. The EIS is being returned to the Commission by copy of this letter.

The opportunity to review the subject EIS is appreciated.

Sincerely,

[Signature]

J. W. CARL
LIEUTENANT COMMANDER, CEC, USN
DEPUTY FACILITIES ENGINEER
BY DIRECTION OF THE COMMANDER

Copy to:
BWS
State EQC (w/EIS)

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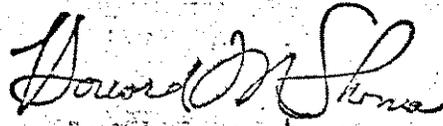
November 14, 1979

TO: MR. T. KUSAO, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM: HOWARD M. SHIMA
DIRECTOR AND BUILDING SUPERINTENDENT

SUBJECT: EIS FOR 16-INCH WATERLINE ALONG KAMEHAMEHA
HIGHWAY FROM HEEIA TO KOLOKIO STREET

We have reviewed the subject EIS preparation notice and have no comments to offer.



HOWARD M. SHIMA
Director and Building Superintendent

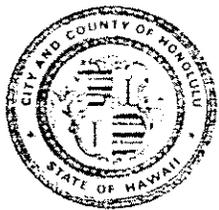
AF:jo
cc: J. Harada
Board of Water Supply

L. Young

DEPARTMENT OF TRANSPORTATION & WATER SUPPLY
CITY AND COUNTY OF HONOLULU
HONOLULU MUNICIPAL BUILDING
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

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FRANK F. FASI
MAYOR

ROBERT R. WAY
DIRECTOR

TE10/79-3265

November 16, 1979

P/E

MEMORANDUM

TO : TYRONE KUSAO, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM : ROBERT R. WAY, DIRECTOR

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT FOR 16-INCH WATERLINE
ALONG KAMEHAMEHA HIGHWAY FROM HEEIA TO KOLOKIO STREET

The Environmental Impact Statement on page IV-2, indicates that motorists will be inconvenienced during the construction period. It should be noted that bus service will also be affected since there are several bus stops located along the project route.

ROBERT R. WAY
Director

✓ cc: Board of Water Supply

An

L. Whang

79-4-53
Info only

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813
PHONE 523-4161

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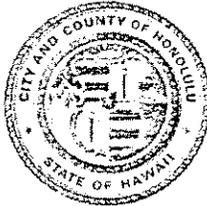
P/E

FRANK F. FASI
MAYOR

BARRY CHUNG
DIRECTOR

EDWARD Y. HIRATA
MANAGING DIRECTOR

MYRA M. TAKASAKI
DEPUTY DIRECTOR



November 26, 1979

Environmental Quality Commission
State of Hawaii
550 Halekauwila Street, Rm. 301
Honolulu, Hawaii 96813

Gentlemen:

Subject: 16-Inch Waterline Along Kamehameha
Highway from Heeia to Kolokio Street,
Kaneohe, Koolaupoko, Oahu, Hawaii
Environmental Impact Statement

We have reviewed the environmental impact statement
for the 16-inch waterline along Kamehameha Highway in Kaneohe
and have no comment.

Thank you for forwarding the EIS for our review.

Per your request, we are returning the copy of the EIS.

Very truly yours,

Barry Chung
Barry Chung

Enc.

cc: Department of Land Utilization
Board of Water Supply

Ph

cc: Kazu Hayashida

h. Chang

77-4-11-0
In Reply

U. S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
HONOLULU, HAWAII

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DEC 6 11 45 AM '79

Asst. Mgr. *[Signature]*
P/E

Mr. Tyrone Kusao, Director
Department of Land Utilization
City and County of Honolulu
650 South King St.
Honolulu, HI 96813

Dear Mr. Kusao:

Subject: EIS for 16-inch Waterline Along Kanehamcha Highway
From Heeia to Kolokio Street, Kaneohe, Oahu

We reviewed the subject environmental impact statement and have
no comments to offer.

Thank you for the opportunity to review this document.

Sincerely,

[Signature]

Jack P. Kanalz
State Conservationist

cc:
Kazu Hayashida, Manager
Board of Water Supply
630 South Beretania Street
Honolulu, Hawaii 96813

Donald A. Bremner, Chairman
Environmental Quality Commission
Office of the Governor
550 Halekauwila St., Room 301
Honolulu, Hawaii 96813

[Handwritten mark]

RECEIVED
BO OF WATER SUPPLY
DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 15TH AIR FORCE WING (PACAF)
HICKAM AIR FORCE BASE, HAWAII 96853

79-4936
For info only
DEC 11 11 00 AM '79
J



13 DEC 1979

REPLY TO
ATTN OF: DEEV (Mr Shiroma, 449-1831)

SUBJECT: EIS for 16-Inch Waterline Along Kamehameha Highway from Heeia to Kolokio Street

TO: Mr Tyrone Kusao, Director
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, HI 96813

ASST. MGR. *[Signature]*
P/E

1. This office has reviewed the subject EIS and has no comment to render relative to the proposed project.
2. We greatly appreciate your cooperative efforts in keeping the Air Force apprised of your project and thank you for the opportunity to review the document.

Original signed by

ROBERT Q. K. CHING
Chief, Engrg & Envmtl Plgn Div
Directorate of Civil Engineering

Cy to: Mr Kazu Hayashida, Manager
Board of Water Supply
630 South Beretania St.
Honolulu, HI 96813

APPENDIX B

COMMENTS AND REPLIES TO THE EIA

