

May 13, 1977

Mr. Wallace S. Miyahira
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

MAY 23 1977

Dear Mr. Miyahira:

Based upon the recommendation of the Office of Environmental Quality Control, I am pleased to accept the Environmental Impact Statement for East Kakaako Area Major Drain and Kapiolani Boulevard-Beretania Street Relief Drain, Honolulu, as satisfactory fulfillment of the requirements of Chapter 343, Hawaii Revised Statutes, and the Executive Order of August 23, 1971. This environmental impact statement will be a useful tool in the process of deciding whether or not the action described therein should or should not be allowed to proceed. My acceptance of the statement is an affirmation of the adequacy of that statement under the applicable laws, and does not constitute an endorsement of the proposed action.

When you make your decision regarding the proposed action itself, I hope you will weigh carefully whether the societal benefits justify the environmental impacts which will likely occur. These impacts are adequately described in the statement, and, together with the comments made by reviewers, will provide you with a useful analysis of alternatives to the proposed action.

With warm personal regards, I remain,

Yours very truly,


George R. Ariyoshi

bcc: ✓ Dr. Richard E. Marland

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

REVISED
ENVIRONMENTAL IMPACT STATEMENT
FOR THE
EAST KAKAAKO AREA MAJOR DRAIN AND
KAPIOLANI BOULEVARD-BERETANIA STREET RELIEF DRAIN
HONOLULU, OAHU, HAWAII
TAX MAP KEY: 2-1

This environmental document is submitted pursuant to
Chapter 343, HRS of the Hawaii Revised Statutes

Responsible Official

Wallace S. Miyahira
WALLACE S. MIYAHIRA
Director and Chief Engineer
Department of Public Works

3/24/71
DATE

Accepting Authority - Governor, State of Hawaii

Prepared By:

WILLIAM HEE & ASSOCIATES, INC.
Engineers - Surveyors - Planners
1020 Auahi Street, Building 1, Room 1
Honolulu, Hawaii 96814

T A B L E O F C O N T E N T S

	<u>PAGE</u>
I. SUMMARY	1
A. DESCRIPTION OF THE PROPOSED ACTION	1
B. DESCRIPTION OF THE ENVIRONMENTAL SETTING	1
C. SUMMARY OF ENVIRONMENTAL IMPACTS	2
D. LIST OF ALTERNATIVES CONSIDERED	3
II. DESCRIPTION OF THE PROPOSED ACTION	3
A. PURPOSE AND NEED	3
B. THE PROPOSED ACTION	8
C. DRAINAGE REQUIREMENTS AND DESIGN PROVISIONS	14
D. PROJECT AUTHORIZATION AND FUNDING	16
E. BACKGROUND OF THE PROJECT-HISTORIC PERSPECTIVE	17
F. ECONOMIC AND SOCIAL CHARACTERISTIC OF PROJECT	19
III. DESCRIPTION OF THE ENVIRONMENTAL SETTING	20
A. GENERAL DESCRIPTION OF THE KAKAAKO AND KAPIOLANI BOULEVARD/BERETANIA STREET AREAS.	20
B. DESCRIPTION OF THE PROJECT IMPACT AREA	22
C. TRAFFIC CIRCULATION	36
D. EXISTING DRAINAGE CONDITIONS	37
E. MARINE ENVIRONMENT AT THE OCEAN OUTLET	38
IV. THE RELATIONSHIP OF THE PROPOSED ACTION TO LAND USE PLANS, POLICIES AND CONTROLS	42
V. THE PROBABLE IMPACTS OF THE PROPOSED ACTION ON THE ENVIRONMENT	43
A. NOISE	43

B.	AIR QUALITY	45
C.	WATER QUALITY AND MARINE ENVIRONMENT.	46
D.	SOCIO-ECONOMIC	48
E.	SCHOOLS	50
F.	WILDLIFE AND VEGETATION	50
G.	CONSTRUCTION IMPACTS	51
VI.	ALTERNATIVES TO THE PROPOSED ACTION	60
A.	DO NOTHING	63
B.	IMPROVE INTAKE STRUCTURES	63
C.	ALTERNATIVE DRAIN ROUTES	63
VII.	PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED	66
A.	NOISE	66
B.	AIR QUALITY	67
C.	WATER QUALITY AND MARINE ENVIRONMENT	67
D.	SOCIO-ECONOMIC	68
E.	WILDLIFE AND VEGETATION	68
F.	CONSTRUCTION IMPACTS	68
G.	IMPROVED DRAINAGE	69
VIII.	THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY	69
IX.	MITIGATION MEASURES TO MINIMIZE IMPACT	70
X.	IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES	71
XI.	ORGANIZATIONS AND PERSONS CONSULTED	71

XII. LIST OF NECESSARY APPROVALS	73
BIBLIOGRAPHY	75
APPENDIX A (Comments and Responses Concerning the Design of the East Kakaako Area Major Drain)	77
APPENDIX B (Comments and Responses Prepared During the Preparation of the EIS)	86
APPENDIX C (Comments and Responses Prepared During the Review of the EIS).	114

LIST OF FIGURES

<u>FIGURE</u>	<u>PAGE</u>
1 Project Location Map	4
2 Project Area/Drain Map	5
3 State Container Yard Facility	12
4 Photos-Project Area	23
5 City and County Zoning Map	24
6 City and County General Plan	25
7 Photos - Government Facilities	29
8 Property Ownership Patterns	33

9	Photos - Existing Drain Outlet	47
10	Mass Transit Guideway - Plan	61
11	Mass Transit Guideway - Profile	62

I. SUMMARY

A. DESCRIPTION OF THE PROPOSED ACTION

The City and County of Honolulu is proposing to improve and expand the capacity of the drainage systems in the East Kakaako and Kapiolani/Beretania areas. The projects are designed to accommodate a need for adequate drainage within the mentioned areas in accordance with the Drainage Master Plan for the City and County of Honolulu. Its design features will conform to a general drainage improvement program for that area. The proposed work include the installation of new drain lines, catch basins, adjustments to existing utilities and improvement of the outlet just Diamond Head of the Honolulu Harbor main entrance channel.

B. DESCRIPTION OF ENVIRONMENTAL SETTING

The project is located in Honolulu, Hawaii in the Kakaako and Kapiolani/Beretania Districts. The affected drainage area is bounded by the Lunalilo Freeway on the east, the Ward Avenue drainage areas on the west, and the Punchbowl Street drainage areas on the north. The southern boundary is bordered by an open ditch and the ocean. This area contains a diverse mixture of high rise medical, municipal and business buildings and older office, residential, and light industrial structures. The northern portion of the affected area contains medical facilities such as the Queen's Medical Center, The Medical Group, the Blood Bank of Hawaii,

and the Hawaii Medical Library. Government facilities included in this area are the State Capitol, Kinau Hale, the Department of Health Building, Liliuokalani Building, the State Office Building, City Hall, Board of Water Supply Building, the Municipal Office Building, and the City Mass Transit Bus Facility.

The remaining lower portion of the affected area often referred to as the Kakaako Industrial Area, contains a mixture of land uses including office buildings, residential units, restaurants, and light industry. The outlet of the proposed drains transect the State Container Yard Facility.

The proposed improvement encompasses the drainage of an area of approximately 187.8 acres, reaching the Lunalilo Freeway to the ocean. This entails the construction of approximately 7,600 lineal feet of drain line.

C. SUMMARY OF ENVIRONMENTAL IMPACTS

- . Dust emission from construction activities of the drains.
- . Air pollution due to exhaust emission of construction equipment.
- . Increased noise levels due to construction activities.
- . Increased turbidity and discoloration of the ocean water at the outlet due to the box drain construction.

- . Increased turbidity and discoloration of the ocean water at the outlet due to the construction of the lined ditch.
- . Inconveniences to motorists, pedestrians, and abutting land owners during the construction period.
- . Possible conflict in alignment between the proposed mass transit system guideway and the proposed drain.

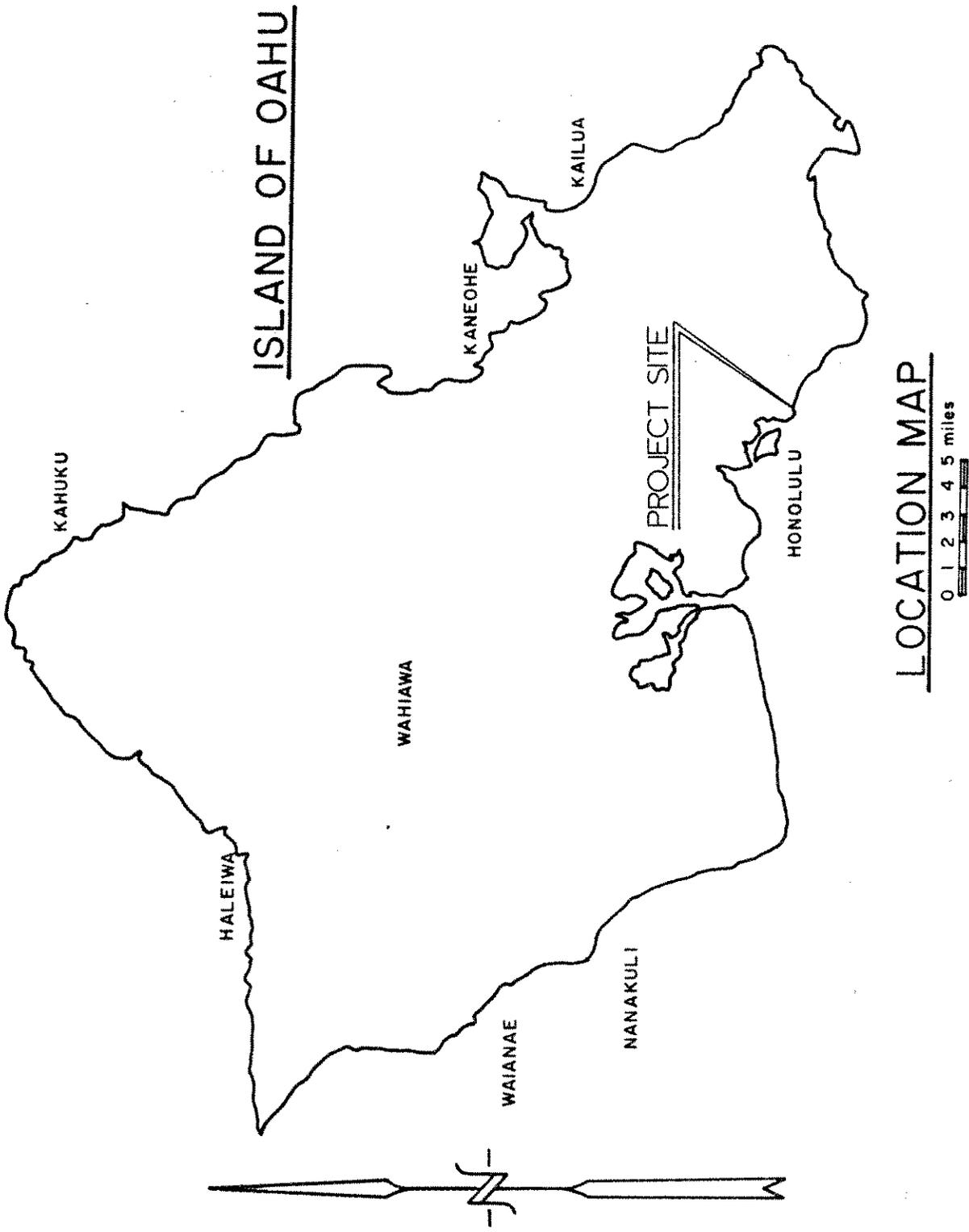
D. LIST OF ALTERNATIVES CONSIDERED

1. Do-Nothing.
2. Provide street improvements to direct the storm waters into the existing drainage system.
3. Findings and Conclusion - The proposed project will provide the necessary conduit to convey storm runoff to the ocean. It will also provide for a cleaner, safer, and more desirable street environment during periods of heavy rainfall. The proposed action is supportive of the Drainage Master Plan for the City and County of Honolulu.

II. DESCRIPTION OF THE PROPOSED ACTION

A. PURPOSE AND NEED

The proposed action involves the installation of approximately 7,600 linear feet of drain line to convey



runoff to the ocean during periods of heavy rainfall. The project is located in Honolulu, Hawaii in the Kakaako and Kapiolani/Beretania Areas. The implementation of the proposed action will utilize City and State lands and funds.

Chapter 343 of the Hawaii Revised Statutes requires that any action which proposes the use of State or City lands or the use of State or City funds, which will probably have significant effects, must consider a broad range of factors in determining the purposes and needs of the proposed action or actions and their effects on the physical and social environment. This environmental impact statement has been prepared to describe these factors and to evaluate the probable impacts of the proposed action.

1. Drainage Master Plan

In the most general concept, the purpose of the proposed project is to implement the Drainage Master Plan for the City and County of Honolulu as prepared by the Department of Public Works. The project is intended to eliminate the existing flooding in the Kakaako and Kapiolani/Beretania Areas during periods of heavy rainfall.

2. Vehicular Circulation

Another purpose of the proposed action is the improvement of traffic circulation within the impact area during periods of heavy rainfall. Beretania Street, between Kapiolani Boulevard and Punchbowl Street, is one of the most

heavily utilized traffic corridors out of the Honolulu business district for motorists desiring to enter the H-1 and Pali Highways. During periods of heavy rainfall, this section of Beretania Street has been subject to flooding due to the out-dated and inadequate drainage systems. Additionally, areas within the central Kakaako areas have been subject to flooding resulting from inadequate drainage systems, insufficient gradients, and localized depressions within the roadways. The flooding of roadways has caused traffic to recirculate to avoid hazards and such unnecessary circulation of traffic is a major cause of traffic congestion. The proposed drainage improvements are needed to relieve this type of traffic congestion caused by flooded roadways.

3. Storm Water Inundation

Of primary concern for implementing the proposed action is the existing potential hazard of storm water inundation of businesses and dwellings. Businesses and residents within the affected drainage area have experienced flooding and subsequent damages to property. Businesses on Beretania Street, between Punchbowl Street and Kapiolani Boulevard, for example, have been severely affected by flooding due to storm runoff. The proposed project would provide for adequate drainage and alleviate the existing hazards. The dollar amount of potential damages to private property and public facilities is difficult to accurately determine because of insufficient data.

4. Pedestrian Safety

The proposed drainage improvements are also needed because the streets in the Central Kakaako Area do not conform with current design standards, making the streets both unsafe and unpleasant for pedestrians. Within the project area are serious drainage problems because many roadway sections have no curbs, gutters, or sidewalks. The street pavement is cracked, broken, and is in generally poor condition which disrupts the efficient and safe movement of vehicles. The streets in the Central Kakaako Area have a blighted, unaesthetic appearance on the adjacent surroundings. During periods of heavy rainfall, ponding within the roadway and shoulder areas have compelled pedestrians to walk along the higher sections of the roadways or seek alternate passages to avoid the inconveniences of flooded roadway sections.

It is, therefore, conceivable that the secondary effect of the proposed drainage improvement is to provide for safe and efficient pedestrian service.

B. THE PROPOSED ACTION

The proposed action is located in the Kakaako and Kapiolani/Beretania districts and consists of the installation of approximately 7,600 linear feet of drain lines and the improvement of drain intake systems as designated by the Drainage Master Plan for the City and County of Honolulu. Figure 2 shows

the alignment of the proposed drain line. The improvements included in the project are the construction of drain lines, a lined ditch to the ocean, connections to existing drain systems, and inlet structures. Conflict with various utilities and the proposed drains would be adjusted.

In addition, the project involves the installation of about 400 linear feet of 48-inch drain line on Halekauwila Street to connect the Punchbowl Street drain with the new system. This is intended to relieve the over-taxed Punchbowl Street drain by partially diverting its flows.

The drainage area to be served by the proposed project is bounded by Lunalilo Freeway on the east and the adjacent Ward Avenue drainage areas on the south side. The northern side was established by adding a portion of the flows from the Punchbowl and South Streets drains and the new Halekauwila Street drain into the proposed box drain. A drainage ditch is located along the western boundary.

The drainage area has a total equivalent area of 187.8 acres discharging into the drainage ditch. Of the total area, 159.8 acres drain directly into the new box drain, including 20.0 acres from the new drainline on Halekauwila Street.

To relieve the existing Punchbowl Street Drain, the proposed drain line will begin at the corner of Punchbowl and Beretania Streets. The box drain runs along Beretania Street to Kapiolani Boulevard, a distance of approximately 450 feet. The drain then proceeds approximately 1,050 feet on Kapiolani Boulevard to

the southwest corner of Kapiolani Boulevard and South Street, where it connects to the proposed East Kakaako Area Major Drain.

The East Kakaako Area Major Drain is designed to relieve the inadequate South Street Drain. This box drain runs approximately 650 feet southerly along Kapiolani Boulevard to Cooke Street; 1,200 feet southwesterly on Cooke Street to Halekauwila Street; 275 feet northwesterly on Halekauwila Street to Coral Street; 2,100 feet southwesterly on Coral Street crossing Ala Moana Boulevard to Ilalo Street; 350 feet northwesterly on Ilalo Street to Keawe Street; and 850 feet southwesterly on Keawe Street to a new concrete lined drainage ditch which empties into the ocean.

Two hundred feet of new drainlines on Halekauwila Street between Keawe and Coral Streets is also included in this project to relieve the existing Keawe Street drain and will be connected to the new box drain.

Ground undulation within the project area have little variation with elevations generally between 4.0 feet \pm to 6.0 feet \pm above mean sea level. Due to this relative flatness of the area, the invert (bottom of pipe or drainage structure) elevation of the new box drain will begin at approximately 3.00 \pm feet mean sea level at the upstream end and -8.0 \pm feet mean sea level at the ocean outlet. Because of this required depth, improvement of approximately 650 \pm feet of the existing drainage ditch to the ocean will be required.

Portions of the existing drainage system that interfere with the new box drain alignment will be demolished and reconstructed to allow connection to the new box drain.

Existing underground electrical, telephone, gas, and water utilities as well as existing sanitary sewer facilities will be encountered. Extensive relocation of some of these underground facilities will be required to accommodate the new drain construction. Some new facilities will have to be added. Close coordination with respective owners of such facilities will be made during the design and the construction phases.

The proposed drain line will cross the existing 78-inch interceptor sewer at Auahi Street and the 69-inch interceptor sewer at Ala Moana Boulevard on Coral Street. Improvement to the existing drainage ditch could also affect the molasses tanks in the State Container Yard (Figure 3). Also, the proposed Ala Moana New Force Main will be laid along the drainage ditch.

The drain will be designed using the "Storm Drainage Standards, City and County of Honolulu, 1969" as a guide and generally accepted principles of drainage design.

The proposed drainage system varies in size, depending on the required capacity, physical design restraints, and usage. At the upstream end of the system, a 6.67 feet by 2.83 feet box

drain is proposed and will tie into the existing Punchbowl Street drainage system. From Beretania Street to South Street along Kapiolani Boulevard, a 6.5 feet by 6 feet box drain is proposed. The upstream end will tie into a recently constructed section of the drainage system. This improved section, installed as part of the construction of the new State Office Building, will be part of the proposed drainage project.

To relieve the existing South Street drain and to convey flows from the above, an 8 feet by 8 feet box culvert is proposed along Kapiolani Boulevard from South Street to Cooke Street. The proposed system proceeds down Cooke Street to Halekauwila Street and along Halekauwila Street to Coral Street with a 10 feet by 8.5 feet box drain.

At the Halekauwila and Coral Street intersection, a 48 inch pipe is proposed to be installed to connect the existing Keawe Street drain with the new system. This is intended to alleviate the overloading of the Keawe Street drain during periods of heavy rainfall.

The primary conduit for the proposed system proceeds down Coral Street with a 12.5 feet by 8.5 feet box culvert until it reaches Ala Moana Boulevard. On the makai side of Ala Moana Boulevard the drain dimension changes to 12.5 feet by 9 feet and proceeds down Coral Street to Ilalo Street where it turns towards the Ewa direction until the drain reaches Keawe Street.

Maintaining the same culvert dimensions, the drainline turns towards the makai direction on Keawe Street until it reaches the proposed improved 24 feet lined ditch that leads to the open ocean.

Because of engineering design restraints, the proposed action requires the dredging of approximately 650 feet of the existing open channel to an elevation of -8.0+ feet mean sea level and the removal of the existing CRM (cemented rubble masonry) wall and replacing it with a concrete revetment.

The project cost will total approximately \$5.6 million. Implementation of the proposed action will take approximately 2 years to complete.

C. DRAINAGE REQUIREMENTS AND DESIGN PROVISIONS

The proposed action is located in an area which has experienced significant changes in its urban form in recent years. The upper reaches of the impact area have been most affected by urbanization with the construction of the Municipal Office Building, State Office Building, the State Capitol, the Medical Group Building, the Medical Library and other new additions of urban upgrading.

The Central Kakaako Area has been the subject of much speculative planning for future renewal development. Most recently, the State of Hawaii, Department of Planning and Economic Development has prepared the "Kakaako: An Urban Design

Demonstration Study" to examine the development potentials of the Kakaako Area. The report, prepared in December, 1975 for the State of Hawaii by Daly and Associates, discusses the possible design concepts that may be implemented to this area. As related to the proposed drainage improvement, the study concurs with the findings of the City and County of Honolulu for an improved drainage facility for Kakaako.

1. Anticipated Rainfall and Need for Improvement

As part of the basic planning program for the proposed action, a hydrologic analysis was conducted to determine the anticipated rainfall and subsequent flood routing for the area. In the analysis, anticipated rainfall were estimated using a 50-year recurrence interval criteria. The basic information ascertained for the estimate was obtained by using the "Storm Drainage Standards" for the City and County of Honolulu and the "Rainfall-Frequency Atlas for the Hawaiian Islands, Technical Paper No. 43," prepared by the U. S. Department of Commerce, Weather Bureau.

Based on the hydrologic study for this area, the anticipated runoff for the proposed system would be approximately 163 cfs at the upstream end of the project to an aggregate of 526 cfs at the open ditch outlet. The existing Keawe Street Drain discharges 78 cfs in the open ditch and this is inclusive of the 526 cfs aggregate. Additional contribution from

the Halekauwila and Punchbowl Streets drains add approximately 65 cfs and 81 cfs respectively to the proposed system.

If no improvements are made to the existing drain network, based on the anticipated runoff for a storm of 50-year recurrence interval, there would be serious deficiencies in the capacity of the existing drain systems to accommodate such discharges. At the upstream end, for example, the existing drain system has a capacity of approximately 85 cfs whereas a system with a capacity of 163 is required. The anticipated storm runoff would exceed present capacity by 92%.

2. Design Provisions

An improved drainage system will be designed to accommodate both the runoff within the drainage area and relief to existing adjacent drainage systems that are presently undersized. The proposed action would provide the necessary conduit to convey the anticipated storm runoff for any specified urban land use that may be mandated in the future. This would provide for the safety of roadways, businesses, and tenants within the impact area from future flooding problems.

D. PROJECT AUTHORIZATION AND FUNDING

The proposed project is part of the Drainage Master Plan for the City and County of Honolulu

as prepared by the Department of Public Works. The construction of the proposed drains is tentatively scheduled for FY-1979. The City and County of Honolulu is planning to request the State Legislature to provide funds to complete the construction of this project.

Because the proposed drain system will be essentially located in existing government owned lands, funds for land acquisition will be minimal. Small portions of private roadways on Cooke and Helakauwila Streets will be acquired by the City at the nominal cost of \$1.00. The planning and engineering phase, requiring approximately 18 months, would precede the two-year construction phase.

E. BACKGROUND OF THE PROJECT-HISTORIC PERSPECTIVE

It is known that during periods of heavy rainfall, flooding occurs in the areas along Kapiolani Boulevard and Cooke Street. Businesses in the area use sand bags and other water diversion methods to prevent storm water from entering the buildings and causing damage to merchandise and disrupting business.

On Beretania Street, between Punchbowl Street and Kapiolani Boulevard, flooding of the Medical Group Building caused severe damages to property medical supplies, and electrical and telephone equipment. The May 27, 1973 storm resulted in litigation due to damages sustained from flood water inundation of the basement areas. Hydrologic computations indicate that the mentioned storm was of a magnitude comparable to a 20-year storm.

The inadequate drainage facilities fronting the property has been the partial cause for water entering the basement area.

Adjacent to the Medical Group Building is the Queen's Hospital site. The hospital's facilities management has complained of flooding of the lower hospital site during periods of moderate rainfall. Field inspection of the hospital grounds shows strong evidence of flooding.

The Central Kakaako area have frequently been subjected to flooding. Insufficient roadway improvements compounded with an inadequate drainage system are the probable causes. As a result, flood waters are conveyed via roadway sections and sidewalk areas until they are able to enter into the existing inadequate systems.

Incidental to the problem of water being conveyed via roadway sections, motorists are compelled to drive near the center of roads to avoid the hazards of storm waters. This factor also creates a tremendous hazard for motorists travelling in opposite directions. Additionally, vehicles travelling through flooded roadways generate waves that overtop curbs and sidewalks and thus create further problems.

The City and County of Honolulu, in their development of the "Drainage Master Plan for the City and County of Honolulu," determined that the periodic flooding of the Kakaako and Kapiolani/Beretania areas provided a basis for the initiation of this project. The dollar amount of potential damages to private property

and public facilities is difficult to accurately determine because of insufficient data.

F. ECONOMIC AND SOCIAL CHARACTERISTIC OF PROJECT

It is difficult for the public sector to evaluate in advance the probable economic or social impacts as a result of the proposed improvement. This is particularly true of the central Kakaako area where businesses are already established. However, Kakaako, for the most part, is entering a transition period because of lease expirations and potential land use changes. This has led to much scrutiny of the future potential resources for the area.

The proposed action is expected to have some positive impact on the property value in the area. Since the cost of the project will be borne by the government, there will be no direct expenditure by the private land owners, although they are the direct beneficiaries. On the other hand, if no improvements occur, public revenues from the district may remain stable; net revenues may even decline if, for example, existing infrastructure continues to deteriorate and requires replacement or renovation. As an alternative, if the proposed action is undertaken with government funds, the general public would benefit from increased tax revenues and perhaps recapture the capital costs incurred initially. The improvement in turn, may spur private development which, though not subsidized by the government, will help defray public capitol costs and will contribute to tax revenues. Additionally, there may be some other

positive secondary effects occurring as a result of the proposed drainage improvements.

The social characteristic of Kakaako can best be described as long-time residents and small businesses. Few families, small grocery stores, barber shops, and lunch rooms are scattered through the long narrow streets. The social character of the tenants is essentially generated by the existence of such businesses and long-time friendships that reflect the historical patterns in Honolulu.

III. DESCRIPTION OF ENVIRONMENTAL SETTING

A. GENERAL DESCRIPTIONS OF THE KAKAAKO AND KAPIOLANI BOULEVARD/BERETANIA STREET AREAS

The proposed project is located in the Kakaako and Kapiolani/Beretania areas, in the City and County of Honolulu on the southern side of the Island of Oahu in the State of Hawaii. The Kakaako area is bounded by South Street on the west, Ward Avenue on the east, the Pacific Ocean to the south and Kapiolani Boulevard on the north. The present land use in this area is primarily light industrial. Inclusive in the area are office buildings, barber shops, lunchrooms, warehouses, and light industrial oriented businesses.

Kakaako is strategically situated in the middle of a dense urban corridor extending from Koko Head to the Pearl Harbor area. In close proximity to Kakaako are the State's population, employment, financial, and government centers. The State's

Food Distribution Center is located at the makai end. The Diamond Head edge of the impact area contains the Victoria Ward Estate warehouses and the Blaisdell Memorial Center. The mauka portions of the project area encompass government buildings such as the State Capitol, Department of Health Building, State Office Building, Municipal Office Building, City Hall, and the Board of Water Supply Building. Future plans of this area call for expansion of government facilities.

The area affected by the drainage project has been subject to major changes in recent years with the expansion of government and public facilities. The central Kakaako area contains retail, commercial and light industrial facilities as well as numerous residential enclaves which are reminders of an earlier time when Kakaako was a major residential center. The general appearance of the central Kakaako area is somewhat blighted. The majority of the roadways are sub-standard and extremely narrow, thereby making the loading and parking situation hazardous to pedestrians and motorists.

At the present time, the primary control on development in the Central Kakaako area is the Oahu General Plan of 1964. Recently, private and public land use policies and proposals for the Kakaako District were evaluated to serve as a basis for comparison of land use alternatives. The final development concept has not yet been adopted and further studies are proposed.

B. DESCRIPTION OF THE PROJECT IMPACT AREA

1. Location

The general impact area of the proposed project is approximately 187 acres in the Kakaako and Kapiolani/Beretania areas. The open ocean at drain outlet will be affected by virtue of storm water discharge during periods of heavy rainfall. The drainage area is bounded by Lunalilo Freeway on the east and Ward Avenue Drain drainage areas on the south side. The northern boundary was established by adding a portion of the flows from the Punchbowl and South Streets drains and the new Halekauwila Street drain into the proposed box drain. The drainage ditch is located along the western boundary.

2. Land Use

a. General Plan and Existing Zoning

The City and County General Plan selects an emphasis on industrial uses for the Kakaako area surrounded by retail and commercial offices all along the major arterials within the project area. The overall development emphasis could be construed as encouraging a regionally-oriented employment and service center (See Figures 5 and 6).



Cooke St.-looking mauka, central Kakaako area



State Food Distribution Center-lower Kakaako area

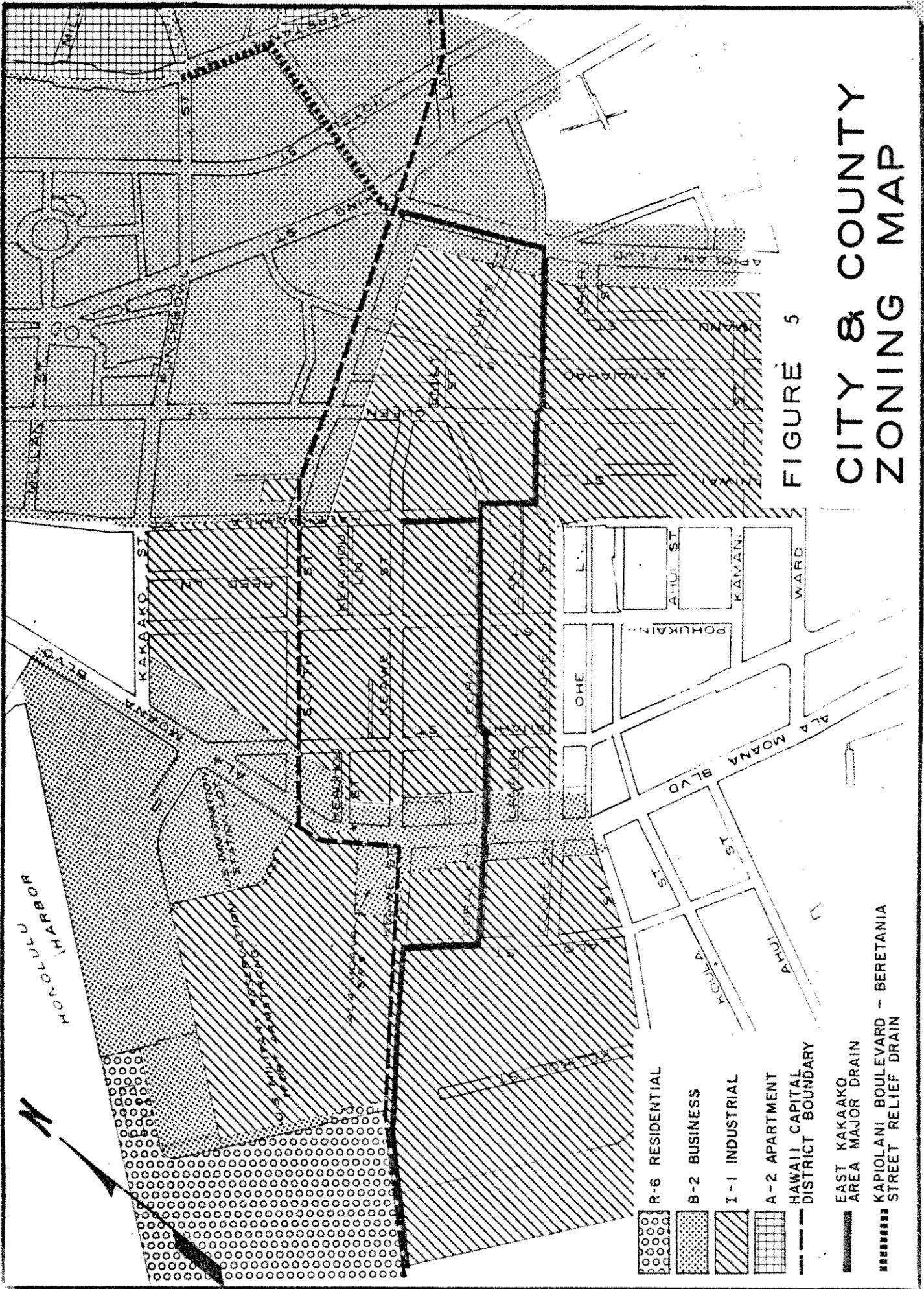


FIGURE 5

CITY & COUNTY ZONING MAP

-  R-6 RESIDENTIAL
-  B-2 BUSINESS
-  I-1 INDUSTRIAL
-  A-2 APARTMENT
-  HAWAII CAPITAL DISTRICT BOUNDARY
-  EAST KAKAAKO AREA MAJOR DRAIN
-  KAPIOLANI BOULEVARD - BERETANIA STREET RELIEF DRAIN

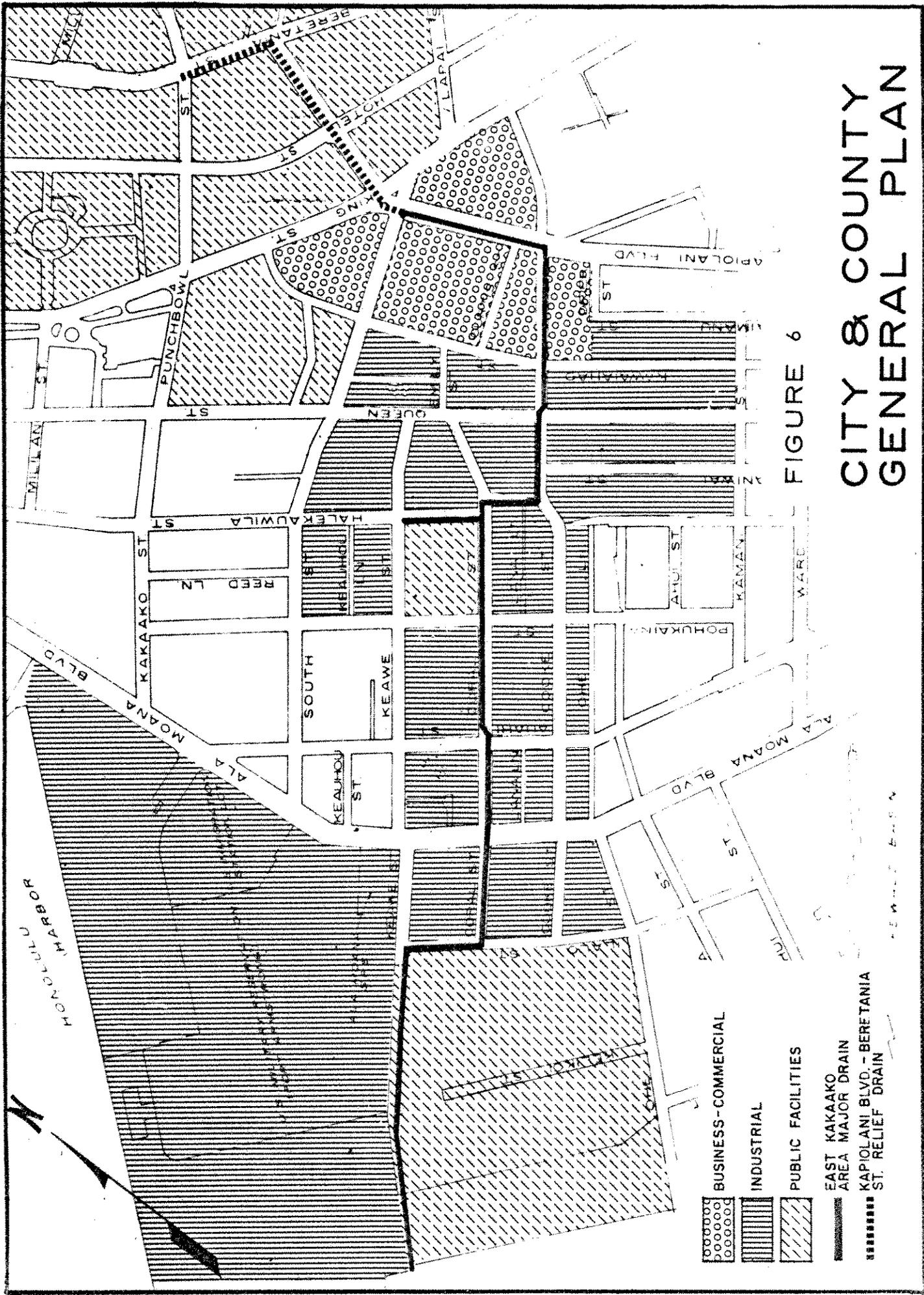
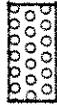


FIGURE 6

CITY & COUNTY GENERAL PLAN

-  BUSINESS-COMMERCIAL
-  INDUSTRIAL
-  PUBLIC FACILITIES
-  EAST KAKAAKO AREA MAJOR DRAIN
-  KAPIOLANI BLVD. - BERETANIA ST. RELIEF DRAIN

b. Existing Land Uses

1. Business Structures

Private office buildings within the lower impact area include the Gold Bond Building which houses offices for various businesses as well as Government agencies. The building also contains small restaurants and shops.

In addition to this, there are various low-rise buildings throughout the project that were recently constructed and these comprise a major percentage of the structures within the area.

2. Apartments

Within the impact area, the existing land uses conjure a minimum amount of apartment buildings. Most of the apartments within the impact area are located in the upper sections along Lauhala Street.

3. Single-Family Residences

Within the impact area are some existing older dwellings constructed during the birth of Kakaako. These buildings are very old and may be considered as tenement structures.

Renewal programs proposed under various schemes would eliminate these old dwellings and would be replaced with modern structures.

3. Public Facilities

A surveillance conducted by the City and County of Honolulu, Department of Public Works indicate that the majority of the streets within the impact area have extremely poor surface drainage and inadequate or no sidewalks, curbs and gutters. The survey also indicated that many other streets had inadequate provisions for on or off street parking.

Many streets have very poor street lighting mounted on wooden poles. These lights provided illumination at levels which are in conformance with recognized minimum requirements. However, there are many streets within the impact area that had inadequate or no lighting to provide for safe operations during the nighttime hours. In the central Kakaako area, the drain will follow along the existing Cooke Street. Cooke Street, and a portion of Coral Street, bisects the impact area and will be the main alignment for the drainline in the lower project area. The proposed drain will stay within the existing Cooke Street right-of-way and follow the various smaller streets through the lower sections of the project area until it discharges into the open channel. In the upper reaches of the impact area, the proposed drain will stay wholly within the existing public right-of-ways. These right-of-ways include Beretania Street and the Kapiolani

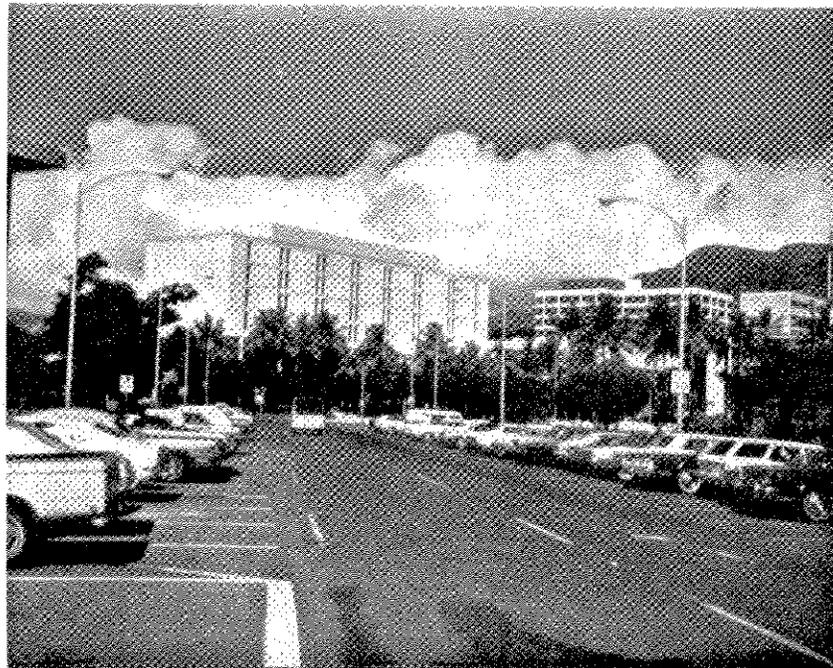
Boulevard and the former Kapiolani Boulevard which is now the site of the park fronting the Municipal Office Building constructed by the City and County of Honolulu. Also, the drain follows along Kapiolani Boulevard and will proceed along the makai side of Kapiolani Boulevard to Cooke Street. As stated earlier, the drain will stay wholly within existing street right-of-ways and land acquisition for this facility will be minimal. Cooke and Halekauwila Street contain small portions of private roadways that will be acquired by the City. Adjustments to existing utilities where conflicts occur in alignment will be made in the final engineering plans. The alignment of the proposed drain will be situated such that when future roadway improvements are made, minimum conflicts will occur.

The upper portions of the impact area (Kapiolani/Beretania areas) contain many public facilities. Some of the older facilities include the State Capitol, Department of Health, the Library of Hawaii main branch, Department of Education, City Hall, the Board of Water Supply, the Queen's Hospital, and the Mabel L. Smyth Memorial Building. Recently, newer public facilities were constructed within the impact area. Among the newer tenants are the Hawaii Medical Library, the Medical Group Building, the State Office Building, and the Municipal Office Building.

The central and lower Kakaako areas contain such public facilities as the Pohukaina School, Mother Waldron Park, the Gold Bond Building that serve several federal offices, the State Food Distribution Center, and the State Container Yard Facility.



State Office Building-Beretania St. & Kapiolani Blvd.



Medical Group Bldg.-Beretania St. & Lauhala St.

4. Utilities

Throughout the impact area there are electrical power and telephone lines located on utility poles along with existing street lighting. It is not expected that the proposed drainage systems will conflict with electrical, telephone and light poles. On Beretania Street, however, electrical light poles will be relocated during the construction of the proposed drain. After the drains have been completed, the street light standards will be reinstalled to their permanent location.

Where utilities conflict with the proposed drainage systems, adjustments will be made to accommodate the design of the proposed drain. Close coordination with the various utility companies will be necessary in the preparation of the final plans. Preliminary engineering study indicates that there are no major conflicts of utilities.

5. Open Space

A variety of public recreation areas surround the impact area. Among these include the newly constructed park abutting the Municipal Office Building and City Hall. Near the impact area is Kewalo Basin where commercial and pleasure boats are moored. Within the impact area, the Pohukaina School and Mother Waldron Park contain playground facilities for children.

Outside of the perimeter of the impact area, are various recreational areas. One of this is Ala Moana Beach Park which is one of the major parks within the urban Honolulu area.

6. Schools

The Pohukaina School is located within the impact area adjacent to Coral Street. The existing school facilities are scheduled to be demolished within the next few years but an exact date has not yet been determined.

7. Trees and Shrubbery

Within the Kakaako Industrial Area are very few trees and shrubbery. Due to the industrial nature of the environment, greenery and landscaping is extremely minimal. In the upper portion of the project impact area, however, there is much open space, trees and shrubbery that beautifully landscape the impact area. These areas include City Hall, the Municipal Office Building, the State Office Building, the Board of Water Supply, the Department of Health, and the Queen's Hospital grounds. The proposed drainage system is not expected to have any permanent adverse effects on the existing landscaping and shrubbery.

8. Property Ownership

The ownership pattern of properties within the Kakaako impact area reflect the large estate ownership type of land holdings. Three private land owners constitute the majority of property ownership

within the central Kakaako area. Bishop Estate, Victoria Ward Estate, and the Dillingham Corporation holds most of the affected acreage within the impact area. With the exception of a few large parcels owned by Amfac and the Magoon Estate, the remaining lands are held by owners of less than 3 acre-parcels. The State has considerable acreage in central Kakaako, including Pohukaina School, the State Food Distribution Center, and Container Yard Facility (See Figure 8).

9. Population and Employment

The Kakaako area has been, in recent years, subject to change in population growth. In the impact area, the number of housing units and total resident population has decreased between 1970 and 1974. The continued expansion of industrial uses of lands have taken dominance over the residential character of previous years.

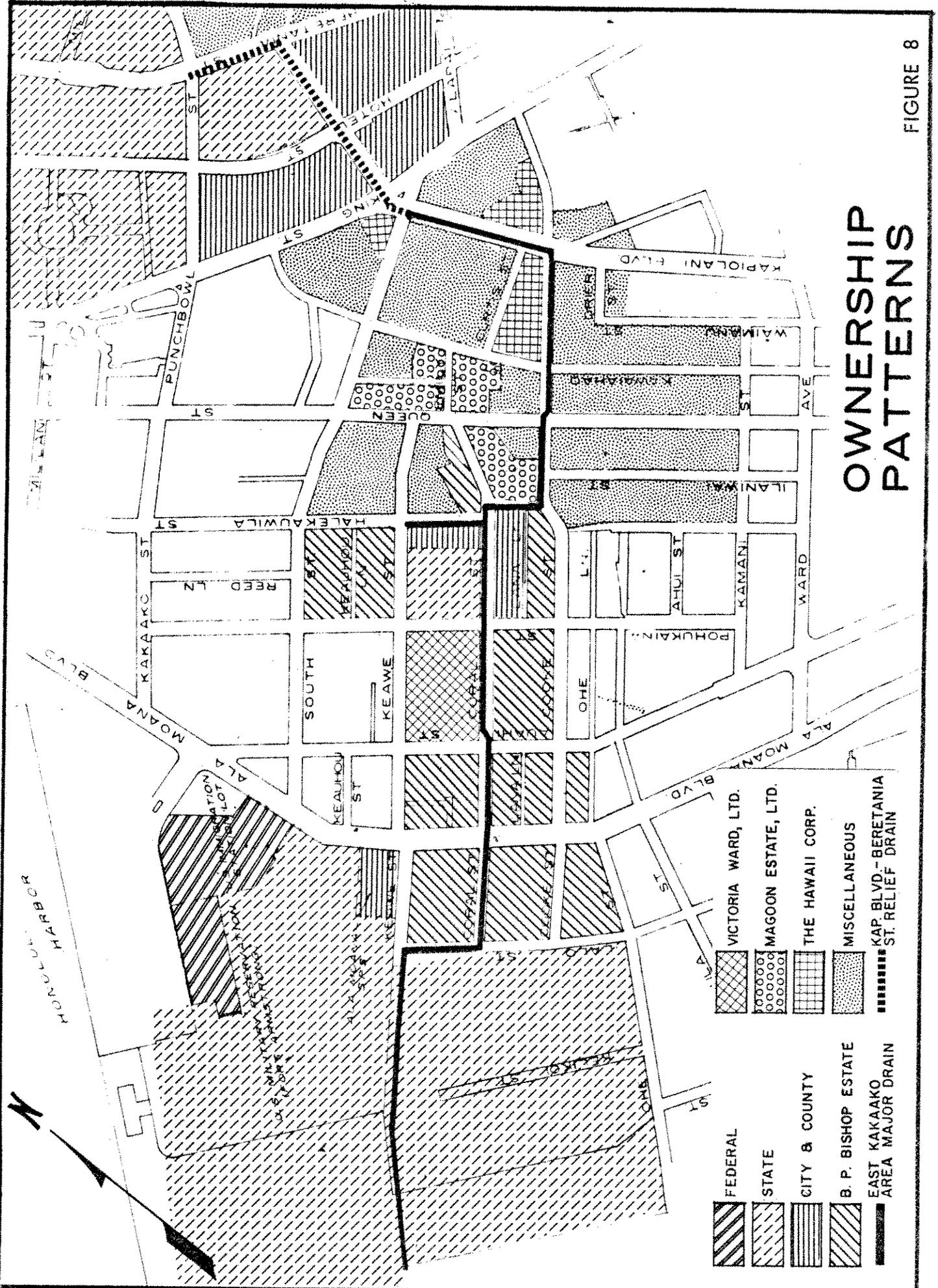
Accurate estimates of the number of residents and employees covenant within the total impact area are difficult to determine because of insufficient data.

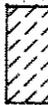
10. Population Composition and Neighborhood Conditions

A survey and analysis of the residential population in the Kakaako area was conducted in 1974. The study shows that population is prevailing on a downward trend.

As previously discussed, the existing environment within the Kakaako area is predominantly

OWNERSHIP PATTERNS



- | | | | |
|---|-------------------------------|---|---------------------------------------|
|  | FEDERAL |  | VICTORIA WARD, LTD. |
|  | STATE |  | MAGOON ESTATE, LTD. |
|  | CITY & COUNTY |  | THE HAWAII CORP. |
|  | B. P. BISHOP ESTATE |  | MISCELLANEOUS |
|  | EAST KAKAAKO AREA MAJOR DRAIN |  | KAP. BLVD.-BERETANIA ST. RELIEF DRAIN |

industrial with business of various sorts scattered throughout. Insufficient historical data prevents any accurate determination from being made on the amounts of the various age groups or racial composition.

The upper portion of the impact area contains very little residential concerns affected by the project. This section of the project is predominantly characterized by public facilities, such as hospitals and clinics, and government buildings.

11. Project Area Climatology

The project area has an average annual rainfall of 10 to 20 inches with most of the precipitation during the winter months. The daytime temperatures range between 75° and 85° throughout the year. The relative humidity for the project area is representative of the Honolulu area. During the drier summer and fall seasons, the humidity averages between 60% and 65%. The wetter winter and spring months tend to slightly increase the humidity.

Perhaps the greatest asset regarding the climatology is the variable trade winds that cool the Kakaako area year round. Not only does the tradewinds cool the area, but also tend to disperse the "fishy" odor that is generated by the nearby tuna packers facility. During the late summer months when the southerly or Kona winds become more prevalent, the "fishy" odors become increasingly unpleasant.

12. Soils and Geology

Most of the Kakaako area is composed of a thin layer of fill over 10 to 20 feet of soft, lagoonal soil with a localized layer of coral underneath. The lower project area is also affected by a relatively high water table. The upper portion of the impact area is comprised of a layer of coral overladen with a layer of volcanic ash from the Puowaina (Punchbowl) eruption.

13. Historical and Archaeological Sites

A brief review of the project impact area indicates that the proposed action will not directly affect any site on, or eligible for, the Hawaii or National Register of Historic Places, which includes sites or places of both historical and archaeological significance. In the event that any item of historical significance is uncovered during the construction activities, the appropriate authorities will be notified.

14. Coastal Zones and Wetlands

The 1975 State Legislative Session enacted Act 176 which dealt with environmental shoreline protection and established special interim controls on developments within an area along the shoreline until a general coastal management program can be developed and implemented. The objective of the "Special Management Area" is the maintenance, restoration and enhancement

of the overall quality of the coastal zone environment and to provide adequate public access to publicly owned or used beaches, recreation areas, and natural reserves.

Within the City and County of Honolulu, the City Council has adopted the policies and procedure of Act 176 in Ordinance No. 4529 (1975) as it affects the coastal zones of this County. The Department of Land Utilization found that the proposed project is located partially within the "Special Management Area" in Kakaako and is, therefore, affected by Ordinance 4529 and its special controls.

There are no wetland areas located within the vicinity of the proposed action since the project is located within a highly developed urbanized area.

C. TRAFFIC CIRCULATION

Within the project area, heavy through traffic and local traffic constantly traverse the roadways. The Kakaako area is centrally located relative to Honolulu's major transportation routes. In and around the impact area are nine major arterials that serve the traffic circulation, especially during peak morning and afternoon hours. Secondary streets between Punchbowl Street and Ward Avenue, and makai of King Street and Kapiolani Boulevard have very high traffic volumes. The inadequate off-street parking and insufficient loading zones for industrial truck traffic contributes to a congested situation. In some cases, congestion is further aggravated by

streets which dead end, are very narrow, or do not link up with arterials.

Among the major thoroughfares affecting the impact area are Ala Moana Boulevard, Kapiolani Boulevard, Punchbowl, Queen and Beretania Streets. Queen Street, Kapiolani and Ala Moana Boulevards provide major corridors through Honolulu for motorists travelling in the Ewa-Diamond Head directions. Beretania Street not only is a major thoroughfare for motorists travelling in the Ewa direction in town but also provides a major access to Punchbowl Street which leads to the H-1 Freeway.

D. EXISTING DRAINAGE CONDITIONS

The existing drainage systems in the lower and central Kakaako areas are extremely inadequate by present standards. To further aggravate the inadequate system are the existing roadway systems and ground topography. During the early years of development in Kakaako, insufficient planning and funds were expended for drainage and roadway systems. Most of the existing drainage systems indicate poor, if any, master planning and most resemble localized and independent "band aid" drainage remedies.

The central Kakaako and Kapiolani/Beretania areas are characterized by relatively flat topography, and is at an average elevation of five to eight feet above sea level. From Alapai Street to Richards Street, the ground elevation of the mauka reaches of the impact area rise sufficiently to create a sump condition in the area of Kapiolani

Boulevard and Beretania Street. Under heavy storm conditions, the area is susceptible to some flooding. For example, the Queen's Hospital site currently maintains an independent system. The site contains a series of drain systems that are interconnected and collected to a central point in the makai/Ewa parking lot and disposal is by way of a sump. However, during recent years, the hospital grounds have been subjected to flooding due to clogging and subsequent malfunction of the disposal sump. This has compounded further problems on the Beretania Street frontage of the hospital site due to surface runoff from the hospital grounds.

For the most part, existing drain conduits are inadequate by present drainage design standards and adjacent drainage systems are also undersized to handle storm flow. Consequently, present systems become extremely overtaxed by the compounding of additional flow from adjacent areas. Many parcels within the impact area have constructed sumps to dispose of surface runoff. However, inadequate number and inefficiencies of such methods often do not solve the problems of localized flooding.

E. MARINE ENVIRONMENT AT THE OCEAN OUTLET

To determine the environmental characteristics at the drain outlet, a marine survey was conducted by Dr. Ralph L. Bowers, a marine biologist who has made extensive studies in and around the ocean impact area. The basic marine biological reconnaissance of the nearshore reef top area adjacent to the ocean outfall of the proposed drains was carried out March 29, 1976. Three stations were selected

within an area affected by the outfall. Station 1 was directly seaward of the mouth of the drainage canal. Stations 2 and 3 were located 50 meters* to the west and 50 meters to the east, respectively, from the open ditch. All three stations extended seaward to a distance of 80 meters.

At each station the substratum characteristics (percent coverage of dead coral, sand live coral, etc.) was estimated by standard transect quadrant methods. The relative abundance of fishes and macroscopic invertebrates was estimated by recording the number of organisms observed within one meter on each side of the transect line (observational area for each station was 2 meters by 80 meters or 160 square meters).

The substratum characteristics remained nearly the same for each of the three stations. Table 1 lists the percent coverages by the five types observed. Visual observations, made while swimming along the transect lines at each station, revealed that no live corals were present which is the first ten meters from shore. Most of the live coral observed were growing in an area between 10 meters and 60 meters offshore. Further offshore, the substratum is flat and dominated by sand. The very few live coral heads observed in this area were on dead coral blocks that protruded .25 to .50 meters above the sand.

* One (1) meter equals 39.37 inches

Table 1

The Percent Substratum Coverage Estimated
For the Five Coverage Types

<u>Station</u>	<u>Dead Coral</u>	<u>Rubble</u>	<u>Sand</u>	<u>Pocillopora Meandrina</u>	<u>Palythoa Tuberculosa</u>
1	73.4	5.5	17.2	1.6	2.3
2	80.5	3.9	12.5	3.1	0
3	79.7	1.6	17.9	0	0.8

Table 2 lists the number of families of fishes and total numbers observed at each station. The variation in both numbers of families and total numbers of fishes appears to be the result of a variation in the amount of habitat space found at each station. More small ledges and eroded coral blocks were observed at Stations 2 and 3 when compared with Station 1. Such areas are generally attractive to reef fishes thus resulting in an increased relative abundance of those fishes.

Table 2

The Numbers of Fishes and Total Numbers of Fishes
Observed at Each Station

<u>Station</u>	<u>Number of Families</u>	<u>Total Number of Individuals</u>
1	16	64
2	13	104
3	11	92

Table 3 lists the numbers of species of echinoderms (sea urchins and sea cucumbers) and numbers of individuals observed at each station. The decrease in numbers of individuals observed at Station 3 appears to be the result of the reef structure. A large flat area of reeftop is covered with a thin layer of sand and is exposed to strong wave surge. Such a combination of environmental factors provides a poor habitat for those echinoderms more commonly observed at Stations 1 and 2.

Table 3

The Numbers of Species of Echinoderms
And Total Numbers of Individuals Observed at Each Station

<u>Station</u>	<u>Number of Species</u>	<u>Total Number of Individuals</u>
1	5	270
2	5	251
3	5	103

Upon completion of the biological reconnaissance, a general description of the area (all three stations inclusive) can be made. Those areas closest to the shore (breakwater) are characterized by areas of smooth dead coral with a few sand pockets containing coarse sand. No live corals were observed in this area even though the substratum appeared suitable for coral growth. Approximately 10 meters seaward from shore, the substratum becomes more irregular with eroded coral blocks, small ledges, and pockets with sand and rubble present. Most of the marine life was observed in this area (10 meters to 60 meters

offshore). Fishes, sea urchines, sea cucumbers, and corals are most abundant in this area. Continuing seaward from 60 meters to 80 meters, the substratum becomes flat and is covered with a thin layer of sand. Hard coral protrudes above the sand in a few areas and where this occurs the presence of live coral is rarely observed. This environment generally appears to be controlled by sand abrasion created by wave surge. Such abrasion appears to have eliminated most of the corals and other macroscopic invertebrates from this area.

Water depth varies from approximately 1-1/2 meters (near shore) to 3 meters (offshore).

The only macroscopic algae observed in the entire study area was attached to the basalt boulders of the breakwater where they are directly exposed to the breaking waves. The most common algae is Sargassum, a brown frondose alga bound in shallow areas of heavy wave surge.

IV. THE RELATIONSHIP OF THE PROPOSED ACTION TO LAND USE PLANS, POLICIES AND CONTROLS

At the present time, the General Plan is the basic land use policy statement of the City and County of Honolulu and is referred to as the basis for all matters related to planning and growth of urban land on Oahu. The General Plan is supported by the Development Plans (DP) which are prepared by the City and County of Honolulu. The DP indicates the improvements in public facilities required to accompany the designated land uses as shown on the General Plan map. At the next level of detail is the Comprehensive Zoning Code (CZC) of the City and County

of Honolulu. The zoning code is utilized to actively implement the General Plan by establishing density and design controls based upon permissible land use from the General Plan and to provide a reasonable intensity of development without sacrificing quality.

As stated earlier, one of the major purposes of the proposed action is to implement the Drainage Master Plan for the City and County of Honolulu. Kakaako constitutes one of the few remaining areas in the Honolulu area with a General Plan designation for industrial use. The dominant zoning designation in Kakaako is light industry (I-1). Areas immediately adjacent to and mauka of Kapiolani Boulevard are general planned for business and public facility use. Because Kakaako lies in the middle of Central Honolulu, it is subject to pressure for all land uses and there is a tendency toward increased densities. Although the City and County of Honolulu has not yet programmed a major capital improvement for the Kakaako area, the implementation of the proposed action will be necessary to support any future land use.

V. THE PROBABLE IMPACTS OF THE PROPOSED ACTION ON THE ENVIRONMENT

A. NOISE

Due to their high densities, the Kakaako and the Kapiolani/Beretania areas have one of the highest ambient noise levels in the City and County of Honolulu. These high noise levels are the combined result of noise generated by construction activity, by heavy traffic volumes, which includes taxis and City buses, delivery and service trucks and circulating

and through automobile traffic, as well as the high levels of general noise generated by commercial and industrial activities.

The mauka portion of the impact area in the Kapiolani/Beretania district, the ambient existing noise level does not appear to have a significant impact on the operation of businesses in the adjacent area. The primary reason for this is because almost all the structures in the area are of massive concrete construction and air-conditioned. This design aids significantly in the acoustics of the buildings. Included in this area are primarily public facilities buildings such as the State Capitol, The State Office Buildings, the Board of Water Supply, the Municipal Office Building, and the Medical Group Building. Other private apartment dwellings located in the mauka portion of the impact area are situated sufficiently far away enough such that noise concerns are minimal.

In the central Kakaako area, noise concerns will have a greater impact upon the environment. Most of the existing structures are older buildings of timber construction. Pohukaina School would be subject to noise generated by construction activities. The proposed drain will be located along Coral Street between the Pohukaina School and Mother Waldron Playground. Pohukaina School is located contiguous with the proposed drain alignment. Future plans for the school entail the demolishing of the existing structures and the replacement with newer and modern facilities. At the present time, demolition of the school is scheduled within the next few years but an exact date has not been determined. It appears the construction of the proposed drain line will

coincide with the future demolition of the school. However, if such coincidence in timing does not occur, noises from the drain line construction activities may impair certain school activities in those school structures abutting the drain construction. The buildings to be most affected by construction noises are the school's library and cafeteria on Coral Street and classrooms on Halekauwila Street. The open space of the playground and the single story structures of the adjacent school would provide for sound dispersion and thereby alleviate some of the nuisance of noise emission. The estimated noise level at the site of construction and the adjacent school is estimated to be 82 dBA. This noise level is typical of sound generated by construction noise producing equipment and machinery used by contractors in Hawaii.

Construction noise will be regulated by Public Health Regulation, Chapter 44B, Community Noise Control for Oahu and a permit will be obtained by the contractor from the State Department of Health.

B. AIR QUALITY

Atmospheric conditions in Hawaii are ideal for the rapid dispersal of air pollution and the reduction of localized concentrations to levels which are within the established standards. The predominant winds are the trades, which occur approximately 70 percent of the time and which come from the northeast (or mauka) with an average wind speed of 8 to 10 miles per hour. The other notable wind condition are the Kona winds, from the southwest (or makai), which have an average speed of 5 miles per hours.

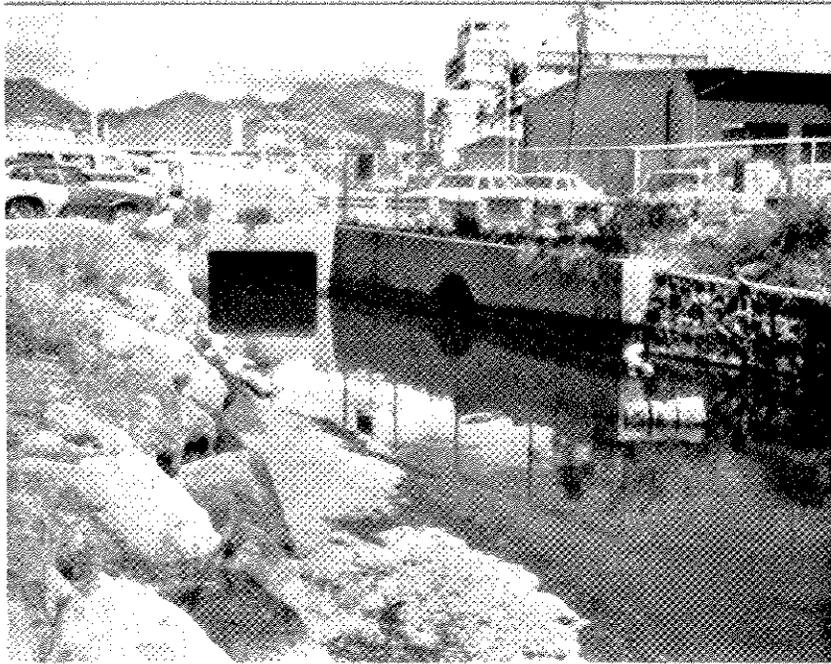
During the short period of project construction, the watering and use of dust palliatives which are used to measure and control emissions of air pollutants caused by excavation and construction activities will be employed. Upon completion of construction activities, the proposed drains is not expected to have any adverse impact on air quality.

C. WATER QUALITY AND MARINE ENVIRONMENT

It is not anticipated that the proposed improvements to the Kakaako and Kapiolani/Beretania drains will have any adverse effects on surface and ground water resources in and around the impact area. The only potential source of impact related to the proposed action is that the storm water will reach the ocean faster.

It is difficult to determine what detrimental effect, if any, the periodic influx of fresh water from the existing drainage system has had on the adjacent marine environment. Observations made during the marine reconnaissance suggest that wave surge and sand abrasion are the stronger controlling forces with respect to the biological development of the area studied.

Two observations made during the study substantiate that the periodic influx from the drainage system has had little effect on the adjacent marine environment. Firstly, the coral Pocillopora meandrina is, by far, the most commonly observed coral in the area. This coral is very sensitive to



Keawe St. Drain entering the existing open ditch



Existing open ditch entering the open ocean

decreased salinities and is more common in areas of good circulation and normal salinities. Yet coral heads 12 to 15 centimeters in diameter (growth rate of Pocillopora meandrina is approximately 2 centimeters per year) are found growing only 10 meters from the mouth of the drainage canal. This suggests that for the previous 6 to 7-1/2 years, coral heads have not been exposed to influxes of freshwater sufficient to kill them.

A second observation, that of the absence of dead coral heads, suggests that wave surge may dislodge and break up the live coral heads as they approach a certain size. Dead coral heads of the same species have been observed to persist in other wave surge environments for 2 years or more indicating that the strength of attachment to the substratum is not immediately reduced by death of the coral head. From this standpoint it seems that the freshwater influxes from at least the previous 1 to 2 years has had little effect on the survival of Pocillopora meandrina in the immediate area of the drainage canal.

Based on the above observations, it appears that the increased flow rates (same volume of water over a shorter duration period of time) resulting from the proposed drainage improvements will have little, if any, detrimental effects on the adjacent marine environment.

D. SOCIO-ECONOMIC

The direct and indirect socio-economic impacts on the existing environment as a result of the proposed

action appear to be minimal. Direct impacts are those social or economic impacts which are caused directly by the proposed action. Indirect socio-economic impacts of the proposed action are environmental factors which are influenced by the direct project impacts.

Direct social impact upon the environment appears to be insignificant. The proposed drain system is located primarily in government-owned properties. For those sections of drainline that traverse private roads, the City and County of Honolulu shall acquire these private roads for a fee of One Dollar (\$1.00). When the City and County assumes responsibility, improvements can be expected in the maintenance of the roadways.

Direct economic impact also appears to be minimal. The proposed system is designed to eliminate the existing flooding within the impact area and the economic characteristics is not expected to adversely change. Potential secondary or tertiary effects of the elimination of flooding could possibly lead to improvements of roadways and the encouragement of private developments which could cause relocation of some residents and small businesses. Such presumptions, however, are difficult to substantiate because of insufficient data. On the other hand, an improved drainage system would enhance the value of the area by contributing to a more desirable and favorable street environment.

Because of the numerous master plan studies prepared for the Kakaako district, the ultimate development scheme for the area cannot be determined at this

time. The proposed drains, however, will be designed to accommodate any urban land uses that may be adopted in the future.

E. SCHOOLS

Pohukaina School is contiguous with the proposed drain alignment and is scheduled for demolition within the next few years. However, if demolition is postponed, buildings have adequate setback from the existing roadway such that access around the school buildings for students will not be impaired during construction. Provisions will be included in the construction plans and specifications to implement appropriate measures to provide maximum safety for the special students attending school.

The improved drainage system will provide the necessary intake and conduit for storm runoff in the area and thus provide for a safer and favorable school environment.

F. WILDLIFE AND VEGETATION

The proposed action is located entirely in urbanized areas currently developed with improvements. Areas which are essentially natural in character and serve as wildlife habitats are not directly involved. Therefore, the impact on wildlife is considered minimal due to the existing highly developed urban environment of the impact area.

Mauka sections of impact area include many new government facilities. Among these include the recently constructed park located between the new Municipal Office Building and City Hall. Appropriate

measures will be taken to minimize the damage to the existing landscape during the construction of the proposed drain.

During the construction period, provisions will be made to preserve land resources within the project area and outside the limits of the permanent work performed. Under the various construction contracts, the existing conditions must be restored to their natural condition and must not detract from the appearance of the surrounding area. Except in area marked on the construction drawings to be cleared, it shall be clearly specified that the contractor shall not deface, harm or destroy trees or shrubs nor remove them without approval. Any tree or other landscape features scarred or damaged by the contractor's equipment or operation shall be restored, as nearly as possible, to its original condition by replacement if necessary.

G. CONSTRUCTION IMPACTS

Of less importance are the adverse impacts to the environment and the general public occurring during construction of the proposed action than the potential long-term impact created by the proposal. However, the short-term construction activities do pose a potential source of pollutants to the environment and discomfort to neighboring communities. Therefore, the potential construction impacts are analyzed and discussed in the following sections along with the appropriate measures that should be followed to minimize the adverse impacts.

1. Noise and Vibration

As discussed earlier, one of the impacts associated with the proposed action is the short-term noise factor generated from construction activities. Another impact associated with construction is the vibration of the ground caused by sound and equipment movement. The proposed drain and channel construction will involve the use of machines and procedures which, in the past, have resulted in intense noise levels and occasional high vibration levels in and around the construction site. The construction activities will include clearing, grading, excavation, sheet piling, material handling and placement, and will involve the use of all the various kinds of machines and procedures which are associated with these activities.

a. Noise

Any construction activity creating loud noise or disturbances are restricted to only certain hours of the day. Recently, the State Department of Health adopted the Public Health Regulation on "Community Noise Control for Oahu" which regulates all construction noises on Oahu. The regulations state that all construction activities in excess of the allowable noise levels, which measured at or beyond the property line would require a permit and shall be restricted to the hours between 7:00 a.m. and 6:00 p.m. of the same day and

restricted on Sundays and legal holidays. Where construction noise exceeds 95 dBA at or beyond the property line of the construction site, the construction activities will be restricted to the hours between 9:00 a.m. and 5:30 p.m. of the same day and limited to five days a week -- Monday through Friday. The normal working hours for construction activities per the General Contractors Association is 7:00 a.m. to 3:30 p.m. Modifications to the actual starting and quitting times may be necessary due to noise and traffic concerns. Construction times along the major traffic thoroughfares may be limited to only non-peak traffic hours. If applicable, efforts in scheduling and phasing of the project construction shall be made such that construction of the portion of drainline contiguous with the Pohukaina School be performed during the summer months while school is not in session. Also, all combustion powered equipment shall have appropriate mufflers to minimize noise. These regulations will be specified in all construction contracts.

b. Ground-Borne Vibration

Ground-borne vibration generated by heavy vehicles on highways and streets has of the same order of magnitude of the vibration created by the movement of construction equipment such as graders, loaders, dozers, scrapers and trucks. In general, the

ground-borne vibration from vehicle operation on streets, even very rough streets, is not sufficient to create noticeable impact in adjacent communities. It is possible that some type of excavation activities can generate some ground-borne vibration to be perceptible or noticeable in nearby buildings. However, it can be expected that the construction activities will not generate sufficient ground-borne vibration to result in any adverse impact on residents or structures.

2. Air Quality

The short-term impact of the proposed action on air quality will be moderate local increases in pollution levels due to construction activities. Construction activities will produce dust and diesel fumes from increased truck traffic, generators, bulldozers, etc. As discussed earlier, watering and use of dust palliatives to alleviate dust and air pollution will be employed. In conjunction with the air pollution abatement measures, Public Health Regulations of the Department of Health, State of Hawaii, Chapter 43, "Air Pollution Control" will be followed as required in all construction contracts.

3. Water Quality

Another construction activity which may have an impact on the environment is the process of dewatering the trench excavations in coralline deposits whereby

fine materials in suspension will be pumped. These materials will remain in suspension for a sufficient duration to be highly visible in bodies of water. Suspended materials are difficult if not impossible to trap or settle in a basin. To minimize the effects of dewatering operation and its discharge of waters with high levels of suspended solids, a wellpoint system with suitable filter materials around the pump intake may be necessary. If this method is not satisfactory, waters pumped from trench excavation may have to be recharged back into the ground. The final plans will include the construction of permanent sediment basins at several strategic points. Additionally, the plans call for access to these basins for periodic maintenance cleaning.

Due to dredging and the construction of the outlet drainage ditch, there may be some discoloration and turbidity of the localized waters. This, however, is a temporary concern and will be alleviated with the installation of silt curtains and other turbidity abatement measures. With the above mitigation measures, these temporary adverse effects can be controlled and kept to a minimum. In addition, the contractor will be required to conform with the Public Health Regulations of the Department of Health, State of Hawaii, Chapter 37, "Water Pollution Control, Section 2," Standards of Water Quality as stipulated in all construction contracts.

4. Vehicular and Pedestrian Traffic Disruption

Because the project is located in a highly urbanized area, some traffic lanes along the drain alignment will be temporarily closed to traffic during the construction period. An adequate number of lanes will remain open to accommodate local traffic and emergency vehicles. Close coordination will be necessary with the Department of Transportation Services, City and County of Honolulu, in the development of the temporary traffic re-routing plans during the various phases of construction along with the determination of the number of lanes that will remain open on the various affected roadways. No roadway will be closed without the expressed permission by the City Department of Transportation Services.

To minimize the short-term inconveniences to vehicular and pedestrian traffic on these affected roadways, and to prevent accidents and protect persons and properties, the following measures and procedures are recommended:

- a. Access to water meters, water valves and abutting private properties must be provided and fire hydrants must be readily accessible to the Fire Department at all times.
- b. Traffic bridges shall be provided when necessary so that all streets roads, lanes, alleys, driveways, and garages will be accessible to traffic at all times.

In lieu of the traffic bridges, suitable steel plates may be used.

- c. All pedestrian walkways shall be maintained in passable condition or other facilities for pedestrians shall be provided. Passage between walkways at intersections shall likewise be provided.
- d. When substructure excavations cross street intersections, safe crossings for vehicles and pedestrians shall be provided and maintained. Pedestrian crossings shall be separate from vehicle crossings and shall be provided with handrails.
- e. Adequate signs, lights, flares, barricades, and other protective facilities shall be installed, provided and maintained and all necessary precautions for the protection, convenience, and safety of public traffic shall be taken. All protective facilities and precautions to be taken shall conform with the "Rules and Regulations Governing the Use of Traffic Control Devices at Work Sites On or Adjacent to Public Streets and Highways" adopted by the Highway Safety Coordinator, and the U. S. Federal Highway Administration "Manual on Uniform Traffic Control Devices for Streets and Highways, Part VI -- Traffic Controls for Highway

Construction and Maintenance Operations," dated 1971.

- f. Adequate notices to the public pertaining to the restriction of vehicular traffic and any road closures in the affected work area, shall be published for at least three consecutive days in Honolulu daily newspaper of general circulation. The first day of this notice shall begin on the third day prior to the disruption of traffic.

Precast box drains will be utilized for the construction of the various drain lines associated with the proposed project. This method is intended to minimize the impact and inconvenience to the adjacent residents and property owners affected by minimizing the duration of the actual construction period of these drain lines.

5. Physical Impact on Adjacent Structures

In order to provide access for local and emergency traffic on affected roadways, the construction of the proposed drains will generally be on one side of the roadway. Since the average ground elevation is approximately 7 feet above mean sea level, the drain lines are generally shallow, located near the ground surface.

Potential ground settlement adjacent to trench excavation is caused by excessive lateral movement of the sides and heave of the bottom of the excavation, and by de-watering of the

trenches. Settlements due to excavation are caused by lateral movement of the excavation walls and bottom heave due to stress release. Excavation, shoring and bracing that are carefully designed, planned and carried out would minimize the settlements. Settlements due to de-watering silt and clay materials, if any, are caused by the increased weight of the de-watered material (due to removal of the bouyant force) which consequently increases the load in these compressible materials causing them to consolidate. A combination of deep-cut sheet piling and recharging the ground water outside the excavation could be utilized to minimize the effects of de-watering.

6. Disposal of Spoils

Trench excavations will yield a surplus of material or unsuitable spoils that post a secondary construction impact. This construction effect must be evaluated from an economical as well as an environmental standpoint due to the difficulty in finding suitable sites for spoils disposal. There are presently two City-owned dump sites, one in Kailua and the second in Kawaihoa near Haleiwa. The Kailua site is nearest to the project but is still located on the Windward side of the island and a distance of approximately 12 miles.

Because the City-owned landfill site in Kailua is operated by the City, appropriate constraints are being imposed to minimize any form of pollution.

Any private area that may be conducive for disposal of spoils will be carefully studied and governed by applicable grading ordinance and as approved by the City.

H. POSSIBLE CONFLICT WITH MASS TRANSIT SYSTEM

The proposed drainage system and the proposed Mass Transit System Guideway intersect at the Kapiolani Boulevard and King Street intersection. Careful examination of the alignments for the proposed Mass Transit System Guideway and the proposed drain reveals that the proposed drain would not encroach into the mass transit corridor (See Figures 9 and 10). Plan and profile extrapolations of both systems indicate approximately 10 feet vertical clearance where the two systems intersect. This provides sufficient clearance for the construction and implementation of both systems.

VI. ALTERNATIVES TO THE PROPOSED ACTION

To identify the basic alternatives to the improvement of the drainage system for the Kakaako and Kapiolani/Beretania areas as recommended by the Drainage Master Plan for the City and County of Honolulu, various alternatives were identified and evaluated. These alternatives to the proposed action were evaluated for their ability to fulfill the basic objective of providing a safe and adequate drainage system to convey storm runoff to the ocean with minimum adverse impacts to the project area.

The following alternatives were considered for the project.

± CURVE DATA
 2000'
 79.74'
 152.41'

Proposed Kapiolani Boulevard-
 Beretania Street Relief Drain

MUNICIPAL
 OFFICE
 BUILDING

POT. LT. 653+02.64

King Street
 LEFT TRACK

Kapiolani Boulevard

Proposed Underground Mass Transit
 System Guideway

Kapiolani Boulevard

East Kakaaka
 Area Major Drain

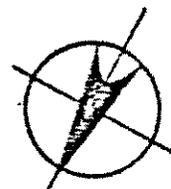
P.I. 653+21.56
 N 50,696.94
 E 548,354.83

P.T. RT. 653+10.82

South Street

Cooke Street

Curtis Street



LEGEND

- BUILDING
- PAVED ROAD
- UNPAVED ROAD
- CURB & GUTTER
- CONCRETE
- WALL
- FENCE & GUARDRAIL
- STREAM
- UTILITIES & MANHOLES
- POLE
- TRAFFIC LIGHTS
- SIGNS
- HYDRANT
- VEGETATION

Computed by photogrammetric methods
 from aerial photographs taken April 28, 1974
 at 1:3000' A.M.S.L.
 Elevation based on Karen Sys Level Datum.
 Original Horizontal Plane Coord. System. Zone 3
 Map Scale: 1"=50'

FIGURE 10

PLAN SHOWING PROPOSED
 ALIGNMENT OF MASS
 TRANSIT SYSTEM GUIDEWAY

± CURVE DATA
 Δ = 6°58'00"
 RM = 4500'
 TM = 273.92'
 LS = 547.14'

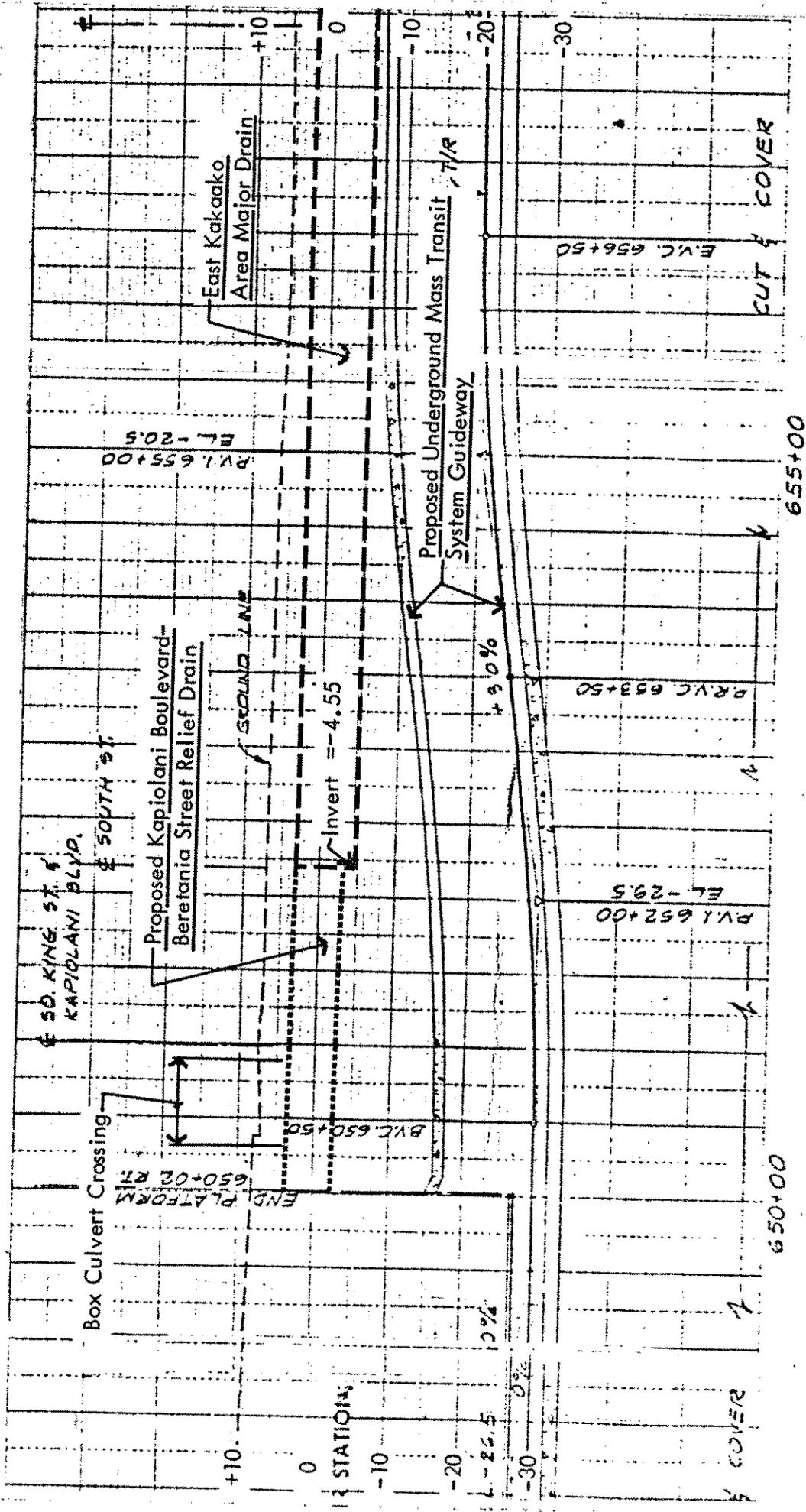


FIGURE 11

PROFILE SHOWING KAPIOLANI
DRAIN CROSSING AT PROPOSED
MASS TRANSIT SYSTEM GUIDEWAY

A. Do-Nothing

This "no action" alternative is the basis for assessing impacts of the other "action" alternatives. To forego the project and maintain the existing environmental setting in the area will not resolve the flood problems and/or satisfy the public needs.

B. Improve Intake Structures

This alternative is to provide street improvements to direct the storm waters into the existing drainage system. This will not increase the present capacity of the drainage system and will not significantly relieve the flood problems. In addition, to optimize the efficiency of the existing system, frequent maintenance would be required.

C. Alternative Drain Routes Within The Project Area

In the study of alternative alignments, several routes were given consideration. The East Kakaako Area Major Drain portion of the proposed system has been aligned and designed to the physically permissible and economically feasible route. This portion of the system begins at the corner of Kapiolani Boulevard and South Street and proceeds along its route to the open ditch outlet. Approval of this alignment and design have been received from the various agencies. Comments regarding this design is appended to this Environmental Impact Statement (See Appendix A).

Within the Kapiolani/Beretania district, however, the proposed Kapiolani Boulevard-Beretania Street Relief Drain offers several alternate routes. The following is an evaluation of these routes:

1. Alternate Alignment No. 1

This is the proposed alignment and begins at the corner of Punchbowl and Beretania Streets and proceeds along Beretania Street to Kapiolani Boulevard. The drain will then connect with a recently constructed portion of the proposed system at this intersection. This 400 linear feet portion of the proposed drain was constructed as part of the recently completed State Office Building. The proposed drain then proceeds from this existing drain along Kapiolani Boulevard and through the new open park fronting the Municipal Office Building to the intersection of South Street and Kapiolani Boulevard where it connects with the future East Kakaako Area Major Drain. This alternate has a total length, including the existing portion of drainline, of 1450 linear feet and covers approximately 600 linear feet of traveled roadway. The estimated cost for this alternate is \$750,000.00.

2. Alternate No. 2

This alternative alignment begins at the corner of Punchbowl and Beretania Streets and proceeds southwesterly along Punchbowl Street to the intersection of Punchbowl and Hotel Streets. The drain would then proceed southeasterly along

Hotel Street, to Kapiolani Boulevard where the drain turns to the southerly direction through the open park fronting the Muncipal Office Building to the intersection of South Street and Kapiolani Boulevard. At this location, the drain would then connect with the future East Kakaako Area Major Drain. This alternate has a total length of approximately 1,700 linear feet and covers approximately 700 linear feet of traveled roadway. This estimated cost for this alternate is \$1,400,000.00.

3. Alternate No. 3

This alternative alignment begins at the corner of Punchbowl and Beretania Steets and proceeds southwesterly along Punchbowl Street to the corner of Punchbowl and King Street. The drain would then turn in the southeasterly direction along King Street to the multi-street intersection of Kapiolani Boulevard and South Street. The drain would then connect with the future East Kakaako Area Major Drain. This alternate has a total length of approximately 2,050 linear feet and covers approximately 2,050 linear feet of traveled roadway. The estimated cost for this alternate is \$1,900,000.00.

The findings of the study of alternatives to the proposed action reveal that only the improvement of the drainage system within the impact area could fulfill the objective of the project. Further, Alternative No. 1 appears to be the most feasible after evaluating its economic and physical constraints. This alternative

has the least cost and the shortest drain length requirement. The feasibility of this alignment is further accentuated by the fact that a portion of the proposed system has already been constructed and, thus, some future costs have already been defrayed. Alternates No. 2 and 3 propose to traverse partially on Punchbowl Street. This factor would be severely detrimental to traffic flow since Punchbowl Street is one of the major arterials through Honolulu. Alternate No. 3 proposes to traverse along a portion of King Street and, thus, also severely disrupt the traffic flow of this major thoroughfare through Honolulu.

Because Punchbowl and King Streets are also major corridors for existing underground utilities, Alternates No. 2 and No. 3 would require major adjustment to existing underground utilities to implement the proposed drains.

The implementation of the East Kakaako Area Major Drain and the Kapiolani Boulevard-Beretania Street Relief Drain would not only provide for an adequate conduit to convey storm runoff from the impact area, but also relieve the existing adjacent drainage systems. This factor would alleviate the adjacent systems from insufficient capacity and also forego additional costs for improvement.

VII. PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

A. NOISE

During the short period of construction, the ambient noise level will increase due to construction activities.

All noise concerns will be regulated by the recently adopted Public Health Regulation on "Community Noise Control for Oahu". The ultimate implementation of the proposed action will not have any direct noise impacts on the environment.

B. AIR QUALITY

Dust and exhaust emission pollutants may increase slightly during the construction period. This temporary concern will be regulated by the Public Health Regulation of the Department of Health, State of Hawaii, Chapter 43, "Air Pollution Control." When the construction activities are completed, the proposed action is not expected to have any adverse impact on air quality.

C. WATER QUALITY AND MARINE ENVIRONMENT

The proposed improvements will increase the flow rate of storm drainage into the open ocean. The total flow from the project impact area, through the proposed drainage system, into the open ditch is estimated to be approximately 463 cfs. The existing Keawe Street drain presently contributes approximately 78 cfs to the existing ditch and, therefore, the proposed lined open ditch will have the capacity of the aggregate of both systems, approximately 526 cfs. These flow rate are based on a 50-year storm. The increase in flow rate from the project area when compared with the total volume of the ocean, is relatively small and is expected to have only slight, if any, effects on the water quality within the localized ocean area. A marine environment evaluation for the impact area indicate that adverse impact on the marine environment will be insignificant.

D. SOCIO-ECONOMIC

The direct and indirect socio-economic impacts on the project area will be insignificant. Although, some temporary inconveniences may be incurred to businesses in the area, these inevitable concerns will be controlled to minimize the impacts on the environment. Because the entire drainage system will be located in existing right-of-ways, land acquisition and subsequent relocation will not be necessary.

The potential for greater development in the area is more related to land-use policies and market pressures upon the area than the improved drainage systems. The proposed drainage system will accommodate any land use that may be mandated in the future.

E. WILDLIFE AND VEGETATION

Because the proposed action is located in a highly urbanized environment, areas which are essentially natural in character and serve as wildlife habitats are not directly involved. Therefore, the impact on wildlife is considered minimal. The proposed action will include adequate replanting of trees and shrubs where the same have to be removed for construction purposes.

F. CONSTRUCTION IMPACTS

As discussed earlier, there are various short-term impacts caused by the construction of the proposed project that are unavoidable. Although all applicable regulations and construction controls would be applied to minimize inconveniences, there will be a certain amount of

short-term impacts such as dust, noise, traffic diversion, etc., that are unavoidable. These impacts during the construction period should not affect the safety of the public and will not result in long-term adverse impacts to the community or the environment.

G. IMPROVED DRAINAGE

The project will greatly improve drainage conditions in the impact area through the provisions of new storm drains, and related paving and resurfacing of the affected roads in the area. The provisions for new curbs and gutters with future improvements would result in a cleaner, safer, more attractive and desirable street environment. Additionally, the improved drainage will eliminate puddles, overland flow and mosquito and bacteria growth associated with surface runoff.

VIII. THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Through the use of the local short-term environmental resources, the enhancement of the long-term productivity of both the local and the regional island environment would ultimately result.

The drain construction will cause temporary inconveniences to businesses and public facilities in the impact area. Upon its completion, however, the improved drainage facility would upgrade the quality of the business district and increase the desirability of this portion of Honolulu.

Perhaps the most significant factor in the relationship of short-term uses and long-term productivity is that the proposed action is considered to part of the long-term improvement to the Kakaako area. As discussed previously in this environmental impact statement the future of the Kakaako area is under careful scrutiny for future development. Consequently, any improvement which enhances the general environment of the Kakaako area would contribute towards the goal and economy of the entire State. In essence, local short term uses of environmental resources are direct actions toward the achievement of public goals.

IX. MITIGATION MEASURES TO MINIMIZE IMPACT

Discussions relating to probable and unavoidable environmental impacts are contained earlier in this Environmental Impact Statement. Suggested with the associated adverse impacts are measures to alleviate or abate the detrimental effects of the proposed action.

Other mitigation measures to be taken in an effort to minimize the adverse impacts include:

- . Specifying various requirements in the construction contracts to adherence to governmental standards and regulations governing construction activities to minimize the short-term impacts occurring during the construction period.

- . Implementing appropriate remedial measures, which are acceptable to the respective regulatory agencies to minimize any impact on the noise level in the Pohukaina School classrooms caused by construction activities.

- . Replanting street right-of-ways and parks with either those trees and shrubs which were removed during construction or with new plants.

X. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The evaluation of commitment of resources must consider the general welfare of the entire State. Significant irretrievable resources concerning the proposed action are building materials and labor. The raw materials necessary to produce the manufactured products or equipment are extremely scarce on the island of Oahu. Construction materials such as sand, concrete, asphaltic concrete, rock, steel, etc. will cause nearly irreversible use of these resources but the quantities required for the project are considered to be negligible, when compared to the amounts utilized throughout the State.

Labor is also irretrievable once expended, However, at the present time, manual and skilled labor resources are readily available and their use will definitely be considered a beneficial impact of the proposed action.

XI. ORGANIZATIONS AND PERSONS CONSULTED

The following organizations and individuals were consulted in the preparation of the Environmental Impact Statement for the proposed East Kakaako Area Major Drain and the Kapiolani Boulevard-Beretania Street Relief Drain.

A. FEDERAL AGENCIES

1. U. S. Army Engineers District, Honolulu *

2. U. S. Coast Guard, 14th Coast Guard District *
3. U. S. Soil Conservation Service *
4. U. S. Department of Interior, Fish and Wildlife Service

B. STATE AGENCIES

1. Department of Planning and Economic Development *
2. Department of Transportation
3. Department of Agriculture *
4. Department of Education
5. Department of Health *
6. Environmental Center, University of Hawaii
7. Office of Environmental Quality Control *
8. Department of Land and Natural Resources *
9. Department of Accounting and General Services

C. COUNTY AGENCIES

1. Department of General Planning *
2. Department of Land Utilization *
3. Department of Transportation Services *

4. Board of Water Supply *

D. OTHER ORGANIZATIONS OR INDIVIDUALS

1. Life of the Land
2. Ms. Alice Doyle, Principal, Pohukaina School

Comments from the various agencies, organizations, and individuals on the proposed action provided additional information which assisted in the preparation of this Environmental Impact Statement. These comments, along with replies sent, are documented at the end of this document in Appendix.

XII. LIST OF NECESSARY APPROVALS

Permits will be required from the following agencies:

1. A permit for grading, excavation and fills will be required pursuant to Ordinance No. 3968 (1972), Chapter 23, Revised Ordinance of Honolulu, 1969 as amended. The Contractor will obtain said permit from the Department of Public Works.
2. A U. S. Department of Army permit under Section 10 of the River and Harbor Act of 1899 and under Section 404 of the Federal Water Pollution Control Act amendment of 1972 will be required for construction within navigable waters.

* Agencies, organizations or individuals from whom written comments were received.

3. A special management permit pursuant to Section 7, Ordinance No. 4529, and Chapter 205-A HRS as amended by Act 176, SLH 1975, "Interim Shoreline Protection District for Oahu," will be required from the Honolulu City Council through the Department of Land Utilization. The application for the permit will be submitted after the acceptance of the EIS.
4. A Conservation District Use Application must be filed for approval by the Department of Land and Natural Resources under Regulation 4.
5. An application for a Conditional Use Permit for Construction Activities under Chapter 44B, Community Noise Control for Oahu, of the Public Health Regulations.
6. An application for Permit for Work in the Shore Waters of the State of Hawaii from the Harbors Division, State of Hawaii Department of Transportation.

BIBLIOGRAPHY

1. "KAKAAKO an urban design demonstration study," Department of Planning and Economic Development, State of Hawaii, December 1975.
2. "Rainfall-Frequency Atlas of the Hawaiian Islands," U. S. Department of Commerce, Weather Bureau, Technical Paper No. 43, 1962.
3. Data from the Department of Land Utilization, City and County of Honolulu.
4. Honolulu, City and County. Capital Improvement Program (1972 - 1978)
5. "Storm Drainage Standards," Department of Public Works, City and County of Honolulu, March 1969.
6. Hawaii, State Department of Transportation. Inventory of Highway Needs: Highway Functional Classification and Needs Study, State of Hawaii 1970 - 1990, (Belt, Collins and Associates, Ltd. and Wilbur Smith and Associates), Honolulu, Hawaii 1971.
7. "Manual for Highway Noise Prediction," Department of Transportation, Federal Highway Administration, Report No. DOT-TSC-FHWA-72-2, March 1972.

8. "Air Pollution Control Implementation Plan," State of Hawaii, Department of Health, Air Sanitation Branch, January 1972.

A P P E N D I X A

COMMENTS AND RESPONSES CONCERNING THE DESIGN
OF THE EAST KAKAAKO AREA MAJOR DRAIN

Fort Armstrong

December 15, 1971

HAR-EP
2054

Mr. Robert T. Chuck
Manager-Chief Engineer
Div. of Water & Land Development
Dept. of Land & Natural Resources
P. O. Box 373
Honolulu, Hawaii 96809

Dear Bob:

Subject: Job No. 1-0L-23, Food Distribution Center,
Increment II, Fort Armstrong, Oahu

Per your request, we have reviewed the preliminary construction plans for subject project and forward the following comments:

1. We notice the outer face of the Keawe Street drainage channel concrete wall on the Container Yard side is on the property line. It is requested that this wall be moved at least three (3) feet away from the property line toward Waikiki to minimize construction intrusion into the Yard and possible future settlement of the pavement.
2. Straddle carriers, carrying heavy container loads, operate in the Yard. It is requested that the drainage channel concrete wall nearest the Yard be designed to sustain a uniform surcharge live load of 300 p.s.f. or concentrated surcharge live load figured from data furnished in the enclosure, whichever governs.
3. To deter corrosion, it is requested that the clearance for the drainage channel wall steel be 3 inches, in lieu of 2 inches, the same as the floor slab steel.

Mr. Robert T. Chuck
Page 2
December 15, 1971

HAR-EP 2054

4. It is requested that the top of the channel wall be built at least as high as the adjacent ground level of the Container Yard.
5. It is recommended the following notes be shown on the plans:
 - a. Before work is started on the Container Yard side channel wall, permission shall be obtained from Capt. J. B. McCormick, Pier 8, Telephone No. 533-1461.
 - b. During the construction work, there shall be minimum intrusion into the Fort Armstrong Container Yard.
 - c. The existing concrete piles may be moved away from the channel to permit construction, but they shall be so laid out as to serve as a safety barricade.
 - d. Upon completion of the channel wall, the Container Yard ground and pavement shall be restored to conditions existing prior to construction, the concrete piles shall be returned to their original locations and cleanup of construction debris shall be accomplished promptly. Any fill material placed shall be well-compacted.

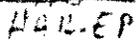
We appreciate the opportunity to review your preliminary plans and would like to review the final construction plans.

Very truly yours,


GUY CHU

Assistant Chief of Harbors
for Engineering


MMN:wh


Enclosure


bcc: HAR-O
HAR-E
HAR-ED

JOHN A. BURNS
GOVERNOR OF HAWAII



DIVISIONS:
CONVEYANCES
FISH AND GAME
FORESTRY
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 621
HONOLULU, HAWAII 96809
December 20, 1973

Mr. Stanley S. Shimabukuro
President
Stanley S. Shimabukuro & Assoc., Inc.
1126 12th Avenue
Honolulu, Hawaii 96816

Dear Mr. Shimabukuro:

Preliminary Construction Plans for the
East Kakaako Area Major Drain, Oahu

Thank you for the opportunity to review the preliminary drawings for the subject drain project.

As you know, the proposed drain involves the use of Conservation zoned lands, therefore, we cannot approve any plans until such time as a Conservation District Use Application has been approved by the Board of Land and Natural Resources.

At this time however, we see no major objections to the preliminary construction plans. We do however, have several recommendations which we would like to discuss with you. Please contact our Planning Office at 548-7417 to schedule a meeting date with our staff.

Very truly yours,

BOARD OF LAND AND NATURAL RESOURCES

SUNAO KIDO
Chairman and Member

Final Copy + DE.

STANLEY S. SHIMABUKURO & ASSOCIATES, INC.

CIVIL & STRUCTURAL ENGINEERS

Stanley S. Shimabukuro

Lawrence M. Okuhara

Harold I. Yoshizaki

Wallace K. Endo

March 4, 1974

Mr. Sunao Kido
Chairman and Member
Board of Land and Natural Resources
465 South King Street
Honolulu, Hawaii 96813

Dear Mr. Kido:

Subject: EAST KAKAOKO AREA MAJOR DRAIN

We have corrected the final plans of the subject project in the vicinity of the Food Distribution Center Facilities in accordance with instructions of your staff.

We understand that you cannot issue approval of the construction plans until the project sponsor, the City & County of Honolulu, files an application to construct in a Conservation District.

The City does not have a definite schedule and will not proceed immediately with this project. An application will be filed with you when this project becomes funded.

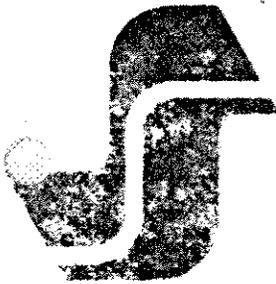
Thank you for your cooperation in the review of this project.

Very truly yours,

STANLEY S. SHIMABUKURO & ASSOCIATES, INC.

Stanley S. Shimabukuro
Stanley S. Shimabukuro
President

SSS:gt



STANLEY S. SHIMABUKURO & ASSOCIATES, INC.

CIVIL & STRUCTURAL ENGINEERS

Stanley S. Shimabukuro
Lawrence M. Okuhara
Harold I. Yoshizaki
Wallace K. Endo

November 8, 1973

Harbors Division
Department of Transportation
State of Hawaii
700 Fort Street
Honolulu, Hawaii 96813

Gentlemen:

Subject: EAST KAKAĀKO AREA MAJOR DRAIN

We have been engaged by the City and County of Honolulu to provide consulting engineering services for the preparation of plans and contract documents for the subject drain project.

The drain will begin at an existing drainage channel outlet at the ocean along the east side of the Fort Armstrong container freight facilities. It will proceed north along an existing drainage channel to Keawe Street, then along Ilalo Street, Coral Street, Halekauwila Street, and Cooke Street to Kapiolani Boulevard, as shown on the attached Title Sheet, Sheet No. 1.

The existing outlet will be improved and construction work will be performed beyond the shoreline as shown on the attached Plan and Profile, Sheet No. 4, and Open Channel Outlet, Sheet No. 18.

Please review the attached prints and the proposed construction work at the existing outlet for conformance with your standards and requirements. Your prompt notification of conformance or of any design discrepancies or violations will be appreciated.

This submittal is not an application for permit. The application for permit to construct the improved drain outlet will be obtained by the City and County of Honolulu at a later date prior to commencement of construction.

Should you have any questions, please contact us.

Very truly yours,

STANLEY S. SHIMABUKURO & ASSOCIATES, INC.

Stanley S. Shimabukuro, President

SSS:gt
Attach.

JOHN A. BURNS
GOVERNOR



E. ALVEY WRIGHT
Director
LAWRENCE F. O. CHUN
DEPUTY DIRECTOR
MUNNY Y. M. LEE
DEPUTY DIRECTOR
DOUGLAS S. SAKAMOTO
DEPUTY DIRECTOR

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HARBORS DIVISION

IN REPLY REFER TO:

HAR-ED
1384

~~79 50 NEWIZ HWY. • HONOLULU, HAWAII 96816~~
79 50 NEWIZ HWY. • HONOLULU, HAWAII 96816

November 23, 1973

Mr. Stanley S. Shimabukuro, President
Stanley S. Shimabukuro & Associates, Inc.
1126 12th Avenue
Honolulu, Hawaii 96816

Dear Mr. Shimabukuro:

Subject: East Kakaako Area Major Drain

In 1971, the Department of Land and Natural Resources proposed improvements to the subject drain as part of the project to construct the Food Distribution Center. A copy of our comments upon the preliminary plans for those improvements is enclosed for your information.

The comments in our letter to the Department of Land and Natural Resources remain valid for the presently proposed project, with the exception that the telephone number of the Oahu District Manager, Capt. J. B. McCormick, has been changed to 548-6255. It is obvious from the plans that Recommendations 1 and 3 have been satisfied. We hope that you will incorporate the other recommendations as well.

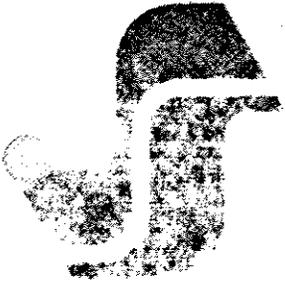
Thank you for the opportunity to review your plans.

Very truly yours,

MELVIN E. LEPINE
Chief, Harbors Division

Enclosure

Enc - Copy to D.E



STANLEY S. SHIMABUKURO & ASSOCIATES, INC.

CIVIL & STRUCTURAL ENGINEERS

Stanley S. Shimabukuro
Lawrence M. Okuhara
Harold I. Yoshizaki
Wallace K. Endo

November 8, 1973

Corps of Engineers, Operations Branch
Pacific Ocean Division
Department of the Army
Fort Armstrong
Honolulu, HI 96813

Gentlemen:

Subject: EAST KAKAAKO AREA MAJOR DRAIN

We have been engaged by the City and County of Honolulu to provide consulting engineering services for the preparation of plans and contract documents for the subject drain project.

The drain will begin at an existing drainage channel outlet at the ocean along the east side of the Fort Armstrong container freight facilities. It will proceed north along an existing drainage channel to Keawe Street, then along Ilalo Street, Coral Street, Halekauwila Street, and Cooke Street to Kapiolani Boulevard, as shown on the attached Title Sheet, Sheet No. 1.

The existing outlet will be improved and construction work will be performed beyond the shoreline as shown on the attached Plan and Profile, Sheet No. 4, and Open Channel Outlet, Sheet No. 18.

Please review the attached prints and the proposed construction work at the existing outlet for conformance with your standards and requirements. Your prompt notification of conformance or of any design discrepancies or violations will be appreciated.

This submittal is not an application for permit. The application for permit to construct the improved drain outlet will be obtained by the City and County of Honolulu at a later date prior to commencement of construction.

Should you have any questions, please contact us.

Very truly yours,

STANLEY S. SHIMABUKURO & ASSOCIATES, INC.


Stanley S. Shimabukuro, President

SSS:gt
Attach.



DEPARTMENT OF THE ARMY
HONOLULU DISTRICT, CORPS OF ENGINEERS
BUILDING 96, FORT ARMSTRONG
HONOLULU, HAWAII 96813

PODCO-0

5 December 1973

Mr. Stanley S. Shimabukuro
Stanley S. Shimabukuro & Associates, Inc.
1126 12th Avenue
Honolulu, Hawaii 96816

Dear Mr. Shimabukuro:

We have reviewed your plans for construction of a storm drain for the East Kakaako area, and have no comments concerning the proposed design at this time. Since a portion of this work is in the navigable waters of the United States, the City and County of Honolulu will be required to obtain a Department of the Army permit. Environmental assessment information will be required as part of their application. In the process of review and coordination of the application with State and Federal agencies, it is possible that questions of a technical nature may arise.

Thank you for the opportunity to comment on your plans.

Sincerely yours,


EVERETTE A. FLANDERS
Chief, Construction-Operations
Division

Final-Copy to Div. Engrg

A P P E N D I X B

COMMENTS AND RESPONSES PREPARED
DURING THE PREPARATION OF THE E I S

7604757

GEORGE R. ARIYOSHI
GOVERNOR

RICHARD E. MARLAND, PH.D.
DIRECTOR

RECEIVED
DIV. OF ENGINEERING
JUL 27 1 39 PM '76



RECEIVED
DEPT. OF PUBLIC WORKS
TELEPHONE NO. 548-6915

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
OFFICE OF THE GOVERNOR

JUL 27 9 54 AM '76

550 HALEKAUWILA ST.
ROOM 301
HONOLULU, HAWAII 96813

ENV
Engg

July 21, 1976

Kazu Hayashida, Director
Department of Public Works
City and County of Honolulu

Dear Mr. Hayashida,

This Office has reviewed the Environmental Impact Statement Preparation Notice for the proposed East Kakaako Area Major Drain and Kapiolani Boulevard - Beretania Street Relief Drain, Honolulu. We wish to offer the following comments:

The light-industrial area of Kakaako may contribute pollutants such as heavy metals, oil or grease, plastics, and etc. to the receiving waters. The composition of the pollutants should be discussed in the EIS. The potential effects of these pollutants upon the biota in the receiving waters should be addressed.

The sentence, on page 13 of the EIS Preparation Notice, states, "additionally, the improved drainage will eliminate puddles, over-land flow and bacteria growth," should be clarified in the EIS.

Will the change of land use on Kapiolani Boulevard from road use (paved) to open space (unpaved) affect the drainage plans of this area? Is the relief drain still required?

Thank you for the opportunity to review this EIS Preparation Notice. We will look forward to receiving the Environmental Impact Statement.

Sincerely,

Richard E. Marland
Director

September 17, 1976

Dr. Richard E. Marland, Director
Office of Environmental Quality Control
State of Hawaii
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813

Dear Dr. Marland:

SUBJECT: YOUR LETTER OF JULY 21, 1976 RELATING TO THE
EIS PREPARATION NOTICE FOR THE EAST KAKAAKO
AREA AND KAPIOLANI BLVD.-BERETANIA ST. RELIEF
DRAIN, HONOLULU, HAWAII

We submit the following response to your comments on the Environmental Impact Statement Preparation Notice for this project.

The proposed project is designed to convey the anticipated storm runoff from an area of urban land use. Although the nature of businesses in the impact area may change in the future, the character of the land use and ground surface are not expected to change significantly to appreciably affect the quality and quantity of the anticipated storm runoff.

An improved drainage system would allow for the rapid intake of surface flow, thereby minimizing the amount of surface pollutants picked up by overland flow.

The relief drain is still required even though Kapiolani Boulevard extension will be converted to open space.

Very truly yours,



FOI KAZU HAYASHIDA
Director and Chief Engineer

PC/RYN/kt



RECEIVED
 DIV. OF PUBLIC WORKS
 JUN 25 8 52 AM '76
 DEPARTMENT OF TRANSPORTATION
 UNITED STATES COAST GUARD
 RECEIVED
 DEPT. OF PUBLIC WORKS

76 0 4032

Address reply to:
 COMMANDER (mep)
 Fourteenth Coast Guard District
 677 Ala Moana
 Honolulu, Hawaii 96813

JUN 24 1 40 PM '76

5922

TO ENVU
 Engrg

21 JUN 1978

Mr. Kazu Hayashida
 Director and Chief Engineer
 Department of Public Works
 City & County of Honolulu
 650 South King Street
 Honolulu, Hawaii 96813

Dear Mr. Hayashida:

Staff review of the "Environmental Impact Statement Preparation Notice for the Proposed East Kakaako Area Major Drain and Kapio-lani Boulevard-Beretania Street Relief Drain, Honolulu, Oahu, Hawaii" has been completed. As of this time, the Coast Guard has no objections to the project nor any particular comments to offer. There are no Coast Guard permits required for the proposed action. However, if any extensive dredging occurs beyond the existing shoreline, a Coast Guard Local Notice to Mariners should be issued. Contact on this matter can be made with our Aids to Navigation Branch at 546-7130.

16-4014

The opportunity to review the EIS Preparation Notice is appreciated. A copy of the Draft EIS is requested when it becomes available.

Sincerely,

J. V. CAFFREY
 Captain, U. S. Coast Guard
 Chief of Staff
 Fourteenth Coast Guard District

Copy to:
 OEQC Hawaii

601-12-0508

September 17, 1976

Captain J. V. Caffrey
Chief of Staff
Fourteenth Coast Guard District
677 Ala Moana Boulevard
Honolulu, Hawaii 96813

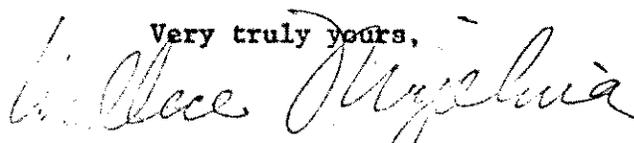
Dear Capt. Caffrey:

SUBJECT: YOUR LETTER OF JUNE 21, 1976 RELATING TO THE
EIS PREPARATION NOTICE FOR THE EAST KAKAAKO
AREA MAJOR DRAIN AND KAPIOLANI BLVD.-BERETANIA
ST. RELIEF DRAIN, HONOLULU, HAWAII

We submit the following response to your comments on the
Environmental Impact Statement Preparation Notice for this project.

Should we plan to do extensive dredging beyond the
shoreline, we will contact your Aids to Navigation Branch so that a
Coast Guard Local Notice to Mariners can be issued.

Very truly yours,



For KAZU HAYASHIDA
Director and Chief Engineer

PC/SYN/kt

GEORGE R. ARIYOSHI
GOVERNOR



RECEIVED
DIV. OF ENGINEERING
JUN 23 11 40 AM '76
STATE OF HAWAII

76 0397
76 0398
JOHN FARIAS, JR.
CHAIRMAN, BOARD OF AGRICULTURE
RECEIVED
DEPT. OF AGRICULTURE
YUKIO KITAGAWA
DEPUTY TO THE CHAIRMAN

JUN 23 8 56 AM '76

TO
DEPARTMENT OF AGRICULTURE

1428 SO. KING STREET
HONOLULU, HAWAII 96814

[Handwritten signature]

June 18, 1976

MEMORANDUM

To: Mr. Kazu Hayashida, Director and Chief Engineer
Department of Public Works, City & County of Honolulu

Subject: EIS Preparation Notice for Proposed East Kakaako Area
Major Drain and Kapiolani Boulevard-Beretania Street
Relief Drain, Honolulu, Oahu, Hawaii

-03979
-03980

The Department of Agriculture has reviewed the above-notice, and finds the most probable impact is limited to the Fort Armstrong site administered by the Department of Land and Natural Resources. The need for improved drainage is well recognized.

Access to the Food Distribution Center will be impaired during the construction phase makai of Ala Moana Boulevard. Perhaps an alternative routing down Keawe Street should be evaluated as part of the assessment. Such an alternative routing may have serious restraints because of existing underground services or gradient profile, but this should be determined.

We wish to be kept informed in the development of the EIS and will provide assistance whenever possible.

[Handwritten signature of John Farias, Jr.]

JOHN FARIAS, JR.
Chairman, Board of Agriculture

JF:d:h

601-12-0501

September 17, 1976

Mr. John Farias, Jr., Chairman
Board of Agriculture
State of Hawaii
1428 South King Street
Honolulu, Hawaii 96814

Dear Mr. Farias:

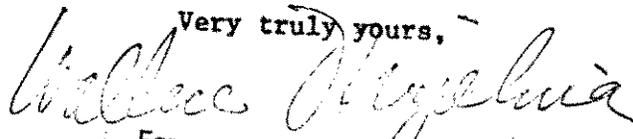
SUBJECT: YOUR LETTER OF JUNE 18, 1976 RELATING TO
THE EIS PREPARATION NOTICE FOR THE EAST
KAKAAKO AREA AND KAPIOLANI BLVD.-BERETANIA
ST. RELIEF DRAIN, HONOLULU, HAWAII

We submit the following response to your comments on the
Environmental Impact Statement Preparation Notice for this project.

Consideration has been given in routing the proposed drain line
down Keawe Street to the open channel. However, due to restraints
caused by existing underground utilities under Ala Moana and Keawe
Street, the proposed drain has been routed along portions of Coral and
Ilalo Streets to Keawe Street.

Construction plans and specifications will require the contractor
to provide access to the Food Distribution Center and to minimize
inconveniences.

Very truly yours,



FOR KAZU HAYASHIDA
Director and Chief Engineer

FC/RYS kt

76 03869
76 03870

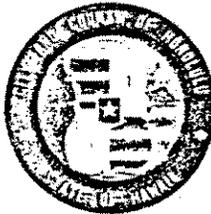
DEPARTMENT OF GENERAL PLANNING
CITY AND COUNTY OF HONOLULU
1550 SOUTH KING STREET
HONOLULU, HAWAII 96813

RECEIVED
PUBLIC WORKS

RECEIVED
DIV. OF ENGINEERING
JUN 21 10 34 AM '76

JUN 18 2 24 PM '76

TO *Em W*
ROBERT R. WAY
CHIEF PLANNING OFFICER



FRANK F. FASI
MAYOR

Engy
DGP6/76-1345(JE)

June 17, 1976

MEMORANDUM

TO : MR. KAZU HAYASHIDA, DIRECTOR AND CHIEF ENGINEER
DEPARTMENT OF PUBLIC WORKS

FROM : ROBERT R. WAY, CHIEF PLANNING OFFICER

SUBJECT: EAST KAKAOKO AREA MAJOR DRAIN AND KAPIOLANI
BOULEVARD-BERETANIA STREET RELIEF DRAIN PROJECT
EIS PREPARATION NOTICE

- 76 03869

- 76 03870

We appreciate your sending us a copy of the above-captioned.

As you may recall, on February 5, 1976, we provided you comments (copy of which is attached) with regard to the environmental assessment for the above-proposed project. Since the information presented in the Preparation Notice is essentially similar to that documented in the assessment report, we have no other comments to offer at this time.

Robert R. Way
ROBERT R. WAY
Chief Planning Officer

RRW:fmt

Attachment

February 5, 1976

MEMORANDUM

TO : MR. KAZU HAYASHIDA, DIRECTOR & CHIEF ENGINEER
DEPARTMENT OF PUBLIC WORKS

FROM : ROBERT R. WAY, CHIEF PLANNING OFFICER

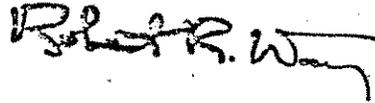
SUBJECT: ENVIRONMENTAL ASSESSMENT ON THE
EAST KAKAAKO AREA MAJOR DRAIN AND KAPIOLANI
BOULEVARD-BERETANIA STREET RELIEF DRAIN PROJECT

We appreciate your sending this office a copy of the environmental assessment for the above proposal. The outline and information presented in your report seems satisfactory. In preparing the environmental impact statement for the proposed action, however, consideration ought to be given toward detailing the following:

1. Significant changes, if any, in the flow of vehicular traffic over local streets within the environs of the development site as the result of the proposed action;
2. Any potential adverse impact upon the marine environment at the bottom and outward from the existing point of drainage discharge;
3. Provisions of the necessary safety measures for the maximum protection of the young children attending classes at Pohukaina School;
4. The major complaints reported by the general public with regard to flooding and problems of inadequate drainage within the environs of the project site; and

Mr. Kazu Hayashida
Page 2

5. The timetable for construction of the planned improvement and all the sources of funding (provided either by the Federal, State, or local governments) earmarked toward the implementation of this specific proposed project.



ROBERT R. WAY
Chief Planning Officer

RRW:fmt

September 17, 1976

TO : MR. ROBERT WAY, CHIEF PLANNING OFFICER
DEPARTMENT OF GENERAL PLANNING

FROM : KAZU HAYASHIDA, DIRECTOR AND CHIEF ENGINEER
DEPARTMENT OF PUBLIC WORKS

SUBJECT: YOUR MEMORANDA DGP6/76-1345(JB) AND DGPI/76-193(JB)
OF FEBRUARY 5 AND JUNE 17, 1976 RESPECTIVELY, RELATING
TO THE EIS PREPARATION NOTICE FOR THE PROPOSED EAST
KAKAAKO AREA MAJOR DRAIN AND THE KAPIOLANI BOULEVARD-
BERETANIA STREET RELIEF DRAIN, HONOLULU, HAWAII

We submit the following response to your comments on the Environmental Impact Statement Preparation Notice for this project.

1. The proposed project does not include the alteration or improvement of the roadway system. Therefore, vehicular traffic will not be significantly changed.
2. A marine study has been prepared by Dr. Ralph L. Bowers, a marine biologist who has done extensive studies in the Honolulu Harbor area. A discussion of Dr. Bowers' study will be expanded in the EIS.
3. Provisions will be included in the construction plans and specifications to implement appropriate measures to provide maximum safety for the young children at Pohukaina School.
4. Specific complaints or the dollar amount of potential damages to private property and public facilities are difficult to accurately determine because of incomplete data. However, we will include a list of major complaints that have been reported to the City in the EIS.

Mr. Robert Way, Chief Planning Officer
Page 2

5. Construction of this project is tentatively scheduled for FY-1979. We are planning to request the State Legislature for funds to complete the construction of this project.

Very truly yours,



For KAZU HAYASHIDA
Director and Chief Engineer

FW/RY:kt

76 04333

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII

RECEIVED
DIV. OF ENGINEERING
JUL 8 4 07 PM '76



RECEIVED
DEPT. OF PUBLIC WORKS
BOARD OF LAND & NATURAL RESOURCES
JUL 8 9 54 AM '76
CHRISTOPHER COBB, CHAIRMAN
DEPUTY THE CHAIRMAN
ROBERT A. HAMASU

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

TO ENVU
Engy
DIVISIONS:
CONVEYANCES
FISH AND GAME
FORESTRY
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

July 2, 1976

601-12-0315

Honorable Kazu Hayashida
Department of Public Works
City & County of Honolulu
Honolulu, Hawaii

Dear Sir:

We are pleased to see that the forthcoming EIS will provide data on existing and projected volumes of the East Kakaako and Kapiolani-Beretania drains, their effect on salinity and on marine life. Inclusion of Dr. Bower's marine data should be helpful in assessing project impact.

Very truly yours,

Christopher Cobb
CHRISTOPHER COBB
Chairman of the Board

cc: Fish & Game
DOWALD

601-12-0504

September 17, 1976

Mr. Christopher Cobb
Chairman of the Board
Board of Land and Natural Resources
State of Hawaii
P. O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Cobb:

SUBJECT: YOUR LETTER OF JULY 2, 1976 RELATING TO THE
EIS PREPARATION NOTICE FOR THE EAST KAKAOKO
AREA MAJOR DRAIN AND KAPIOLANI BLVD.-BERETANIA
ST. RELIEF DRAIN, HONOLULU, HAWAII

We submit the following response to your comments on the
Environmental Impact Statement Preparation Notice for this project.

A discussion of Dr. Ralph L. Bowers' study on marine life
will be expanded in the EIS. This discussion will address your
concerns regarding the impact of the proposed drains on marine life.

Very truly yours, -



For KAZU HAYASHIDA
Director and Chief Engineer

PC/HYH:at

BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA
POST OFFICE BOX 3410
HONOLULU, HAWAII 96843



RECEIVED
DIV. OF ENGINEERING
JUN 25 8 52 AM '76

76 04011
FRANK F. FASI, Mayor
STANLEY S. TAKAHASHI, Chairman
YOSHIE H. FUJINAKA, Vice Chairman
KAZU HAYASHIDA

RECEIVED
DEPT OF PUBLIC WORKS
JUN 24 1 40 PM '76
TERESITA R. JUBINSKY
EDWARD F. C. LAU
EDWARD Y. HIRATA
Manager and Chief Engineer

June 21, 1976 TO ENV III
Engng

Mr. Kazu Hayashida
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Hayashida:

SUBJECT: Environmental Impact Statement
Preparation Notice for the
Proposed East Kakaako Area Major
Drain and Kapiolani Boulevard - 1050
Beretania Street Relief Drain

We have reviewed the submitted information on the subject project and do not anticipate any adverse effects to potable groundwater resources in the area. However, we request that the construction plans be coordinated with us to insure adequate protection for our existing water mains.

Please call Mr. Lawrence Whang at 548-5221 if further information is needed.

Very truly yours,

E. Y. Hirata
For EDWARD Y. HIRATA
Manager and Chief Engineer

601-12-0505

September 17, 1976

Mr. Edward Y. Hirata
Manager and Chief Engineer
Board of Water Supply
P. O. Box 3410
Honolulu, Hawaii 96843

Dear Mr. Hirata:

SUBJECT: YOUR LETTER OF JUNE 21, 1976 RELATING TO THE
ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE
FOR THE PROPOSED EAST KAKA'AKO AREA MAJOR DRAIN AND
KAPIOLANI BOULEVARD-BERETANIA STREET RELIEF DRAIN

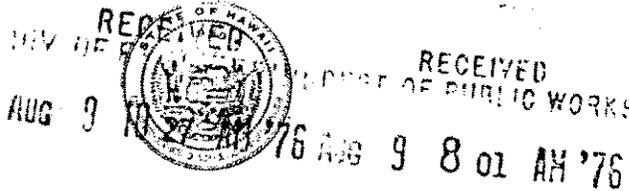
The preparation of construction plans and specifications for
this project will be coordinated with the Board of Water Supply to insure
adequate protection to existing water mains.

Very truly yours,

Kazu Hayashida
For KAZU HAYASHIDA
Director and Chief Engineer

ES/AYW kt

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII



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

July 29, 1976

ENV
Engg

GEORGE A. L. YUEN
DIRECTOR OF HEALTH

Audrey W. Mertz, M.D., M.P.H.
Deputy Director of Health

James S. Kumagai, Ph.D., P.E.
Deputy Director of Health

Henry N. Thompson, M.A.
Deputy Director of Health

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

Mr. Kazu Hayashida
Director and Chief Engineer
Department of Public Works
City & County of Honolulu
650 S. King St.
Honolulu, Hawaii 96813

Dear Mr. Hayashida:

Subject: Request for Comments on Proposed Environmental Impact Statement (EIS) for Proposed East Kakaako Area Major Drain and Kapiolani Boulevard-Beretania Street Relief Drain, Honolulu, Oahu, Hawaii

Thank you for allowing us to review and comment on the subject proposed EIS. Please be informed that we have no objections to this project at this time.

Staff comments are as follows:

1. Noise: Adequate resources and effort should be spent on minimizing noise impacts of the proposed project. A provision in regard to the allowable noise level, specifying the period of time in which certain construction activities could take place, should be included in the construction specifications. If you should have any questions, please contact Mr. Thomas Anamizu of our Noise & Radiation Branch at 548-3075.
2. Water Quality and Ecological Impact: We concur with the determination that the EIS should address water quality and ecological impacts. In particular, the impact of heavy metals pollution with storm water parameters should be investigated.
3. In general, we would like to express our appreciation for your objective review of the proposed project.

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.

Sincerely,

JAMES S. KUMAGAI, Ph.D.
Deputy Director for
Environmental Health

September 17, 1976

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

Dear Dr. Kumagai:

SUBJECT: YOUR LETTER EPHS-SS OF JULY 29, 1976 RELATING TO
THE ENVIRONMENTAL IMPACT STATEMENT PREPARATION
NOTICE FOR THE PROPOSED EAST KAKAAKO AREA MAJOR
DRAIN AND KAPIOLANI BOULEVARD-BERETANIA STREET
RELIEF DRAIN, HONOLULU, OAHU, HAWAII

We submit the following response to your comments on the Environmental Impact Statement Preparation Notice for this project.

1. Noise

We have considered the possible impacts of the anticipated noise levels generated by construction activities. Such concerns have been previously discussed on Page 8 of the EIS Preparation Notice. Construction activities will comply to the provisions of Chapter 44A, Vehicular Noise Control for Oahu and Chapter 44B, Community Noise Control for Oahu.

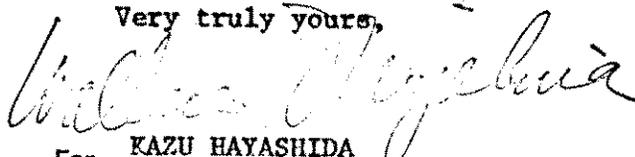
Analysis and abatement of construction noises cannot be accurately predicted because the amount and condition of equipment that will be used cannot be accurately determined. Sound emission from construction equipment can be reduced with the use of mufflers, hoods and other noise suppressant devices.

Dr. James S. Kumagai
Page 2

2. Water Quality and Ecological Impact

Discussion of the marine study prepared for the proposed project by Dr. Ralph L. Bowers will be expanded in the EIS.

Very truly yours,



For
KAZU HAYASHIDA
Director and Chief Engineer

TC/RYE/kt

601-12-0315

June 8, 1976

Mr. Hideto Kono, Director
Department of Planning & Economic Development
State of Hawaii
Kamamalu Building
250 S. King Street
Honolulu, Hawaii 96813

Dear Mr. Kono:

**SUBJECT: ENVIRONMENTAL IMPACT STATEMENT
PREPARATION NOTICE FOR THE PROPOSED
EAST KAKAAKO AREA MAJOR DRAIN AND
KAPIOLANI BOULEVARD-BERETANIA STREET
RELIEF DRAIN, HONOLULU, OAHU, HAWAII**

We are in the consultation phase of preparing an EIS for the subject project. We request your assistance in the preparation of the EIS by providing comments on the proposed project as it relates to your jurisdiction and responsibility, special expertise, knowledge, or special interest with respect to any environmental impact, study or survey involved with the subject project.

The enclosed EIS Preparation Notice will provide information on the general description of the project's technical, economic, social and environmental characteristics as well as a summary of the major impacts, and alternatives considered. As provided in Section 1:41b of the Environmental Quality Commission's EIS Regulation, consulted agencies, groups or individuals shall have a period of thirty (30) days in which to make written comments on the environmental effects of the proposed project. The period may be extended upon good cause for a period not to exceed thirty (30) days by written request to the accepting authority, the Department of General Planning.

Mr. Hideto Kono
Page 2
June 8, 1976

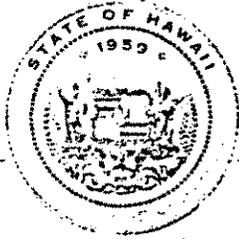
Written comments received shall be responded in writing prior to the filing of the EIS. If further information is required, you may call Mr. Chew Lun Lau, Departmental Environmental Engineer at 523-4150.

Very truly yours,

Wallace Hayashida
FOE KAZU HAYASHIDA
Director and Chief Engineer

FO/RYN:kk

Attach.



DEPARTMENT OF PLANNING AND ECONOMIC DEVELOPMENT

Kamamalu Building, 350 South King St., Honolulu, Hawaii • Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

76 03981
03982
GEORGE R. ARIYOSHI
Governor
HIDETO KONO
Director
FRANK SKRIVANEK
Deputy Director

RECEIVED
PUBLIC WORKS

JUN 24 8 22 AM '76

8 56 AM '76

June 18, 1976

Emill
Aug 14

Ref. No. 1394

Mr. Kazu Hayashida
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Hayashida:

Subject: Environmental Impact Statement Preparation Notice
for the Proposed East Kakaako Area Major Drain and
Kapiolani-Beretania Street Relief Drain, Honolulu,
Oahu, Hawaii

03981

03982

Thank you for your letter of June 8, 1976, requesting our comments regarding the subject EIS Preparation Notice.

Kakaako has of late been the subject of a number of studies, the most recent being this Department's Kakaako Urban Design Demonstration Study. In these studies, the need for infrastructure improvements--including drainage system improvements--has been documented. Recognizing that the subject project is intended to alleviate the serious flooding problem that currently exists in the area, we support the proposal in concept. We would, however, like to offer the following comments for consideration:

I have copy of study

1. Although the primary purpose of the project is remedial in nature, we would suggest that the subject EIS address the relationship of this infrastructure investment to plans or policies of other County agencies for the affected area.
2. We note that reference is made to a study that has been conducted to evaluate the impact of the anticipated increase in point-discharge of storm water. We suggest that data and findings of this study also be presented in the subject EIS.

We have no further comments to offer at this time but appreciate the opportunity to review the subject notice.

Sincerely,

Hideto Kono
HIDETO KONO

September 17, 1976

Mr. Hideto Kono
Director, Department of Planning
and Economic Development
Kamamalu Building
P. O. Box 2359
Honolulu, Hawaii 96804

Dear Mr. Kono:

SUBJECT: YOUR LETTER, REF. NO. 1394, OF JUNE 18, 1976
RELATING TO THE ENVIRONMENTAL IMPACT STATEMENT
PREPARATION NOTICE FOR THE EAST KAKAAKO AREA
MAJOR DRAIN AND KAPIOLANI BOULEVARD-BERETANIA
STREET RELIEF DRAIN, HONOLULU, HAWAII

We submit the following response to your comments on the
Environmental Impact Statement Preparation Notice for this project.

The proposed project is designed to convey the anticipated
storm runoff for an area of urban land use. Although the nature of
businesses in the impact area may change in the future, the character
of future land use and ground surface is not expected to change
significantly to appreciably affect the quality and quantity of the
anticipated storm runoff. Therefore, the proposed drains would serve
any land use that may be mandated in the future.

In reference to your second comment regarding the impact of
point discharge of storm water, a discussion of Dr. Ralph L. Bowers'
marine life study will be expanded in the EIS.

Very truly yours, -



For KAZU HAYASHIDA/
Director and Chief Engineer

FC/RY:kt



PODED-P

RECEIVED DEPARTMENT OF THE ARMY
DIV. OF ENGRS. ARMY ENGINEER DISTRICT, HONOLULU
BLDG. 230, FT. SHAFTER
APO SAN FRANCISCO 96558
RECEIVED
PT. OF PUBLIC WORKS

JUL 1 9 37 AM '76

JUN 30 3 34 PM '76

TO ENVU 29 June 1976

Engg

76 04167

Mr. Kazu Hayashida, Director and Chief Engineer
Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Hayashida:

Your 8 June 1976 request for comments on the Proposed East Kakaako Area Major Drain and Kapiolani Boulevard-Beretania Street Relief Drain, Honolulu, Oahu, Hawaii was received on 10 June 1976. We have reviewed the EIS Preparation Notice for the project and note that our February 1976 comments on the Environmental Assessment have been incorporated into the Preparation Notice. As a point of clarification on page 15, an environmental assessment is required for processing a U.S. Department of the Army permit. Based upon the assessment and comments received to a public notice, a determination of the need for preparation of a Federal environmental impact statement will be made.

We have no additional comments to make and appreciate the opportunity to participate in the consultation process.

Sincerely yours,

E Chan Cheung
for **KISUK CHEUNG**
Chief, Engineering Division



601-12-0507

September 17, 1976

Mr. Kisuk Cheung
Chief, Engineering Division
U.S. Army Engineer District, Honolulu
Building 230, Fort Shafter
APO San Francisco 96558

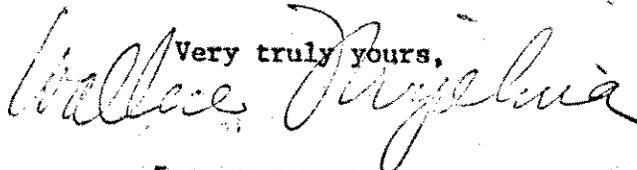
Dear Mr. Cheung:

SUBJECT: YOUR LETTER OF JUNE 29, 1976 RELATING TO THE
EIS PREPARATION NOTICE FOR THE EAST KAKAOKO
AREA AND KAPIOLANI BLVD.-BERETANIA ST. RELIEF
DRAIN, HONOLULU, HAWAII

We submit the following response to your comments on the
Environmental Impact Statement Preparation Notice for this project.

The City and County of Honolulu will apply for a U. S.
Department of the Army permit prior to construction of the proposed
drains.

Very truly yours,



FOKAZU HAYASHIDA
Director and Chief Engineer

CC/RYN/kt

16 AUG

601-12-0341

June 22, 1976

Department of Accounting
and General Services
State of Hawaii
P. O. Box 119
Honolulu, Hawaii 96810

Attention: Division of Public Works

Gentlemen:

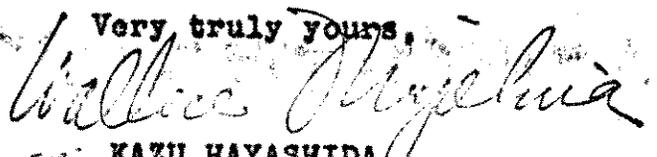
SUBJECT: ENVIRONMENTAL IMPACT STATEMENT
PREPARATION NOTICE FOR THE PROPOSED
EAST KAKAOKO AREA MAJOR DRAIN AND
KAPIOLANI BOULEVARD-BERETANIA STREET
RELIEF DRAIN, HONOLULU, OAHU, HAWAII

As requested, we are sending you a copy of this notice
for your review and comments.

The enclosed EIS Preparation Notice will provide infor-
mation on the general description of the project's technical,
economic, social and environmental characteristics as well as a
summary of the major impacts, and alternatives considered. As
provided in Section 1:41b of the Environmental Quality Commission's
EIS Regulation, consulted agencies, groups or individuals shall
have a period of thirty (30) days in which to make written comments
on the environmental effects of the proposed project. The period
may be extended upon good cause for a period not to exceed thirty
(30) days by written request to the accepting authority, the
Department of General Planning.

If you have further questions, please contact Mr. Chew
Lun Lau, Departmental Environmental Engineer at 523-4150.

Very truly yours,



For: KAZU HAYASHIDA
Director and Chief Engineer

RYN jy
Attach.

DEPARTMENT OF TRANSPORTATION SERVICES

CITY AND COUNTY OF HONOLULU

RECEIVED
DIV. OF ENGINEERING
HONOLULU MUNICIPAL BUILDING
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

JUL 6 9 54 AM '76

RECEIVED
DEPT. OF PUBLIC WORKS

2 2 28 PM '76

*ENV 111
Engg*



*76 0430
76 04230*

FRANK F. FASI
MAYOR

GEORGE C. VILLEGAS
DIRECTOR

TE 6/76-1178

July 1, 1976

TO : KAZU HAYASHIDA, DIRECTOR AND CHIEF ENGINEER
DEPARTMENT OF PUBLIC WORKS

FROM : KENAM KIM, ACTING DIRECTOR
DEPARTMENT OF TRANSPORTATION SERVICES

SUBJECT : ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE
FOR THE PROPOSED EAST KAKAAKO AREA MAJOR DRAIN
AND KAPIOLANI BOULEVARD-BERETANIA STREET RELIEF
DRAIN, HONOLULU, OAHU, HAWAII

The probable impact on traffic resulting from this project and the necessary mitigation measures proposed to lessen the impact has been adequately defined in the subject EIS Preparation Notice.

Kenam Kim
KENAM KIM
Acting Director

76 04211

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

440 Alexander Young Bldg., Honolulu, HI 96813

RECEIVED
DEPT. OF PUBLIC WORKS

JUL 2 09 PM '76

TO ENVU
Engy

Kazu Hayashida
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, HI 96813

RECEIVED
DIV. OF ENGINEERING
JUL 2 8 28 AM '76

Dear Mr. Hayashida:

Subject: Environmental Impact Statement Preparation Notice for
the Proposed East Kakaako Area Major Drain and
Kapiolani Boulevard-Beretania Street Relief Drain,
Honolulu, Oahu, Hawaii

We have reviewed the above-mentioned EIS Preparation Notice and
have no comments to offer. Thank you for the opportunity to
review this notice.

Sincerely,

Francis C. H. Lum
Francis C. H. Lum
State Conservationist



A P P E N D I X C

COMMENTS AND RESPONSES PREPARED
DURING THE REVIEW PERIOD OF THE E.I.S.

The list of organizations and individuals who reviewed and submitted comments on the Environmental Impact Statement.

FEDERAL

U. S. Army Corps of Engineers*
15th Air Base Wing, U.S.A.F.*
Army - DAFE*

STATE OF HAWAII

Department of Agriculture*
Department of Defense*
Department of Health
Department of Land and Natural Resources
Department of Planning and Economic Development*
Department of Social Services and Housing*
Department of Transportation
Water Resources Research Center, University of Hawaii*
Office of Environmental Quality Control

CITY AND COUNTY OF HONOLULU

Department of Housing and Community Development*
Department of Transportation Services
Department of Land Utilization
Board of Water Supply

* Denotes no comments

7700995



DEPARTMENT OF THE ARMY
HONOLULU DISTRICT CORPS OF ENGINEERS
BLDG. 230, FT. SHAFTER, DEPARTMENT OF PUBLIC WORKS
SAN FRANCISCO 96358

FEB 17 11 01 AM '77

FEB 16 2 20 PM '77

TO ENV CCL

Engg

14 February 1977

PODED-P

Mr. Wallace S. Miyahara
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

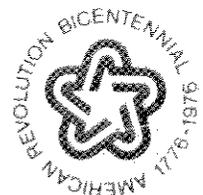
Dear Mr. Miyahira:

In compliance with your request of 27 January 1977, we have reviewed the Environmental Impact Statement (EIS) for the East Kakaako Area Major Drain and Kapiolani Boulevard-Beretania Street Relief Drain, Honolulu. The Corps commented on the EIS Preparation Notice for this project in a letter to Mr. Kazu Hayashida, dated 29 June 1976. We have no further comments to make at this time, but wish to thank you for the opportunity for additional input.

Sincerely yours,

[Handwritten Signature]
KISUN CHEUNG
Chief, Engineering Division

Cy Furn:
Dr. Richard Marland, Director
Office of Environmental Quality Control
State of Hawaii
550 Halekauwila St., Room 301
Honolulu, Hawaii 96813



77 00673

AFZV-FE-EE

RECEIVED RECEIVED
DEPT. OF PUBLIC WORKS DEPT. OF ENGINEERING FEB 1977

FEB 2 1 44 PM '77
FEB 2 10 59 AM '77

Environmental Quality Commission
550 Halekauwila Street Room 301
Honolulu, Hawaii 96813

ENULL
Engel

Gentlemen:

Environmental Impact Statement for East Kakaako Area Major Drain and Kapiolani Blvd - Beretania Street Relief Drain has been reviewed and we have no comments to offer.

Thank you for the opportunity to review the document.

Sincerely yours,

CARL P. RODOLPH
Colonel, CE
Director of Facilities Engineering

CF:
✓ Dept of Public Works
City and County of Honolulu
ATTN: Mr. Kazu Hayashida
Honolulu, Hawaii 96813

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII



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

February 25, 1977

GEORGE A. L. YUEN
DIRECTOR OF HEALTH
Audrey W. Mertz, M.D., M.P.H.
Deputy Director of Health
Henry N. Thompson, M.A.
Deputy Director of Health
James S. Kumagai, Ph.D., P.E.
Deputy Director of Health

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

MEMORANDUM

To: Dr. Richard E. Marland, Director
Office of Environmental Quality Control

From: Deputy Director for Environmental Health

Subject: Environmental Impact Statement (EIS) for East Kakaako Area Major
Drain and Kapiolani Blvd.-Beretania Street Relief

Thank you for allowing us to review and comment on the subject EIS. On the basis that the project will comply with all applicable Public Health Regulations, please be informed that we have no objections to this project.

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.

Specifically, we refer you to the following Public Health Regulations:

Chapter 37, Water Pollution Control
Chapter 37-A, Water Quality Standards
Chapter 44-A, Vehicular Noise Control for Oahu
Chapter 44-B, Community Noise Control for Oahu


JAMES S. KUMAGAI, Ph.D.

7701467

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII

RECEIVED
DIV. OF ENGINEERING
MAR 10 2 06 PM '77



RECEIVED
DEPT. OF PUBLIC WORKS
MAR 10 9 18 AM '77

CHRISTOPHER COBB, CHAIRMAN
BOARD OF LAND & NATURAL RESOURCES
EDGAR A. HAMASU
DEPUTY TO THE CHAIRMAN

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

DIVISIONS:
CONVEYANCES
FISH AND GAME
FORESTRY
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

March 3, 1977

Mr. Kazu Hayashida
Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Hayashida:

Subject: East Kakaako Area Major Drain
and Kapiolani Boulevard-Beretania
Street Relief

Thank you for the opportunity to comment on the final EIS for the subject undertaking.

The proposed undertaking will have no effect upon any known historic or archaeological site on ot likely to be eligible for inclusion to the Hawaii and/or National Registers of Historic Places. Therefore, this office has no reservations to the project to proceed. In the event that any unanticipated sites or remains are encountered, please inform the applicant to contact this office immediately.

Sincerely yours,

Jane L. Silverman
Historic Preservation Officer
State of Hawaii

7700882

RECEIVED
DEPARTMENT OF PUBLIC WORKS

FEB 11 10 26 AM '77

RECEIVED
OFFICE OF ENGINEERING
ENV
Eng
FEB 14 11 00 AM '77

TO _____

February 9, 1977

Ref. No. 2924

MEMORANDUM

TO: The Honorable George R. Ariyoshi
Governor of Hawaii

FROM: Hideto Kono, Director *Hideto Kono*

SUBJECT: Environmental Impact Statement for the East Kakaako Area Major
Drain and Kapiolani Boulevard-Beretania Street Relief Drain,
Honolulu, Oahu, Hawaii

At the request of the Office of Environmental Quality Control, we have reviewed the subject environmental impact statement.

We find that, in general, it has adequately assessed the probable impacts that can be anticipated from the proposed project. We are pleased to note that the comments made in our letter dated July 18, 1976, on the EIS Preparation Notice for the project have been satisfactorily addressed and incorporated in this final statement.

In view of the adequate evaluation of the major issues identified in this document, we have no further comments to offer.

cc: ✓ Mr. Wallace Miyahira
Director and Chief Engineer
Department of Public Works
City and County of Honolulu

RECEIVED
DEPT. OF ENGINEERING

FEB 10 10 53 AM '77

7700838

RECEIVED
DEPT. OF PUBLIC WORKS

FEB 10 8 16 AM '77

TO ENV U1

Engrg

P. O. Box 339
Honolulu, Hawaii 96809

February 7, 1977

MEMORANDUM

TO: Environmental Quality Commission
550 Halekauwila St., Room 301
Honolulu, Hawaii 96813

FROM: Andrew I. T. Chang, Director
Department of Social Services and Housing

SUBJECT: East Kakaako Area Major Drain and Kapiolani Blvd.-
Beretania St. Relief

Subject EIS has been reviewed for its effect on our department program areas.
We have no comment to make and we are returning this EIS for your usage.
Thank you for the opportunity to review and comment.

Andrew I. T. Chang

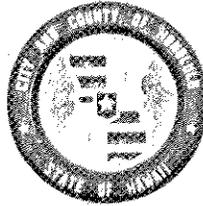
DIRECTOR

Attachment

cc: Office of the Governor
Dept. of Public Works, City & County of Honolulu

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813



FRANK F. FASI
MAYOR

WALLACE MIYAHIRA
DIRECTOR AND CHIEF ENGINEER

701-12-0135

March 28, 1977

Mr. E. Alvey Wright, Director
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813

Dear Mr. Wright:

SUBJECT: YOUR LETTER TO MR. DONALD BREMNER, DATED
FEBRUARY 9, 1977, RELATING TO THE EIS FOR
EAST KAKAAKO AREA MAJOR DRAIN AND KAPIOLANI
BOULEVARD - BERETANIA STREET RELIEF DRAIN

Thank you for your comment.

The construction plans have been coordinated with your Highways Division.

Very truly yours,

Handwritten signature of Wallace Miyahira in cursive script.
WALLACE MIYAHIRA
Director and Chief Engineer

770 1142

RECEIVED
University of Hawaii at Manoa
Water Resources Research Center
DEPT. OF PUBLIC WORKS
FEB 25 2 28 PM '77
February 22, 1977
FEB 25 10 07 AM '77

TO _____
ENVU
Engng

MEMORANDUM

TO: Dept. of Public Works
City & County of Honolulu

FROM: Reginald H. F. Young *RHFY*
Assistant Director, WRRRC

SUBJECT: Review of the EIS for the East Kakaako Area Major Drain and
Kapiolani Boulevard - Beretania Street Relief Drain, Honolulu, Hawaii

The following comments were received from Dr. Yu-si Fok of our staff:

1. In page 11, the statement indicated the proposed drain line could also affect the molasses tanks in the State Container Yard (Fig. 3). A more detailed indication of how the drain line affects the molasses tanks would be helpful.
2. In pages 31 to 32, a list of property ownership, with acreage, may be useful. The idea put forth in page 19 may not be the best for the general public. Using public funds to make necessary improvements is very logical, however, questions may be asked, such as why not spend the \$5.6 million on other public works, what is the position of the proposed project in the priority of general improvement plans and what are the benefits in committing the \$5.6 million to this project: If the private land owners are identified as the direct beneficiaries, are there any ways that they will share the burden of the project cost (per acre improvement cost amounts to \$30,000)?

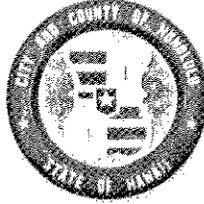
RHFY/kn

cc: Env. Center
Y. Fok

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR



WALLACE MIYAHIRA
DIRECTOR AND CHIEF ENGINEER

701-12-0141

March 29, 1977

Dr. Reginald H. F. Young
Assistant Director
Water Resources Research Center
University of Hawaii at Manoa
2540 Dole Street
Honolulu, HI 96822

Dear Dr. Young:

SUBJECT: YOUR MEMORANDUM TO THE ENVIRONMENTAL QUALITY COMMISSION, DATED FEBRUARY 22, 1977, RELATING TO THE ENVIRONMENTAL IMPACT STATEMENT FOR THE PROPOSED EAST KAKAAKO AREA MAJOR DRAIN AND THE KAPIOLANI BOULEVARD - BERETANIA STREET RELIEF DRAIN

Thank you for your comments. The following is our response.

The existing molasses tanks within the State Container Yard Facility are not expected to be affected by the proposed drain project. The tanks are set back sufficiently from the proposed drain alignment to avoid possible damage. The existing Keawe Street drain is situated between the Container Yard Facility and the proposed drain alignment and, therefore, would provide for additional protection of the molasses tanks.

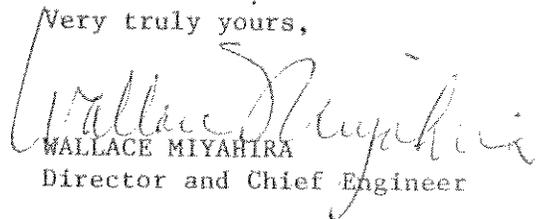
The purpose and need for the proposed project are discussed in pages 3 - 8 of the E. I. S. Positive impacts that would result from the implementation of the proposed drain include improved vehicular circulation and pedestrian safety as a result of the remedy to flooded roadway sections. Additionally, an adequate drainage facility would alleviate the present storm water inundation of private and public property and thereby avoid possible property damage that may result in litigation. The maintenance of the drainage systems within the public impact area is the direct responsibility of the City and County of Honolulu. An improved drainage system that is properly designed and constructed would facilitate maintenance of the drains.

Dr. Reginald H. F. Young
Page 2

Although the proposed drains would benefit the private sector affected by the project, there are other positive considerations (economic, physical and social) that are tantamount to this concern that would also benefit the general welfare of the State.

If you have any further questions, please call Mr. Richard Nishizawa at 523-4931.

Very truly yours,


WALLACE MIYAHIRA
Director and Chief Engineer

7701429

GEORGE R. ARIYOSHI
GOVERNOR

RECEIVED
DIV. OF ENGINEERING
MAR 9 2 12 PM '77



RECEIVED RICHARD E. MARLAND, PH.D.
DEPT. OF PUBLIC WORKS DIRECTOR
MAR 9 9 19 AM '77
TELEPHONE NO. 548-6915

TO ENV
Engng

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

March 7, 1977

Wallace Miyahira
Director and Chief Engineer
Department of Public Works
City and County of Honolulu

SUBJECT: Environmental Impact Statement for the East Kakaako Area
Major Drain and Kapiolani Boulevard-Beretania Street
Relief Drain, Honolulu, Oahu

Dear Mr. Miyahira:

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

- a) P. 14. What portion of the estimated \$5.6 million will be funded by the State, and by the City and County?
- b) P. 21. Reference is made to the Oahu General Plan of 1964. How does the recently adopted General Plan relate to the proposed facilities? An up-to-date discussion is recommended.
- c) P. 27. The statement ending with, "...provisions for on or off parking," should probably include the word street. (off-street)
- d) P. 46. Air Quality. Strict controls over the generation of dust during the estimated two-year construction period should be implemented. A potential secondary air quality impact would result from the possible traffic tie-ups on the heavily used streets in the project area.
- e) P. 46. Water Quality. The light-industrial area of Kakaako may contribute pollutants such as heavy metals, oils, or plastics to the receiving waters. The composition of these pollutants should be discussed. Their potential effects on the biota of the receiving waters should be identified.

As of this date we have received a total of fourteen (14) comments as indicated on the attached list.

The EIS Regulations allow the accepting authority or his authorized representative to consider responses received after the

fourteen day response period. This Office will exercise the option and will consider responses made after the fourteen day period.

We trust that these comments will prove useful in revising the EIS. We look forward to the receipt of the Revised EIS.

Sincerely,

A handwritten signature in cursive script, appearing to read "Richard E. Marland".

Richard E. Marland
Director

Attachments

List of commentors for the Environmental Impact Statement for
the East Kakaako Area Major Drain and Kapiolani Boulevard-Beretania
Street Relief Drain, Honolulu, Oahu. (C&C DPW)

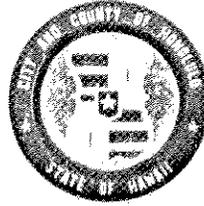
<u>State Agencies</u>	<u>Comment date</u>
*Dept. of Agriculture	February 2, 1977
Dept. of Land and Natural Resources	" 24, "
Dept. of Health	" 25, "
*Dept. of Planning and Economic Development	" 9, "
*Dept. of Defense	" 3, "
*Dept. of Social Services and Housing	" 7, "
Dept. of Transportation	" 9, "
 <u>University of Hawaii</u>	
Water Resources Research Center	February 22, 1977
 <u>Federal Agencies</u>	
*U.S. Army Corps of Engineers	February 14, 1977
*15th Air Base Wing, USAF	" 25, "
*Army - DAFE	" 1, "
 <u>City and County Agencies</u>	
Dept. of Land Utilization	February 22, 1977
Board of Water Supply	" 9, "
*Dept. of Housing and Community Development	" 7, "

*Denotes no comments

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR



WALLACE MIYAHIRA
DIRECTOR AND CHIEF ENGINEER

701-12-0142

March 29, 1977

Dr. Richard E. Marland
Director, Office of Environmental
Quality Control
Office of the Governor
550 Halekauwila Street
Room 301
Honolulu, HI 96813

Dear Dr. Marland:

SUBJECT: YOUR LETTER OF MARCH 7, 1977, RELATING TO
THE ENVIRONMENTAL IMPACT STATEMENT FOR THE
PROPOSED EAST KAKAAKO AREA MAJOR DRAIN AND
THE KAPIOLANI BOULEVARD - BERETANIA STREET
RELIEF DRAIN

Thank you for your comments. The following is our response.

(a) The City and County of Honolulu intends to seek federal assistance for the project under the Federal Local Public Works Program. If funds cannot be obtained through this means, the City intends to request the State Legislature under the Capital Improvements appropriations for assistance. The exact amount or percentage of the total project cost to be requested cannot be determined at this time.

(b) Page 16 of the EIS discusses the design provisions for the proposed drainage system. The Central Kakaako area has been the subject of much speculative planning for future renewal development. Although it is extremely probable that the urban nature of Kakaako will be maintained, the degree or intensity of urbanization has yet to be determined. The proposed action would provide the necessary conduit to convey the anticipated storm runoff for any specified urban land use that may be mandated in the future.

(c) The word "street" will be added.

Dr. Richard E. Marland

Page 2

(d) The construction impact on air quality is discussed on page 54 of the EIS. Watering and the use of dust palliatives to alleviate dust and air pollution will be employed. In conjunction with the air pollution abatement measures, Public Health Regulations of the Department of Health, State of Hawaii, Chapter 43, "Air Pollution Control" will be followed as required in all construction contracts.

(e) The proposed drainage system is not expected to change the composition of pollutants presently entering the ocean. The purpose of the proposed drain is to adequately convey storm runoff from the impact area to the open ocean. As discussed in pages 38 to 42 of the EIS, pollutants, if any, within the impact area that presently enter the ocean appear to have negligible effects, if any, upon the ocean environment. On the contrary, the improved drainage system will minimize pollutants from being carried to the ocean by overland flow within the project area.

If you have further questions, please call Mr. Richard Nishizawa at 523-4931.

Very truly yours,


WALLACE MIYAHIRA
Director and Chief Engineer

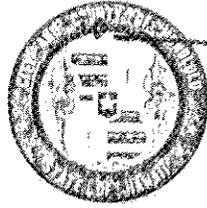
DEPARTMENT OF TRANSPORTATION SERVICES

7701459

CITY AND COUNTY OF HONOLULU

RECEIVED
DIV OF ENGINEERING
HONOLULU MUNICIPALITY
165 SOUTH KING STREET
HONOLULU HAWAII 96813
RECEIVED
DEPT OF PUBLIC WORKS

MAR 10 8 22 AM '77 MAR 9 3 33 PM '77



ENVill
Engly

Kazu Hayashida
XXXXXXXXXXXX
DIRECTOR

TEL/77-245

FRANK F. FASI
MAYOR

March 9, 1977

Environmental Quality Commission
550 Halekauwila Street
Honolulu, Hawaii 96813

Gentlemen:

Subject: East Kakaako Area Major Drain and Kapiolani
Boulevard-Beretania Street Relief Drain

We have bus routes on some of the affected streets and buses are also parked on Kapiolani Boulevard Extension at night. MTL should be notified one week before any road closures and restrictions of vehicular traffic are implemented.

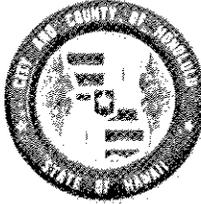
Very truly yours,

KAZU HAYASHIDA
Director

cc: Gov. Ariyoshi
Dept. of Public Works

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813



FRANK F. FASI
MAYOR

WALLACE MIYAHIRA
DIRECTOR AND CHIEF ENGINEER

701-12-0139

March 28, 1977

TO : MR. KAZU HAYASHIDA, DIRECTOR
DEPARTMENT OF TRANSPORTATION SERVICES

FROM : WALLACE MIYAHIRA, DIRECTOR AND CHIEF ENGINEER
DEPARTMENT OF PUBLIC WORKS

SUBJECT: YOUR LETTER TO DR. RICHARD MARLAND, DATED MARCH 9, 1977,
RELATING TO THE EIS FOR EAST KAKAAKO AREA MAJOR DRAIN
AND KAPIOLANI STREET RELIEF DRAIN

Thank you for your comment.

We will notify MTL at least one week prior to any implementation of road closures and restrictions of vehicular traffic.


WALLACE MIYAHIRA
Director and Chief Engineer

7701136

DEPARTMENT OF LAND UTILIZATION
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

DEPT. OF PUBLIC WORKS

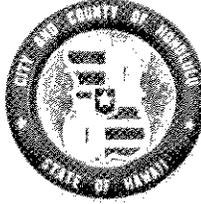
FEB 23 9 57 AM '77

TO _____
Engig

GEORGE S. MORIGUCHI
DIRECTOR

LUL/77-394 (CS)

FRANK F. FASI
MAYOR



FEBRUARY 22 1977

Dr. Richard E. Marland, Director
Office of Environmental Quality Control
State of Hawaii
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813

Dear Dr. Marland:

Environmental Impact Statement for East
Kakaako Area and Kapiolani Boulevard-
Beretania Street Drainage System
Tax Map Key 2-1

We have reviewed the Environmental Impact Statement for this project and have no specific comment to make other than to remind the agency that subsequent to the acceptance of the Environmental Impact Statement, a Shoreline Management Permit and a Shoreline Setback Variance will be required for the portions of the project lying makai of Ala Moana Boulevard.

Should you have any questions on this matter, please contact Mr. Carl Smith of our staff at 523-4077.

Very truly yours,

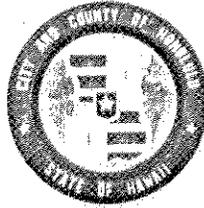
GEORGE S. MORIGUCHI
Director of Land Utilization

GSM:ey

cc: Department of Public Works

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813



FRANK F. FASI
MAYOR

WALLACE MIYAHIRA
DIRECTOR AND CHIEF ENGINEER

701-12-0140

March 28, 1977

TO : MR. GEORGE MORIGUCHI, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM : WALLACE MIYAHIRA, DIRECTOR AND CHIEF ENGINEER
DEPARTMENT OF PUBLIC WORKS

SUBJECT: YOUR LETTER TO DR. RICHARD MARLAND, DATED FEBRUARY 22, 1977,
RELATING TO THE ENVIRONMENTAL IMPACT STATEMENT FOR THE
PROPOSED EAST KAKAAKO AREA MAJOR DRAIN AND THE KAPIOLANI
BOULEVARD - BERETANIA STREET RELIEF DRAIN

Thank you for your comment.

A SMA Permit will be secured before we start on the construction phase of the project.


WALLACE MIYAHIRA
Director and Chief Engineer



7700429
RECEIVED
OFFICE OF PUBLIC WORKS
FEB 14 9 27 AM '77
TO ENV U
Energy

RECEIVED
DIV. OF ENGINEERING
FEB 14 2 14 PM '77

February 9, 1977

Dr. Richard E. Marland, Director
Office of Environmental Quality Control
State of Hawaii
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813

Dear Dr. Marland:

**SUBJECT: Environmental Impact Statement for
East Kakaako Area Major Drain and
Kapiolani Boulevard-Beretania Street
Relief Drain**

We do not anticipate any adverse effects to potable groundwater resources from the proposed project. However, we request that construction plans be coordinated with us to assure adequate protection to our water facilities in the affected areas.

Please call Mr. Lawrence Whang at 548-5221 if further information is needed.

Very truly yours,

Edward Y. Hirata

EDWARD Y. HIRATA
Manager and Chief Engineer

cc: Mr. Wallace Miyahira
Director and Chief Engineer
Dept. of Public Works
City and County of Honolulu

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR



WALLACE MIYAHIRA
DIRECTOR AND CHIEF ENGINEER

701-12-0138

March 28, 1977

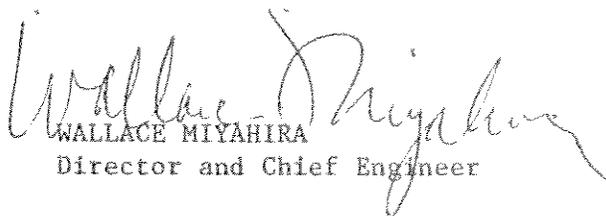
TO : MR. EDWARD Y. HIRATA, MANAGER AND CHIEF ENGINEER
BOARD OF WATER SUPPLY

FROM : WALLACE MIYAHIRA, DIRECTOR AND CHIEF ENGINEER
DEPARTMENT OF PUBLIC WORKS

SUBJECT: YOUR LETTER TO DR. RICHARD MARLAND, DATED FEBRUARY 9, 1977,
RELATING TO THE EIS FOR EAST KAKAAKO AREA MAJOR DRAIN AND
KAPIOLANI BOULEVARD - BERETANIA STREET RELIEF DRAIN

Thank you for your comment.

The construction plans have been coordinated with your office. We will submit the plans for reapproval prior to the construction of the project.


WALLACE MIYAHIRA
Director and Chief Engineer

