DEPARTMENT OF DESIGN AND CONSTRUCTION

CITY AND COUNTY OF HONOLULU

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'01 APR 26 P2:22

WWDE.PD 01-195

April 16, 2001

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

Dear Ms. Salmonson:

Subject: Finding of No Significant Impact (FONSI) for
Sand Island Wastewater Treatment Plant Modifications and
Expansion
TMK 1-5-41:05 Honolulu, Oahu, Hawaii

The City and County of Honolulu has reviewed the comments received during the 30-day public comment period, which began on February 8, 2001. The agency has determined that this project will not have significant environmental effects, and has issued a FONSI. Please publish this notice in the May 8, 2001 OEQC Environmental Notice.

Enclosed are a completed OEQC Publication Form and four (4) copies of the Final EA.

Please call Cindy Masuoka at 527-5843 if there are any questions.

Very truly yours,

RAE M. LOUI, P.E.
Director

Attachments

50

FINAL ENVIRONMENTAL ASSESSMENT
PREPARED IN ACCORDANCE WITH CHAPTER 343 HAWAII REVISED STATUTES

2001-05-08-OA-FEA-

SAND ISLAND WASTEWATER TREATMENT PLANT MODIFICATIONS AND EXPANSION

HONOLULU, OAHU, HAWAII

April 2001

City and County of Honolulu
DEPARTMENT OF DESIGN AND CONSTRUCTION
650 South King Street
Honolulu, Hawaii 96813

R. M. TOWILL CORPORATION
420 Waiakamilo Road, Suite 411
Honolulu, Hawaii 96817-4941

1-17932-1E

FINAL
ENVIRONMENTAL ASSESSMENT

SAND ISLAND WASTEWATER TREATMENT PLANT MODIFICATIONS AND EXPANSION

Honolulu, Oahu, Hawaii

TMK: 1-5-41: 05

This document is prepared pursuant to Chapter 343, Hawaii Revised Statutes

Proposing Agency:
City and County of Honolulu
DEPARTMENT OF DESIGN AND CONSTRUCTION
650 South King Street
Honolulu, Hawaii 96813

RESPONSIBLE OFFICIAL: _____ 4/17/01
RAY M. LOUI, P.E. DATE
Director

Prepared by:
R.M. Towill Corporation
420 Waiakamilo Road, Suite 411
Honolulu, Hawaii 96817

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APPENDICES

PROJECT SUMMARY

Project Name:	Sand Island Wastewater Treatment Plant Modifications and Expansion
Applicant:	City and County of Honolulu Department of Design and Construction 650 South King Street Honolulu, Hawaii 96813
Agent:	R.M. Towill Corporation 420 Waiakamilo Road, Suite 411 Honolulu, Hawaii 96817-4941 Contact: Brian Takeda, Senior Planner Phone: (808) 842-1133 Fax: (808) 842-1937
Property Owner:	State of Hawaii (Lessee: City and County of Honolulu)
Approving Agency:	Same as Applicant
Tax Map Key:	1-5-41: 05
Location:	1350 Sand Island Parkway Sand Island, Honolulu, Oahu
Property Acreage:	50.0 Acres
State Land Use District:	Urban
Existing County Zoning:	I-3 - Waterfront Industrial District
Development Plan Land Use Designation:	Sand Island, Public Facility
Special Designation:	Special Management Area
Anticipated Determination:	Finding of No Significant Impact (FONSI)

SECTION 1
INTRODUCTION

1.1 PURPOSE AND NEED FOR ACTION

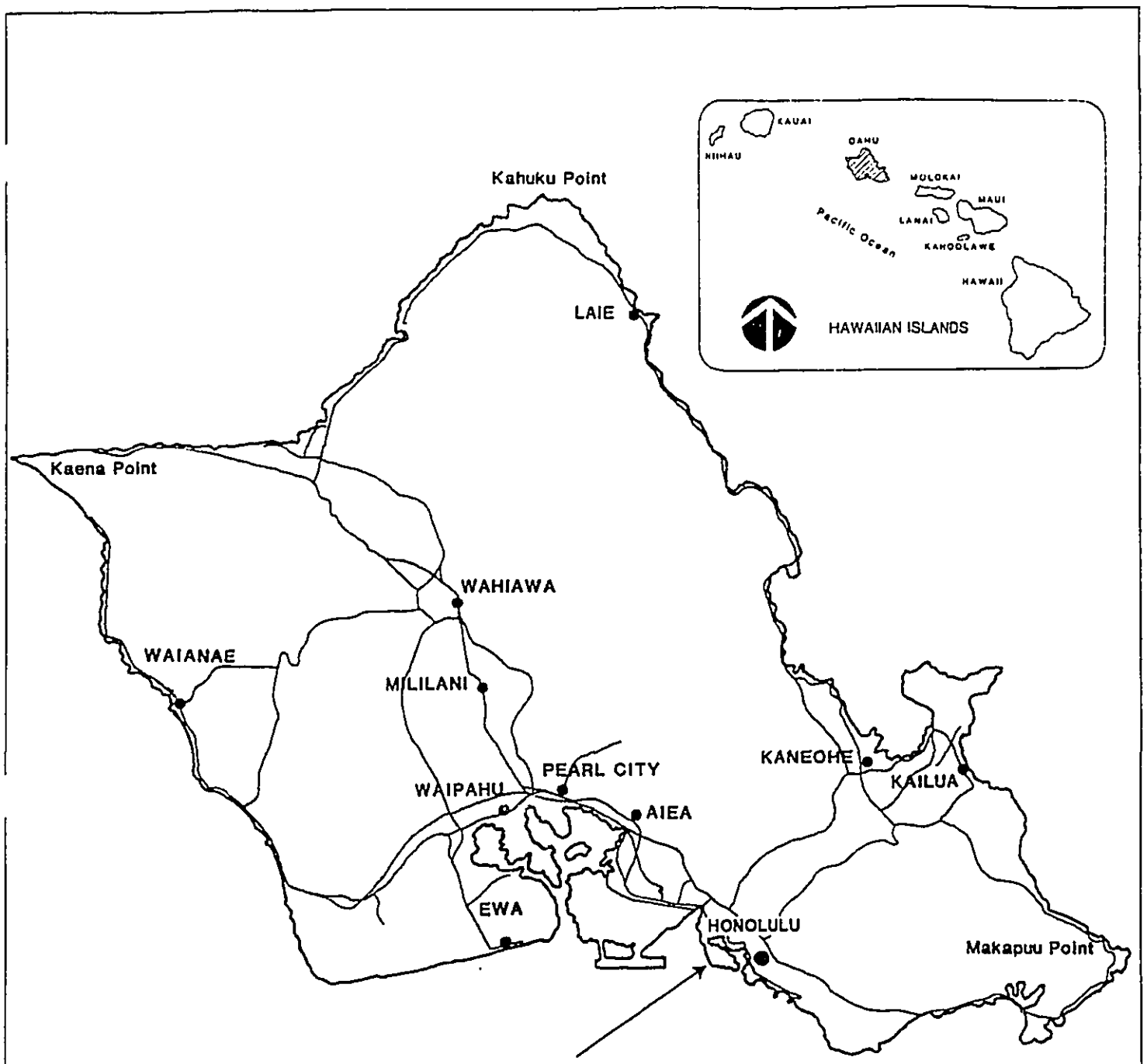
The Sand Island Wastewater Treatment Plant (SIWWTP) is an 82 million gallon per day (mgd) primary treatment facility serving metropolitan Honolulu. The facility is located on Sand Island (**Figure 1-1 and Figure 1-2**) and serves an area that extends from Moanalua-Aliamanu to Niu Valley-Paiko Peninsula. SIWWTP is owned and operated by the City and County of Honolulu (City), Department of Environmental Services.

The plant has been in operation since 1981 and currently treats an average daily wastewater flow of 74 mgd. Treated effluent is discharged through the Sand Island Ocean Outfall. The outfall is approximately 12,350 feet long and equipped with multiport diffusers located at depths ranging from 225 to 240 feet. The quality of the plant effluent is regulated by National Pollutant Discharge Elimination System (NPDES) Permit Number HI 0020117 (Specific treatment requirements for compliance with the NPDES permit may be found in the Preliminary Engineering Report for the Sand Island Wastewater Treatment Plant Modifications, Unit 1, Phase 2A, September 1999).

The City and County of Honolulu plans to modify SIWWTP to achieve the following:

- Increase the treatment capacity from 82 mgd to 90 mgd;
- Increase the hydraulic capacity from 200 mgd to 271 mgd;
- Improve the performance of the facility; and,
- Improve the reliability of the facility.

The objectives of this project are to comply with the requirements of the NPDES permit for this facility.

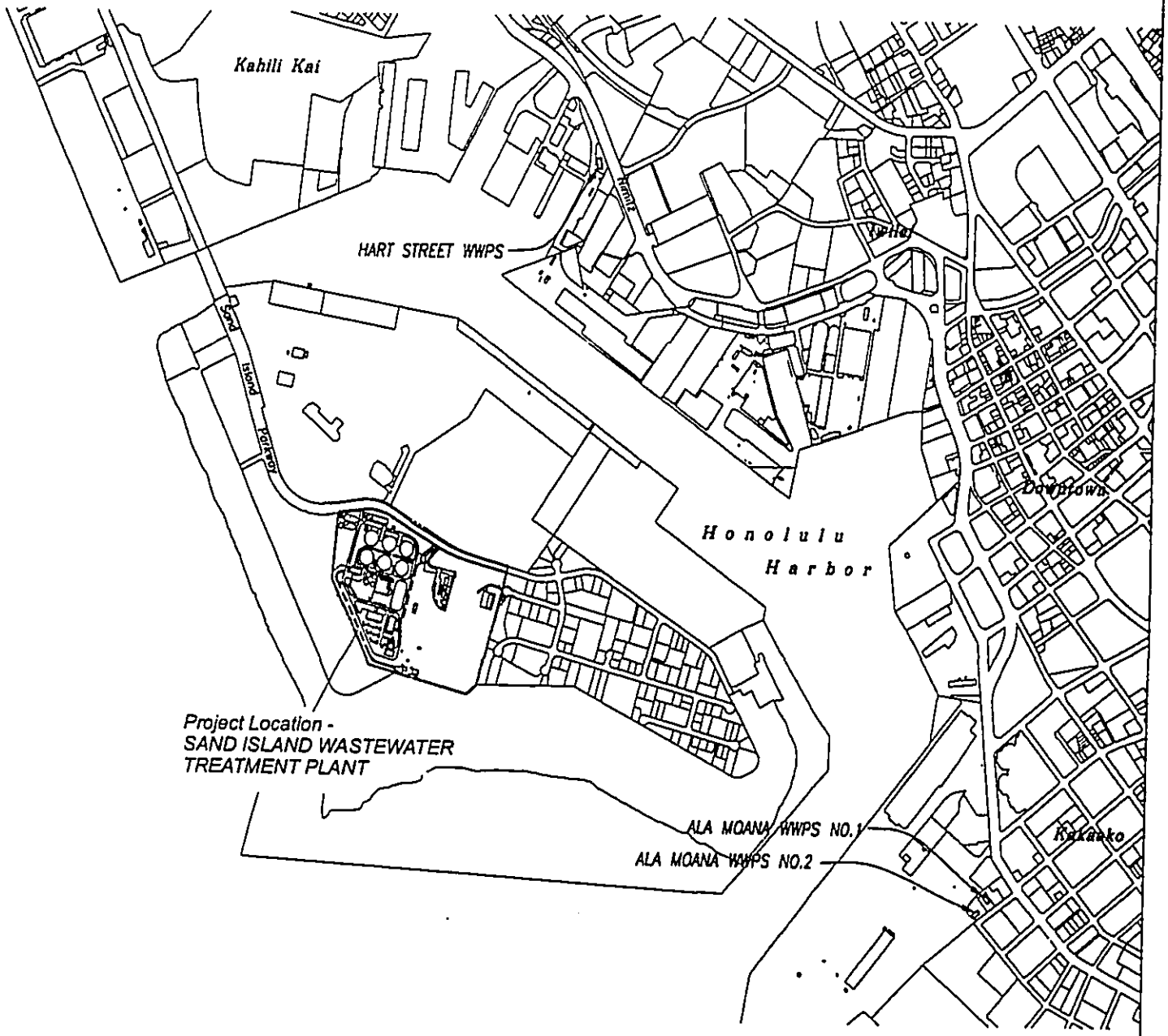


Sand Island WWTP Headworks and Primary Expansion Environmental Assessment

R. M. TOWILL CORPORATION
808 842 1133

Project Vicinity

Figure 1-1



Sand Island WWTP Headworks and Primary Expansion Environmental Assessment

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North

Project Location

Figure 1-2

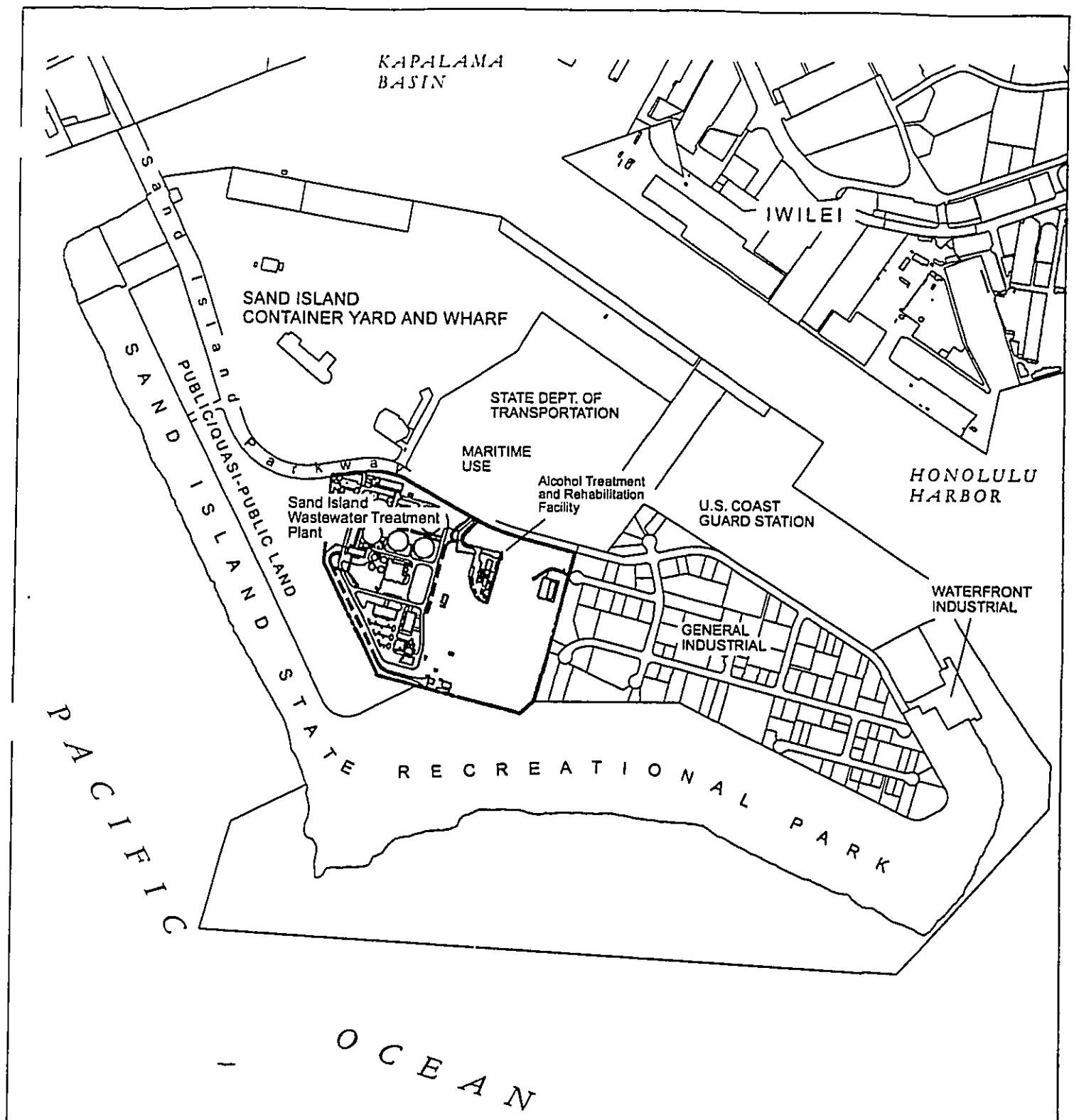
This Environmental Assessment (EA) is prepared based on the use of State lands and City and County of Honolulu funds for development pursuant to requirements of Chapter 343, Hawaii Revised Statutes (HRS) and Title 11, Chapter 200, Hawaii Administrative Rules (HAR), of the State Department of Health. The proposed modifications and expansion will be constructed in two separate construction contracts: "New Headworks and Primary Clarifiers 7 & 8" and "New Odor Control System and Modifications to Primary Facilities". The proposed action is based on and consistent with the East Mamala Bay Wastewater Facilities Plan, Final Environmental Impact Statement, December 1993, prepared for the Department of Wastewater Management (now, Department of Environmental Services), City and County of Honolulu.

Two other Environmental Assessments have recently been completed for projects at SIWWTP. The SIWWTP Disinfection Facility and Effluent Pump Station Environmental Assessment, prepared by Brown and Caldwell describes a proposed ultraviolet disinfection facility and a new effluent pump station. A FONSI was issued for the project in September 2000.

The second EA is the Sand Island Parkway Wastewater Pump Station Modifications Environmental Assessment, prepared by GMP Associates. The proposed project involves modifications to the Sand Island Parkway Wastewater Pump Station. A FONSI was issued for the project in January 2001. Both Environmental Assessments were prepared for the City and County of Honolulu (see Section 12, References).

1.2 DESCRIPTION OF SITE

The project area is located on the south coast of the Island of Oahu. SIWWTP is situated on Sand Island and bordered by the Matson Navigation Company and the U.S. Coast Guard Station Honolulu to the north, Sand Island District Park to the south, Sand Island Industrial Park to the east, and vacant State land to the west (**Figure 1-3**). Sand Island is bounded by Mamala Bay to the south and west and Honolulu Harbor to the north and east.



Sand Island WWTP Headworks and Primary Expansion Environmental Assessment

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North

Land Use Map

Figure 1-3

Access to SIWWTP is directly from Sand Island Parkway. The Sand Island Parkway is under the jurisdiction of the Department of Transportation, State of Hawaii.

1.3 SCHEDULE AND CONSTRUCTION COST

Construction work is tentatively scheduled to start in November 2001 and is expected to continue until February 2004. The contractor will schedule general work activities between 7:00 am and 3:00 pm, weekdays. Work that is required beyond regularly scheduled hours and on weekends will be coordinated with the State DOH, to ensure that all conditions of the Community Noise Permit and Community Noise Variance are met.

The estimated construction cost is approximately $200 to $300 million, which will be paid for by City and County of Honolulu, Capital Improvement Project (CIP) funds.

SECTION 2
PROJECT DESCRIPTION

2.1 TECHNICAL CHARACTERISTICS

2.1.1 PROJECT CHARACTERISTICS

The proposed project will consist of construction of a number of major new facilities and the modification of a major portion of the existing facilities. The new and modified facilities are designed to expand treatment and hydraulic capacity of the plant and to improve operational efficiency and reliability. The proposed modifications will be constructed in two separate phases. The following is a summary of system improvements by category:

Liquid Stream Improvements:

- Expand and improve screenings facility;
- Expand and improve grit removal facility;
- Improve chemical feed facility and improve mixing; and,
- Conversion of the plant from a dissolved air flotation primary treatment system to a conventional gravity type primary treatment system.

Solids Handling Stream Improvements:

- Expand and refurbish the gravity thickening system;
- Refurbish and improve sludge holding and mixing systems;
- Expand and improve the dewatering system which will reduce the moisture content and volume of sludge to be handled; and,
- Provide a new modern incinerator which will burn the sludge and reduce sludge volume by an order of magnitude.

Auxiliary System Improvements:

- New and improved odor control systems are to be provided for facilities covered in this document; and,
- A new in-plant wastewater reclamation system is to be installed to provide for higher in-plant wastewater reuse quality.

The new and modified facilities are further discussed in detail in **Table 2-1.**

TABLE 2-1
NEW AND MODIFIED FACILITIES

IMPROVEMENTS	PURPOSE AND DESCRIPTION
New Headworks Facility	New facility to replace the existing screenings building. Facility includes new and expanded screenings facility, new grit removal facilities, new chemical mixing facilities, new flow measurement facilities. Facility provides pretreatment, which is designed to remove large solids, rags and grit. These items can damage and reduce the service life of downstream equipment and piping.
Existing Flotator Clarifiers and New Clarifiers	The primary treatment process will be expanded and upgraded to increase solids removal capacity and performance. Two new clarifiers will be added. The 6 existing flotator clarifiers will be converted to conventional clarifiers. The hydraulic system will be modified to additionally improve performance. Existing sludge pumps and piping will be upgraded.
Existing Interim Chemical Treatment Facility	Enhances primary treatment by improving solids removal– Project involves adding one new polymer storage tank and one new aging tank to the existing facility.
Existing Gravity Thickeners and New Thickeners	Thickens primary sludge solids by gravity. Reduces water content and reduces volume of sludge to be handled. The 2 existing gravity thickeners will be upgraded. The system will be expanded by converting the 2 existing unused decant tanks to new gravity thickeners.

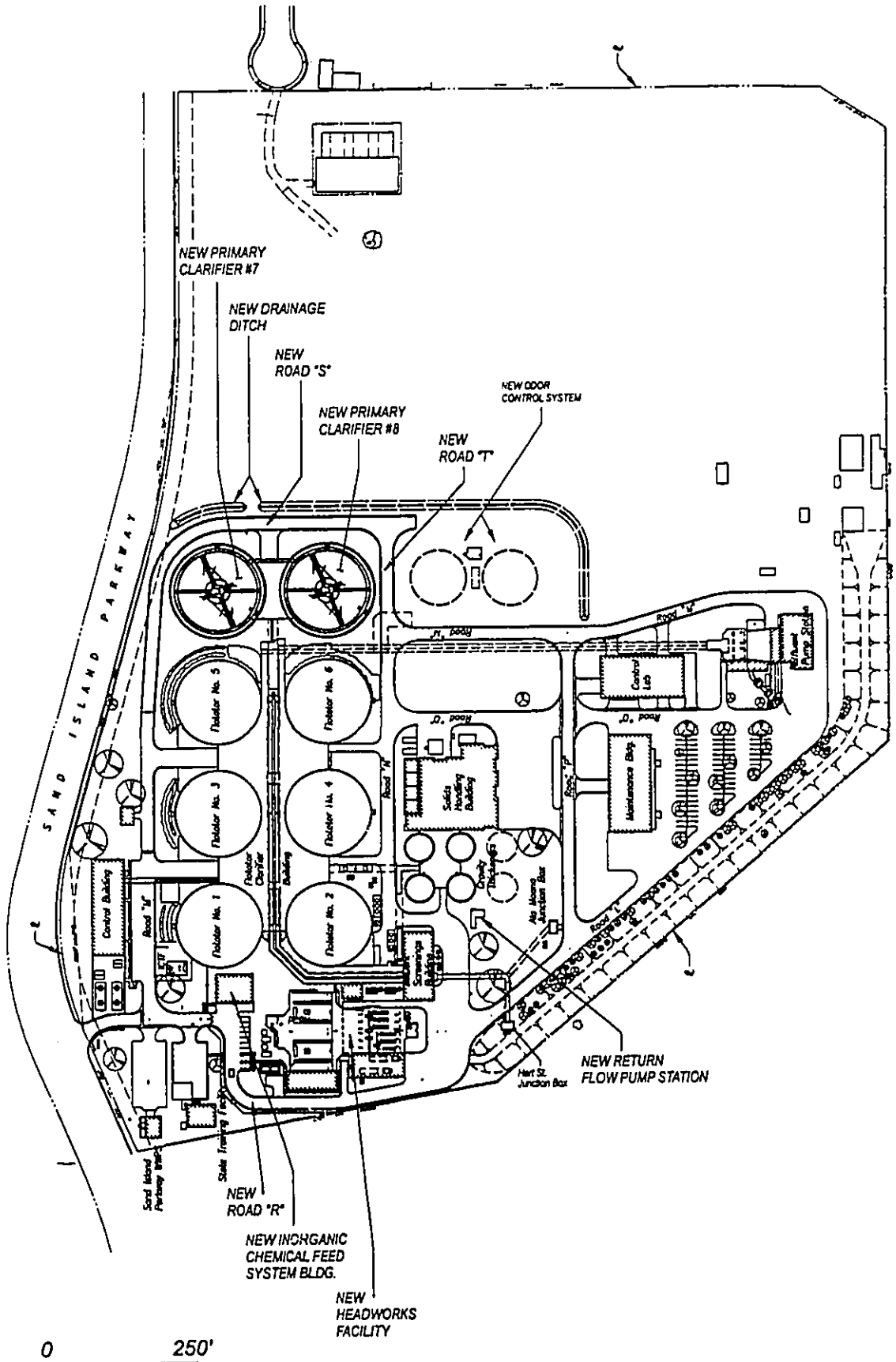
TABLE 2-1 NEW AND MODIFIED FACILITIES	
Sludge holding tanks (Existing)	Provides for mixing and storage of sludge to provide for a consistent quality of sludge and a consistent feed rate--Project requires replacing the existing equipment and instrumentation system. Improved mixing and pumping systems to match future needs will be the end result.
Sludge conditioning system	Conditions the sludge to aid in improved water content reduction from sludge–A completely new chemical sludge conditioning system will be provided, replacing the existing. In addition, the existing thermal conditioning process will be demolished.
Sludge dewatering system	Provides for further water content reduction from sludge through, in this case, centrifugal action–Project calls for a reconstruction of the sludge dewatering (centrifuge) system. The centrifuge system will be relocated and the existing centrifuge facility will be demolished. New mezzanines and equipment rooms will be built within the existing Solids Handling Building and will house the planned 3 new high-solids centrifuges. All new associated equipment and piping will be installed as a result.
Incineration system	New incinerator is designed to significantly reduce the volume of sludge while significantly improving the air quality from emissions–Project will call for replacement of two existing multiple hearth incinerators with one new fluidized bed incinerator. Planned new mezzanines to be provided will also house new incinerator equipment and instrumentation.
Plant Wide Odor Control Systems	Comply with State Dept. of Health Air Quality Requirements for Odors–New odor control facilities will be provided for all of the facilities in this project for which it is required. Approximately 3 new odor systems will be installed.

TABLE 2-1 NEW AND MODIFIED FACILITIES	
Plant Reuse System and Odor Control System	The system will have combined functions including being one of several new odor control systems. This odor control system will also provide R-2 water for in-plant reuse. Odors from the primary clarifiers and solids handling system will be accommodated by this system.–This system will consist of trickling filters, pump stations, and secondary clarifiers and disinfection system. Reclaimed effluent from this system will be used for plant operations. The trickling filter will also serve as the first stage of a two-stage odor control system. The second stage of the odor control system will consist of activated carbon vessels.

2.1.2 CONSTRUCTION CHARACTERISTICS

The proposed construction plan is identified in **Figure 2-1**, and indicates locations for each of the project improvements. The demolition site plan is indicated in **Figure 2-2**. All demolition work will comply with Federal and State regulations.

According to results of a Phase I, Environmental Site Assessment (ESA), completed in March 1999 (see Appendix B for report and site locations investigated), there are no significant environmental concerns and no further environmental evaluation is required at this time. However, testing and monitoring activities will be undertaken in suspect locations, such as the old incinerator. As required, investigation will be made for asbestos, lead paint, and other hazardous materials to ensure the safety of work crews and the public. DOH, Solid and Hazardous Waste Branch, will be consulted if required, to ensure that appropriate steps and measures are taken. Disposal of hazardous materials, if necessary, will be sent to an approved disposal facility authorized by Federal, State and County agencies.



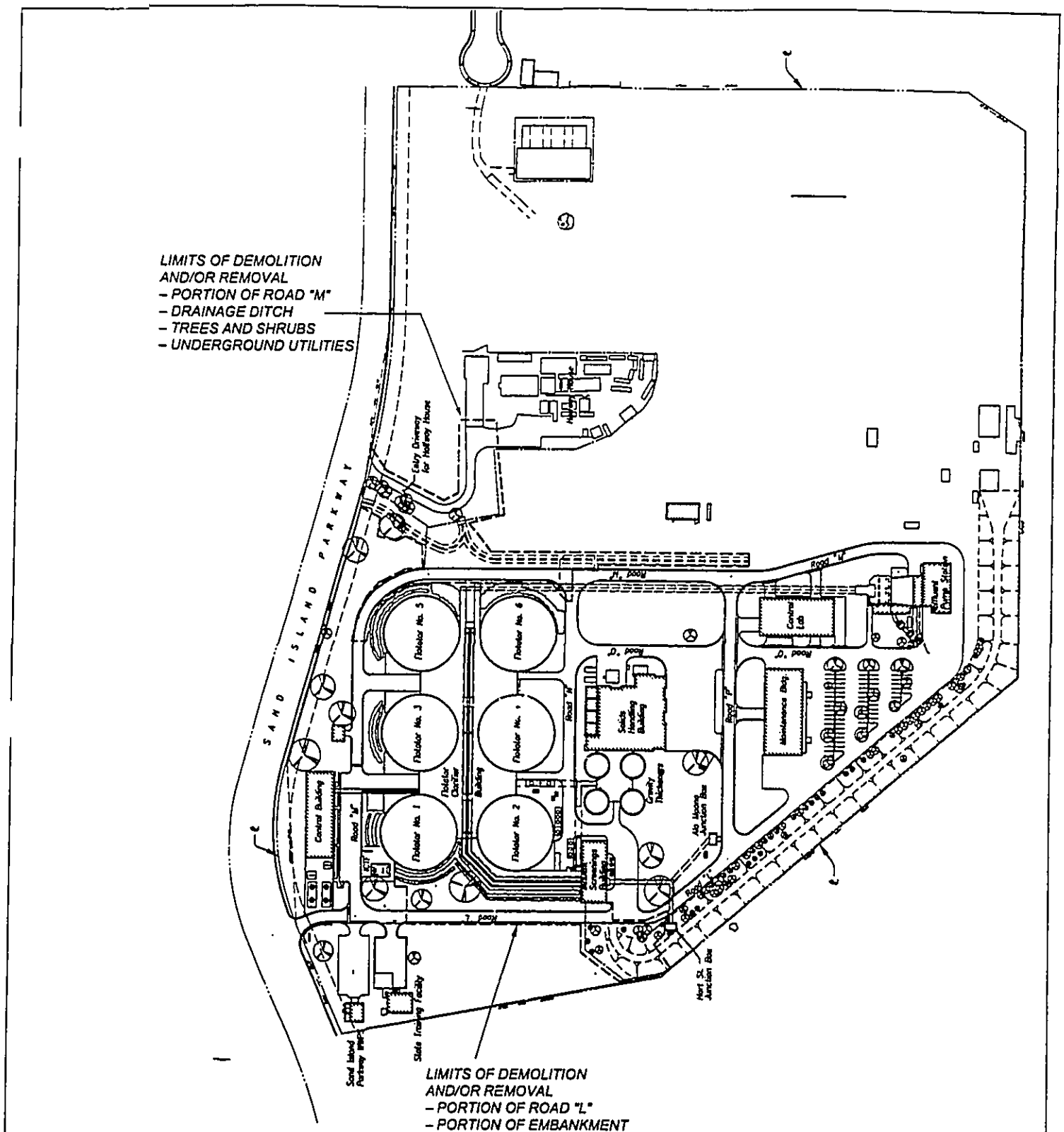
Sand Island WWTP Headworks and Primary Expansion Environmental Assessment

R. M. TOWILL CORPORATION

North

Proposed Construction Plan

Figure 2-1



Sand Island WWTP Headworks and Primary Expansion Environmental Assessment

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Demolition Plan

Figure 2-2

Grading and excavation will be required for the construction of the new facilities and roadways. The grading requirements are still being developed, but are expected to be minimal because the site is relatively flat. The excavation quantities are also under development, but a preliminary estimate is 125,000 cubic yards. This quantity includes the excavation work needed to construct and install the underground utilities, headworks structure, two clarifiers, odor control system, pump stations, and other various structures. This quantity may increase or decrease as the project's design is developed. All renovations and new construction will be designed and constructed to development standards, rules, and regulations of the State and City and County of Honolulu. Precautions and alternate access routes will be provided to prevent adverse impacts to plant operations from grading and excavation activities.

As appropriate, construction of new facilities and roadways will be coordinated with agencies including State Department of Transportation, City and County of Honolulu, Department of Planning and Permitting, and other agencies as required.

2.1.3 UTILITIES

Water is provided to SIWWTP through an existing 8-inch water main which is connected to a Board of Water Supply (BWS) 16-inch water main located along Sand Island Parkway. According to BWS, there is sufficient existing water capacity to accommodate the proposed project (BWS letter to Dept. of Design and Construction, March 9, 2001).

Electricity is provided by overhead service lines which are metered by Hawaiian Electric Company (HECO) at the Switchgear Building of the plant. New backup emergency generators will be installed to serve the future facilities. In the event of a utility power outage the generators will automatically start and provide power to the essential equipment of the plant. The City is presently evaluating the potential to convert bio-gas to electricity. This type of conversion facility will be pursued for this project if it is deemed cost effective.

According to HECO, a new distribution substation is planned to serve increasing load in the Sand Island area. This will include the addition of two new 46 kilovolt (kV) circuits which

will be extended from the existing Sand Island substation to the proposed new substation (HECO letter to Dept. of Design and Construction, March 22, 2001).

Surface drainage will be accomplished by replacing an existing unlined ditch with a lined ditch. Surface drainage will enter the proposed ditch through existing culverts (90% of drainage) and curb and gutter drains. The proposed ditch will drain into an existing man-made ditch which eventually discharges into Honolulu Harbor.

2.1.4 SOLID WASTE

Plant Operations Solid Waste:

The existing solids handling treatment units include sludge screening and grit removal, gravity thickeners, wet sludge storage tanks, thermal conditioning, dewatering, and incineration (currently not in use). Dewatered sludge, screeningss and grit are currently hauled to the Waimanalo Gulch Sanitary Landfill for disposal. The auxiliary systems include the effluent reuse system and the various odor control systems.

Although plant expansion and improvements will result in more solids being removed from the liquid stream, with the implementation of new sludge dewatering facilities and a new incineration system, the amount of solids requiring disposal will decrease significantly.

The new screenings facility (at the new headworks) will significantly increase the amount of screenings removed. The new grit removal facility (also at the new headworks), will also significantly increase the amount of grit removed. The screenings and grit is planned to be hauled to County landfill facilities. From a screenings and grit standpoint, the amount of these solids requiring disposal will increase significantly. However, these solids, represent but a small fraction (less than 10%) of the total solids requiring disposal.

The larger amount of solids are to be generated from the removal of suspended solids at the primary clarifiers. With the improvements and expansion of the facility, the expected performance improvement, the amount of solids being removed from the liquid stream will

increase measurably, in the order of 15% to 20% in dry weight. However with the improved clarifier process, the improvements in the solids handling stream, the amount of solids requiring disposal to County facilities will significantly decrease because of the following:

- Improved thickening and dewatering processes which will reduce the water content, and therefore the overall sludge volume requiring disposal.
- Incineration will reduce the solids dry weight by 80% to 90% (versus 20% for thermal conditioning) and wet volume for disposal by over an order of magnitude (over 10 times).

Construction Solid Waste:
Waste generated by the contractor during construction will be disposed of at an approved City facility.

2.1.5 LIQUID WASTES

Plant Operations Liquid Wastes:
The existing SIWWTP provides for primary treatment prior to disposal through a deep ocean outfall. Liquid stream treatment processes at the facility include bar screens, flotator clarifiers, an interim chemical treatment system, effluent screens, an effluent pump station, and the chlorination system. The proposed improvements will continue to provide primary treatment. The new headworks, improved inorganic chemical feed system, new primary clarifiers, modifications to the existing primary clarifiers, and new plant reuse system will improve the performance and reliability of the facility. The proposed treatment capacity will increase from the current 82 mgd to 90 mgd by the year 2020 (projected).

Construction Liquid Wastes:
Liquid wastes are not expected to be generated by the contractor during construction.

SECTION 3
AFFECTED ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATION MEASURES

3.1 PHYSICAL ENVIRONMENT

3.1.1 CLIMATE

SIWWTP is located at Sand Island within an industrialized sector of urban Honolulu. Winds are primarily northeasterly tradewinds which are the result of the Northern Hemisphere Hadley Cell. Occasionally, during the winter months, storms are accompanied by winds from the south which are sometimes referred to as Kona winds. Average wind speeds for Honolulu range from approximately 10 to 15 miles per hour with occasional gusts of +40 miles per hour. Temperatures range from the mid-70s to the upper 80s with occasional reaches into the +90 degrees Fahrenheit range (Atlas of Hawaii, 1998). The average annual temperature recorded at Honolulu International Airport was 78.6 degrees Fahrenheit.

Rainfall for the Honolulu area ranges from approximately 4 to 5 inches monthly during the winter months, November through January, to less than 1 inch during the drier months. Annual rainfall averages approximately 15 to 20 inches throughout the remainder of the year. Average relative humidity in Honolulu has historically ranged from a high of 77.2% during January, to a low of 64.8% which is typically reached in June. The average annual humidity level is approximately 69 to 70% (Atlas of Hawaii, 1998).

POTENTIAL IMPACTS AND MITIGATION MEASURES

No impacts to the area climate will occur as a result of the proposed project.

3.1.2 TOPOGRAPHY, GEOLOGY, AND SOILS

The proposed project will be developed within the existing SIWWTP. The overall terrain and geology of Sand Island is primarily made up of fill land. The project site is virtually flat with

ground elevations ranging from 5 to 10 feet relative to mean sea level (msl). This is due to prior grading activities when Sand Island was enlarged using primarily dredged materials upon which the SIWWTP facilities were built.

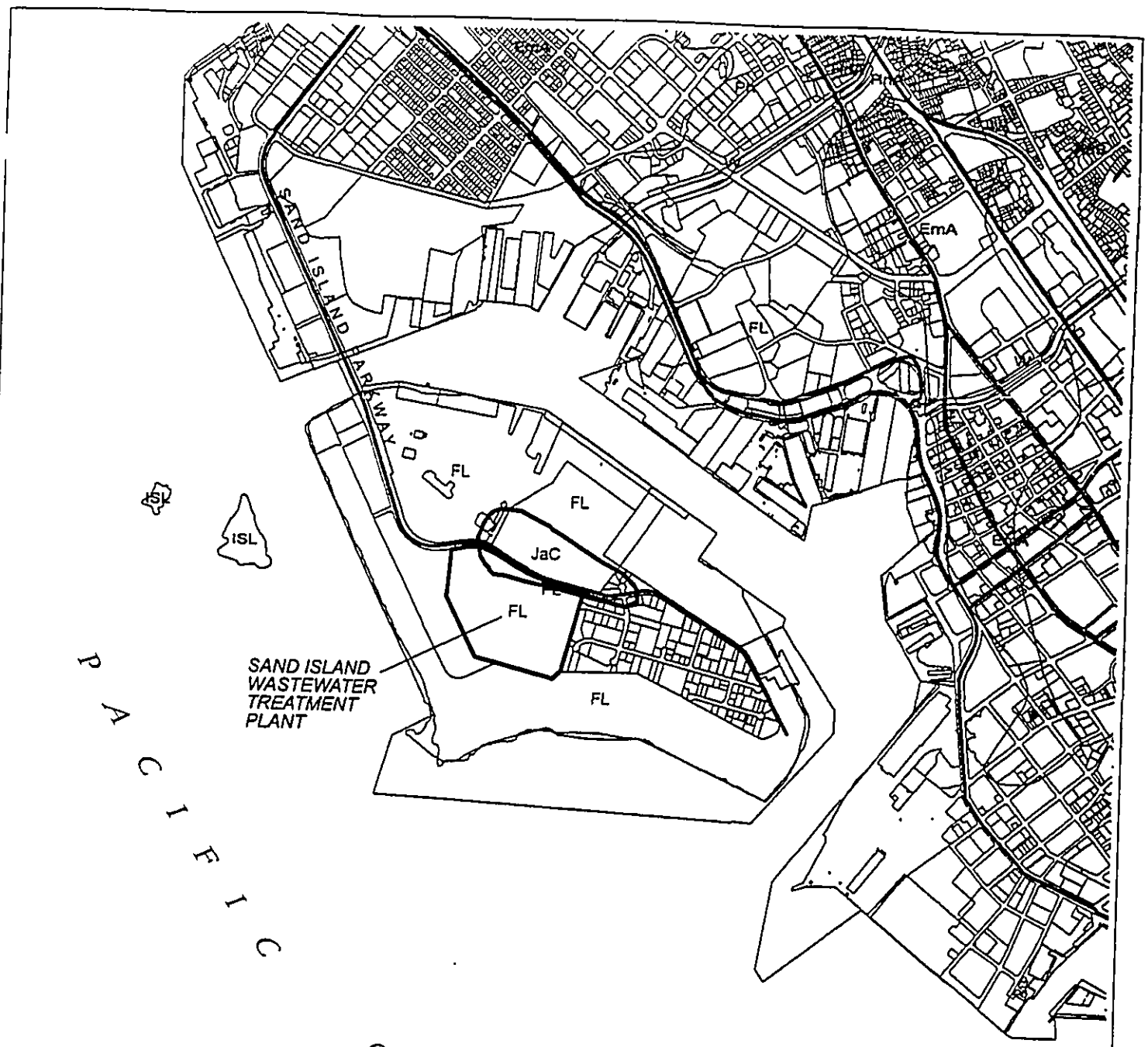
Soils found at the project site include Fill Land, mixed (FL) and Jaucas Sand (JaC) (Figure 3-1). Fill land consists of areas filled with material from dredging, excavation from adjacent uplands, garbage and bagasse and slurry from sugar mills.

The Fill Land, mixed (FL) land type occurs mostly near Pearl Harbor and in Honolulu, adjacent to the ocean. It consists of areas filled with material dredged from the ocean or hauled from nearby areas, garbage, and general material from other sources. This land type is used for urban development including airports, housing areas and industrial facilities (Soil Conservation Service, 1972).

Jaucas Sand, 0 to 15 percent slopes (JaC), occupies a small area of the plant near the Sand Island Parkway. In most places at SIWWTP the slope does not exceed 7 percent. In a representative profile JaC is single grain, pale brown to very pale brown, sandy, and more than 60 inches deep. In places the surface layer is dark brown as a result of accumulation of organic matter and alluvium. The soil is neutral to moderately alkaline throughout the profile. Permeability is rapid and runoff is very slow to slow. The hazard of water erosion is slight, but wind erosion is a severe hazard where vegetation has been removed. The available water capacity is 0.5 to 1.0 inches per foot of soil. This soil is used for pasture, sugarcane, truck crops, and urban development (Soil Conservation Service, 1972).

POTENTIAL IMPACTS AND MITIGATION MEASURES

The proposed project is not expected to have a significant impact on the topography of the area. This is due to proposed construction activities which will primarily be located within the existing wastewater treatment plant facility. Minimal earthwork will consequently be required to accommodate the proposed facilities.



LEGEND

JaC - Jaucas sand, 0-15 percent slopes
FL - Fill land, mixed

Source: Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, U.S. Dept. of Agriculture, Soil Conservation Service, August 1972

2000' 1000' 0 2000'

SCALE: 1" = 2000'

Sand Island WWTP Headworks and Primary Expansion Environmental Assessment

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North

Soils Map

Figure 3-1

As required, project Best Management Practices (BMPs) and soil erosion control measures will be practiced to minimize potential for adverse impacts.

3.1.3 HYDROLOGY

According to the Flood Insurance Rate Map (FIRM 1998), the project site is located within Zone X and Zone A (**Figure 3-2**). Zone X defines areas outside of the 500 year flood and Zone A defines areas where no base flood elevations have been determined (Flood Insurance Rate Map, Community-Panel No. 15003C0365E, July 31, 1998). New FIRM data, provided after completion of the 1998 FIRM maps, however, have since determined the regulatory flood elevations for the area of SIWWTP contained in Zone A, to range from 5.9 feet to 5.7 feet above mean sea level (Dept. of Planning and Permitting letter to Dept. of Design and Construction, March 19, 2001).

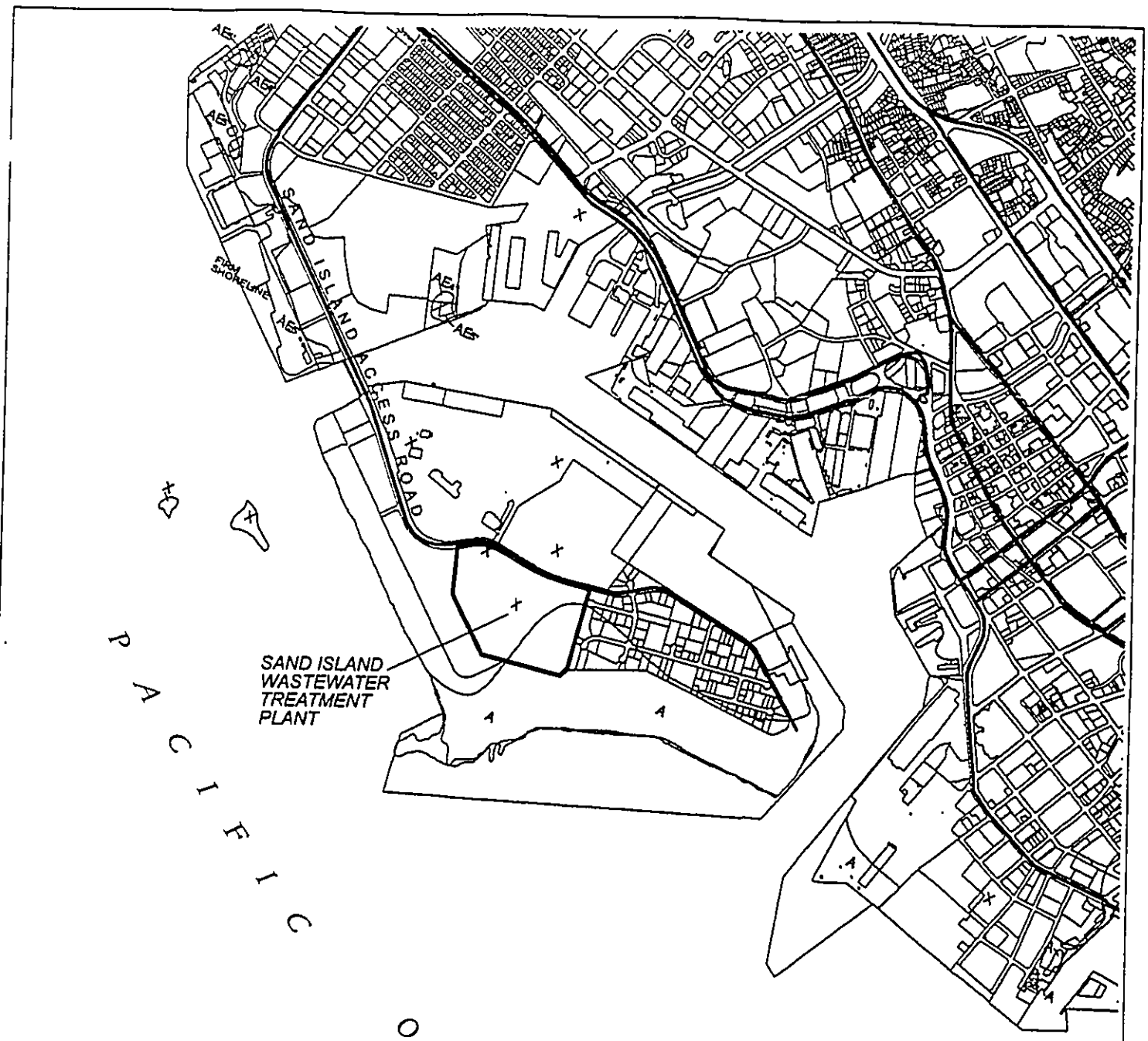
The proposed project modifications are located in Zone X. Zone A contains land in an unused portion of the project site. The overall project site is located outside the tsunami innundation zone.

POTENTIAL IMPACTS AND MITIGATION MEASURES

The proposed project is not expected to have adverse impacts to hydrology as work activities will be limited to areas defined as Zone X. As appropriate, a Flood District Certification will be filed to ensure that planned facilities are constructed at an acceptable elevation.

3.1.4 FLORA AND FAUNA

The proposed project is located within an existing wastewater treatment facility in a highly altered environment. Consequently, no rare, threatened or endangered flora or fauna species have been observed to exist at the project site. Species most commonly frequented at the site include introduced and exotic flora and fauna. Several introduced fauna including the Common Indian Mynah (*Acridotheres tristis*), House Sparrow (*Passer domesticus*), Spotted or Lace-necked Dove (*Streptopelia chinensis*), Zebra Dove (*Geopelia striata*), and Cardinal (*Cardinalis cardinalis*) have been observed at the project location. Mammals such as stray cats, rats and mice have also been observed in the vicinity.



FLOOD ZONE LEGEND

Special Flood Hazard Areas Inundated by 100-Year Flood	
ZONE A	No base flood elevations determined.
Other Areas	
ZONE X	Areas determined to be outside 500-year flood plain.

Source: National Flood Insurance Program, Flood Insurance Rate Map Community-Panel Number 15003C0365E, July 31, 1998, Federal Emergency Management Agency.

2000' 1000' 0 2000'

SCALE: 1" = 2000'

Sand Island WWTP Headworks and Primary Expansion Environmental Assessment

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808 842 1133

North

Flood Insurance Rate Map

Figure 3-2

Flora species surrounding an existing wetland site (drainage ditch) are identified in Section 3.1.6-Wetland Ecosystem.

POTENTIAL IMPACTS AND MITIGATION MEASURES

The proposed project site is located within the SIWWTP. Rare, threatened, or endangered flora or fauna are not known to utilize the site for either habitat or for foraging purposes. Potential for adverse impacts are not anticipated.

3.1.5 OCEAN ECOSYSTEM

The SIWWTP is located within the East Mamala Bay region. According to the East Mamala Bay Wastewater Facilities Plan, Final Environmental Impact Statement, 1993, the variety of aquatic fauna in East Mamala Bay is considerably limited when compared to coastal areas in more rural portions of Oahu. The cumulative impact of approximately 200 years of urban development on the bay's reef ecosystem, as well as development pressures placed upon the food chain by extensive fishing and food gathering, have left the marine biota relatively depleted when compared to other areas around Oahu.

The effluent will be discharged through the existing 84 inch ocean outfall. Additional specific information on the outfall and effluent water quality may be obtained from the SIWWTP Disinfection Facility and Effluent Pump Station Environmental Assessment, September 2000, and the East Mamala Bay Wastewater Facilities Plan, Final Environmental Impact Statement, December 1993.

POTENTIAL IMPACTS AND MITIGATION MEASURES

The proposed project is not expected to result in potential for adverse environmental impacts to the ocean ecosystem due to the expected overall improvement in effluent quality that will result from the proposed project. There are no known threatened or listed endangered species present which would be subject to potential negative adverse impacts associated with the proposed project. The proposed liquid stream upgrades are anticipated to reduce the amount

of Biochemical Oxygen Demand (BOD) and Suspended Solids (SS) discharged through the ocean outfall.

3.1.6 WETLAND ECOSYSTEM

The project site was preliminarily evaluated by the Army Corps of Engineers to ascertain potential for impacts to a nearby drainage ditch which was constructed during establishment of the SIWWTP. Although it was preliminarily determined that there would be no adverse impacts due to the proposed project a followup wetlands survey was undertaken by Botanical Consultants in September 2000. The purpose of the survey was to ascertain the presence and potential for disturbance to existing wetland resources within the project area. The findings of the survey served to indicate that while the proposed work would be located up to the boundary of the wetland area, that the proposed project would be located outside of the wetland. As noted by the survey, although some of the mangrove trees and some of the pickle weed extend beyond the marked boundary, all of the wetland associated flora are rooted within the wetland area. (See Appendix A - Wetland Survey, and attached note).

The following is a summary of the survey findings:

1. A portion of the site southwest of the drainage canal was found to be partly taken up by equipment and waste concrete storage with bare open land covered in places with alien vegetation. Alien vegetation consisted of widely separated kiawe trees (*Prosopis pallida* (Numb. & Bonpl. ex Willd.) Kunth), some as much as thirty-five feet in height. The shrub layer consisted of a few widely scattered castor bean shrubs *(Ricinus communis* L.), koa haole *(Leucaena leucocephala* (Lam.) deWit), wild tobacco *(Nicotiana glauca* R. C. Graham), and Indian fleabane (*Pluchea Indica* (L.) Less.). The ground layer was comprised of low growing weeds including:

Australian saltbush (*Atriplex semibaccata* R Br.)
Flaveria trinervia (Spreng) C. Mohr.
Bidens alba (L.) DC
Golden crown beard *(Verbesina encelioides* (Cav.) Benth. & Hook.)
`aheahea (Chenopodium murale L.)
Trianthema portulacastrum L.
Sida ciliaris L.
spiny amaranth (*Amaranthus spinosus* L.)
khaki weed *(Alternanthera pungens* Kunth)
Chamaesyce maculata (L.) Small
Sporobolus pyramidatus (Lam.) Hitchc.

All species found appeared to be very stressed.

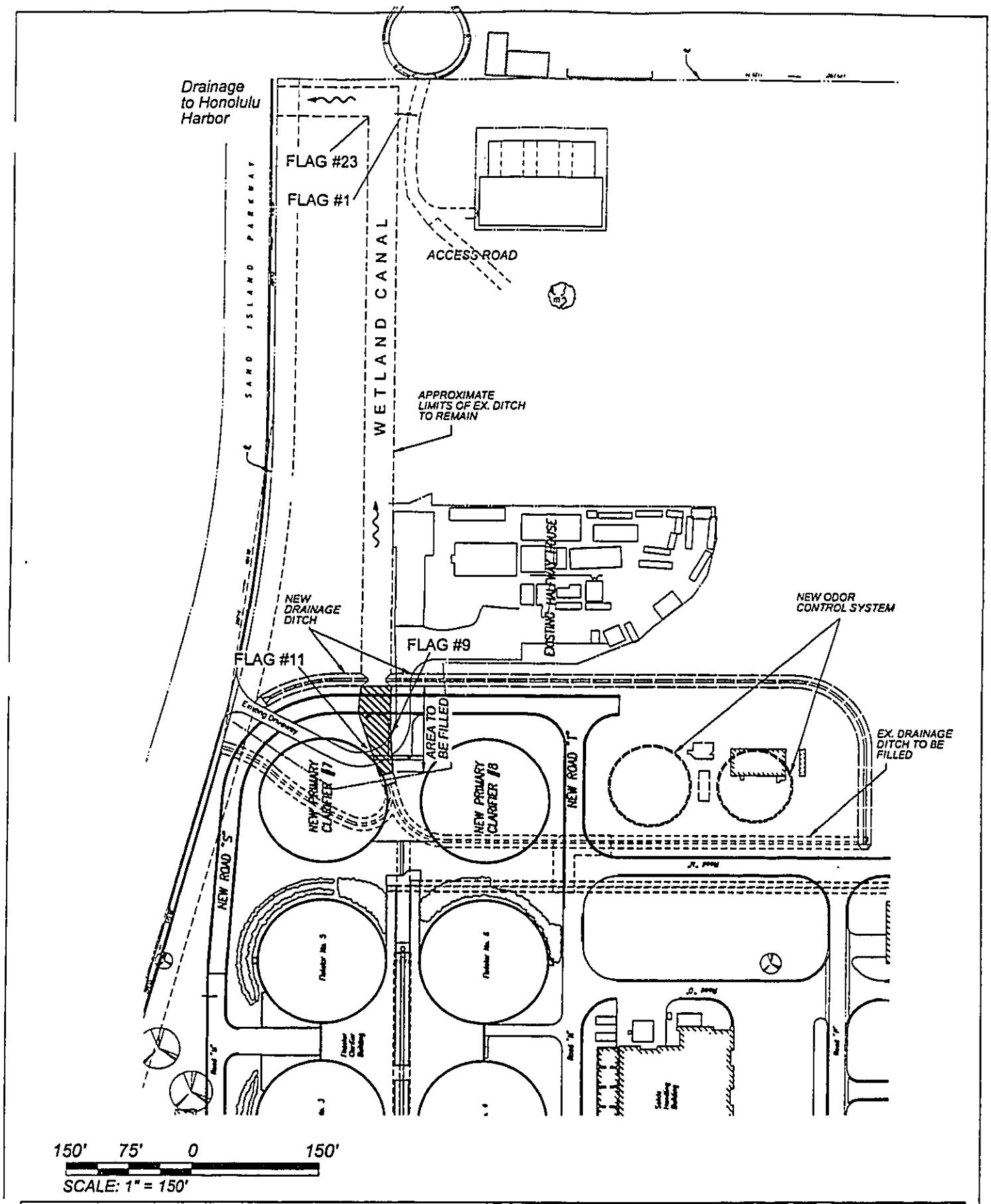
2. The strip of land between the canal and Sand Island Parkway contains open space surrounded primarily by kiawe trees, some koa haole bushes, a few grasses such as Guinea grass (*Panicum maximum* Jacq.), swollen fingergrass (*Chloris barbata* (L.) Sw.), and stargrass (*Chloris divaricata* R. Br.). *Boerhavia coccinea* Mill. and ivy gourd (*Coccinia grandis* (L.) Voight.) are well established in this area. Long branches of pickle weed *(Basis maritima* L.), some ten to twelve feet in length were seen growing out of the canal border.

3. The canal vegetation consisted of two obligate wetland species, pickle weed and red mangrove *(Rhizophora mangle* L.) (obligate species are those associated with a 95% probability that they will be found under wetland conditions). The facultative wetland shrub Indian fleabane is also plentiful along the canal (facultative species have a 34 to 66% probability of occurring under wetland conditions). In addition several weed species occur on the banks of the canal. They included wild tobacco, stargrass, spiny amaranth, kiawe trees, and bristly foxtail (*Setaria verticillata* (L.) P. Beauv.).

4. None of the vegetation found at the site is native to the Hawaiian Islands. There were no proposed or listed threatened or endangered species present on this site.

5. The wetland area is a trapezoidal shaped drainage ditch with steeply inclined banks about four or five feet in height. The canal was partly created by very old fill which was used to develop the flat land that surrounds the waterway. Of the three Corps of Engineers criteria that define a wetland, i.e. hydrophytic vegetation, standing water within 18 inches of the surface for at least three weeks of the growing season (hydrology), and the presence of hydric soils, two are met on this site.

The hydrophytic vegetation criterion is met by the presence in all parts of the canal by the aforementioned obligate and facultative plant species. The hydrology criterion is met by the presence of standing water in the full length of the canal. The depth of the water varies from a few inches to several feet. The third criterion, hydric soils, cannot be tested due to the drastic topographic change created by the steep banks of the canal and the fact that the soil surrounding the canal appears to be old fill. However, since the soil was saturated almost to the top of the inclined banks the upper lip of the bank was taken to be the edge of the wetland. The wetland area has been flagged with numbered blue flags. Flag #1 is located on the makai side of the wetland near the entrance of the site access road (**Figure 3-3**). From Flag # 1 along the rim of the wetland to the half-way house fence there is to be found flags #1 through flag #9. Flag #11 is located at the junction of the half-way house driveway and the wetland fence on the mauka side. Flags #11 through #23 mark the mauka rim of the wetland.



Sand Island WWTP Headworks and Primary Expansion Environmental Assessment

R. M. TOWILL CORPORATION
808 842 1133

North

Wetland Site

Source: Sand Island Waste Water Treatment Plant Wetland Survey, Botanical Consultants, Sept. 12, 2000, Honolulu, Hawaii. Rev. 4/2001.

Figure 3-3

POTENTIAL IMPACTS AND MITIGATION MEASURES

The wetland located within the plant site and described by the survey is shown on **Figure 3-3.** The Army Corps of Engineers was again consulted concerning results of the botanical report on April 5, 2001. According to Ms. Lolly Silva, Corps of Engineers, the portion of the project site adjacent to Flag #11 and Flag #9 have been determined by the Corps to be outside the wetland area. **Figure 3-4: Wetland Exclusion Area,** identifies this area. The wetland is in a man-made drainage ditch which was part of the original plant construction in 1974. Based on results of the wetland survey and Corps of Engineers consultation, the proposed action which will include work to fill portions of the project site are not anticipated to result in potential for negative adverse impacts to wetlands.

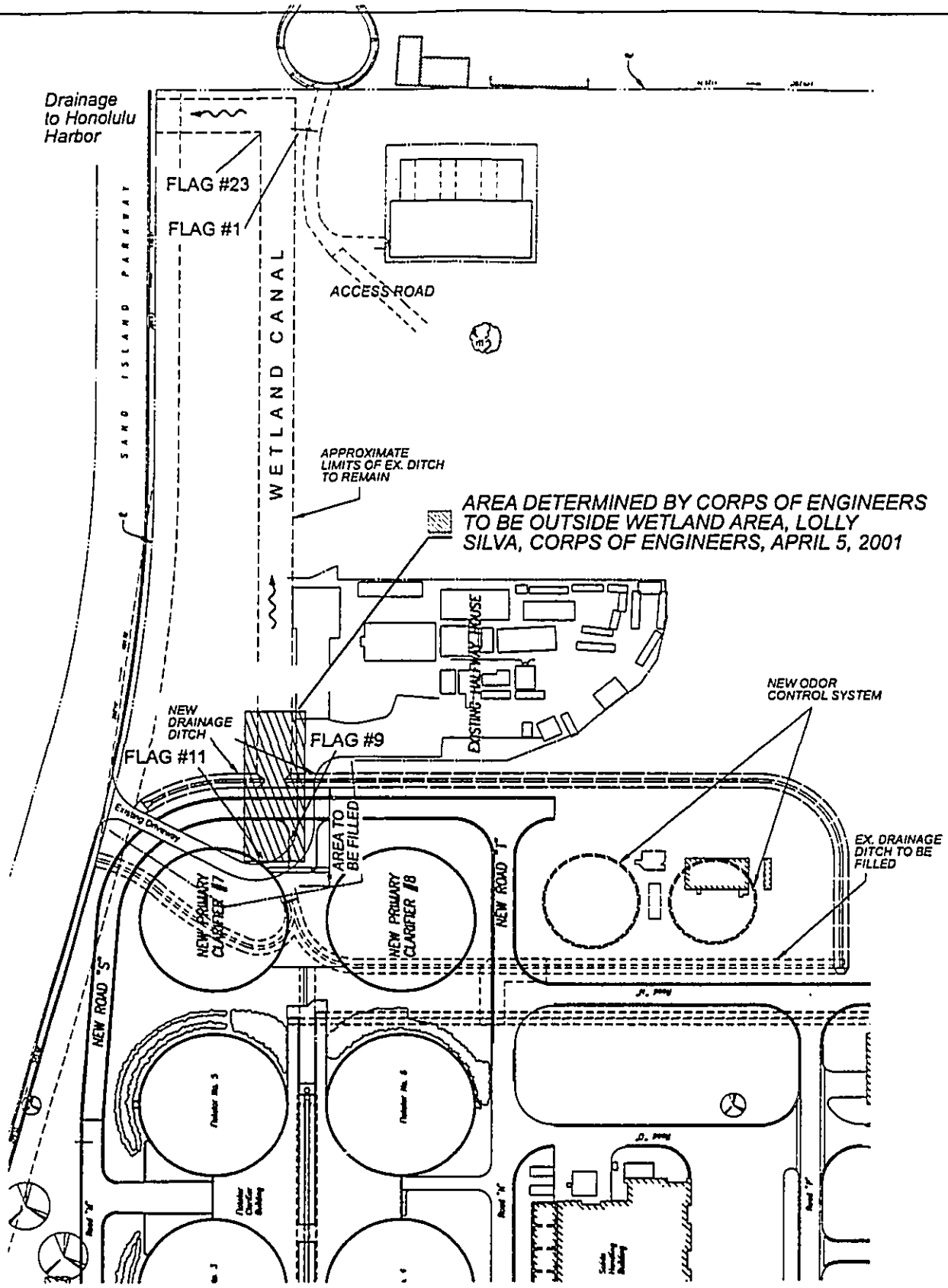
To further minimize potential for adverse impacts to adjoining areas construction will be sequenced and scheduled to avoid placement of materials, equipment, and demolition debris in locations subject to storm runoff which could enter the drainage ditch. This will also help to ensure against the creation of pools of impounded water which would facilitate the breeding of mosquitoes.

3.1.7 ARCHAEOLOGY

The project site is comprised of Fill Land, mixed (FL), and has been previously disturbed during construction of the existing SIWWTP. No archaeological sites are known within the area and none are expected due to the nature of Sand Island which was primarily constructed of fill material.

POTENTIAL IMPACTS AND MITIGATION MEASURES

The proposed project is not expected to result in potential for negative adverse impacts to archaeological resources. This is due to soils found at the project site which is comprised of fill land and mixed filled land. A review of records with the Department of Land and Natural Resources, State Historic Preservation Division, also indicates that there are no known historic sites at the project location (State Historic Preservation Division letter to Dept. of Design and Construction, March 5, 2001).



Sand Island WWTP Headworks and Primary Expansion Environmental Assessment

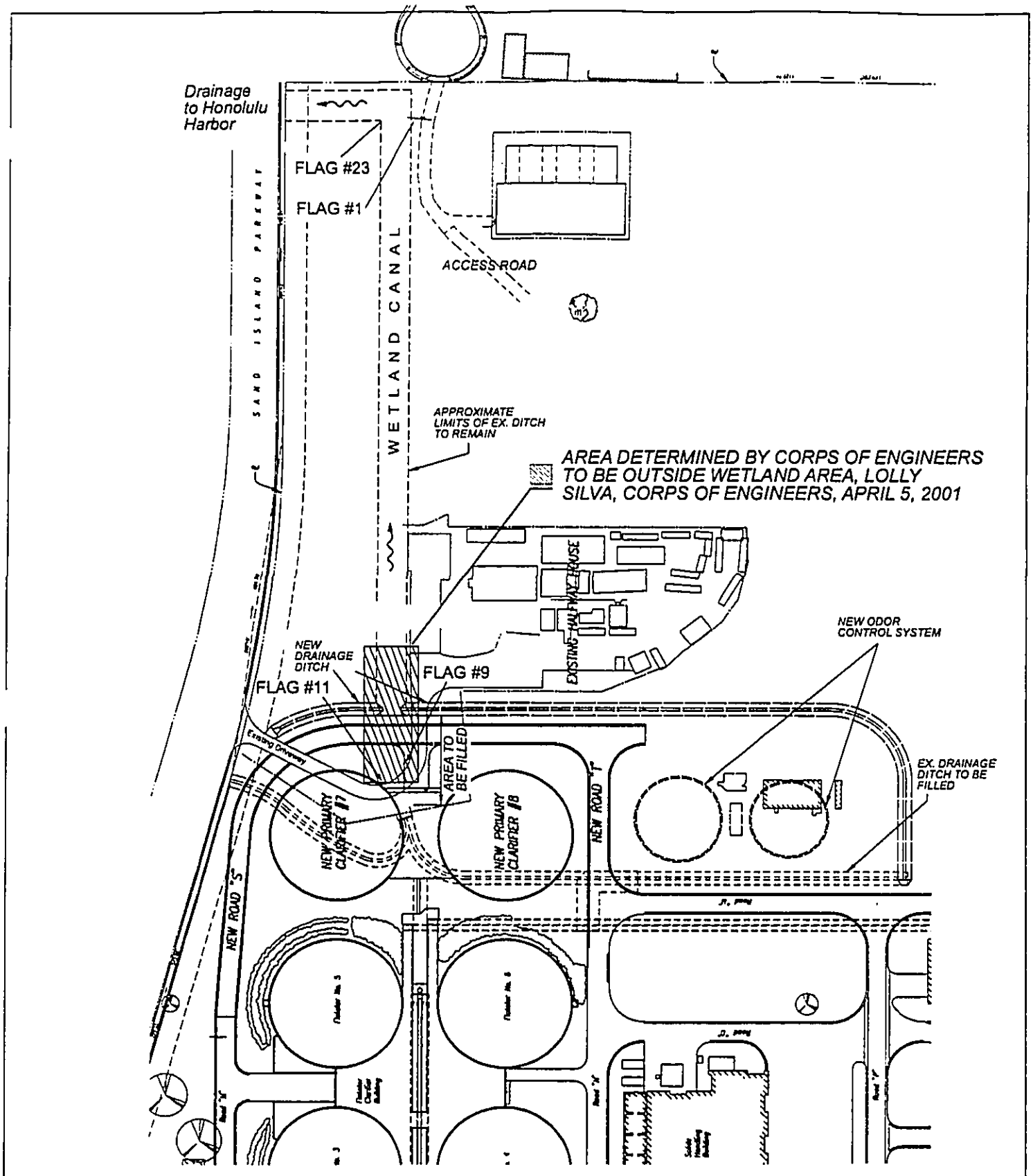
R. M. TOWILL CORPORATION
808 842 1133 420 Waiakamilo Road Suite 411 Honolulu Hawaii 96817-4941

North

Wetland Exclusion Area

Source: Sand Island Waste Water Treatment Plant Wetland Survey, Botanical Consultants, 9/12/2000, and Army Corps of Engineers, 4/5/2001, Rev. 4/2001.

Figure 3-4



Sand Island WWTP Headworks and Primary Expansion Environmental Assessment

R. M. TOWILL CORPORATION
808 842 1133 420 Waiakamilo Road Suite 411 Honolulu Hawaii 96817-4941

North

Wetland Exclusion Area

Source: Sand Island Waste Water Treatment Plant Wetland Survey, Botanical Consultants, 9/12/2000, and Army Corps of Engineers, 4/5/2001. Rev. 4/2001.

Figure 3-4

However, in the event of unexpected discovery of historic or archaeological resources the Department of Land and Natural Resources, State Historic Preservation Division, will be notified at (808) 692-8026 for appropriate response and action.

3.1.8 AIR QUALITY

Hawaii lies within the Northern Hemisphere Hadley Cell, which is responsible for persistent northeast trade winds. Consequently, air quality is relatively good with the exception of occasional Kona or leeward storms that produce a low pressure system that brings southerly winds and precipitation. The Sand Island area is located within an industrial area that generally receives favorable trades.

Dust and emissions will be generated from construction vehicles and equipment including backhoes, trucks, pile driving equipment, generators, fuel tanks, etc., during construction. Fugitive dust, and vehicle and construction equipment will be sources of air pollution.

Three new odor control systems will replace existing odor control systems and provide odor control for facilities covered by this project.

The incinerator has been an area of air quality concern. The new incinerator is of a different type than the existing incinerator. It is of the "fluidized bed" type which is much cleaner and operates with emission levels lower than the existing multiple hearth type. The new incinerator will comply with 40 CFR Part 503 regulations of the Environmental Protection Agency (EPA) relating to the incineration of municipal sludge. The existing air permit issued by the State Department of Health will be modified to accommodate the new incinerator and odor control systems prior to construction.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Mitigation of fugitive dust generated during construction will be handled through the use of periodic site watering and applicable on-site Best Management Practices (BMPs). Additional

measures as provided in Hawaii Administrative Rules (HAR) Chapter 11-60.1 - Air Pollution Control will also be followed and will include, but not be limited to, the following:

- The planning of project construction phasing should focus on: minimizing the amount of dust-generating materials and activities; centralizing material transfer points and on-site vehicular traffic routes; and, locating potentially dusty equipment in areas of least impact;
- An adequate water source at the site should be provided prior to start-up of construction activities;
- The project site should be landscaped with rapid covering of bare areas, including slopes, starting from the initial grading phase;
- Dust should be controlled from shoulders, project entrances, and access roads; and,
- Adequate dust control measures should be provided on weekends, after hours, and prior to daily start-up of construction activities.

Vehicle and construction equipment exhausts will be a source of air pollution. Mitigation of potential adverse impacts associated with use of construction equipment, fuel tanks, and vehicle exhausts will be handled through adherence to applicable Federal, State and County regulations. As required, all machinery and vehicles will be required to be in proper working order with appropriate use of mufflers.

The proposed project modifications when completed are expected to result in improved ambient air quality with positive long term impacts on air quality surrounding the treatment plant.

3.1.9 NOISE

The project site is subject to noise generated from the existing SIWWTP. Other existing sources of noise include overflights of aircraft within the 70 DNL noise contour of Honolulu International Airport (DNL is a measure of the decibel noise level within an area surrounding

airports); industrial activities from light industrial parcels located east of the site involving auto repair, metals recycling and recovery, and related activities; and traffic from the nearby Sand Island Parkway.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Short term noise impacts associated with the proposed project will result from construction activity. Construction related noise will be generated by use of construction equipment and machinery such as bulldozers, backhoes, compressors, and pile driving equipment. Management of short term noise impacts will involve use of mufflers and related noise reduction technologies. As required, construction equipment with mufflers in poor working condition shall be replaced or repaired. Possible preconsultation with the nearby Alcohol and Rehabilitation Facility may also be practiced due to the location of the facility to the proposed construction site.

When connections to existing wastewater facilities are necessary, construction will be scheduled during night hours to minimize impacts to wastewater service. Connections to the existing SIWWTP facilities will thereby be simplified since wastewater flows are significantly lower during the early morning hours. As required, a Noise Variance issued by the State Department of Health (DOH) will be filed.

Potential for long term noise impacts may result from operation of new equipment. This would include the use of machinery in the various buildings and tanks at the facility. All noise generated however, will be required to be at levels that are consistent with existing rules and standards of the State and County, including HAR, Chapter 11-46, Community Noise Control, which provides for the prevention, abatement and control of noise pollution in the State from stationary, agricultural, and industrial activities.

Mitigative measures to address noise generated by new SIWWTP machinery will include enclosure of noise generating machinery and use of acoustical walls. Prior use of these practices at the existing SIWWTP have helped to reduce noise to acceptable safe workplace

levels. It is expected that continued use of these practices by the City and County of Honolulu, Department of Environmental Services, will be sufficient for the proposed project.

3.1.10 SOLID AND HAZARDOUS WASTE

Solid waste will be generated during construction and during operation of the proposed modifications at SIWWTP. A Phase I, Environmental Site Assessment (ESA), to identify and assess potential for hazardous materials, and to determine if disposal will be required, was conducted in March 1999 (see Appendix B for report and site locations investigated). The locations for excavation and construction work are identified in **Figure 2-1** and **Figure 2-2**.

The Phase I, ESA reviewed portions of SIWWTP which included: 1) Pretreatment Facility area; 2) Influent Screens Building area; and, 3) Flotator Clarifier Building area. Data collected and evaluated included a site reconnaissance to observe existing conditions, review of available Federal, State, and local records, and interviews with personnel having knowledge of potential environmental hazards in the area. According to the Phase I, ESA, there was no evidence of recognized environmental conditions in connection with affected areas of the property. Hazardous materials, consisting of suspect asbestos-containing materials and lead-containing paint were observed in a structure on the property, as were scattered areas of debris and solid waste.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Solid waste in the form of demolition debris which cannot be recycled for on-site purposes, e.g., landscaping or for use as fill, will be disposed of at an authorized City facility by the construction contractor. Wastewater sludge, which is a by-product of waste water treatment will continue to be processed and disposed of at an approved sanitary landfill facility.

The Phase I, ESA, indicates that the proposed project has no significant environmental concerns and recommends that no further environmental evaluation be required at this time. Given the current use of the site for a wastewater treatment facility, no hazardous materials beyond possible new discovery of asbestos and lead paint within the existing facility are

expected to be found. Potential for environmental concerns involving asbestos-containing and lead paint-containing constituents will be addressed through testing and monitoring activities in suspect areas that would be modified during construction. In the event that hazardous constituents are discovered appropriate measures will be taken to ensure the safety of work crews and the public. DOH, Solid and Hazardous Waste Branch, will be consulted if required, to ensure appropriate steps and measures are taken. Should disposal of hazardous materials be necessary, an approved disposal facility authorized by Federal, State and County agencies will be used.

3.1.11 SCENIC RESOURCES

Visually, the location surrounding SIWWTP is of an industrial area with land uses that are generally similar (**Figure 1-3**):

- North of the site and across from Sand Island Parkway is the Sand Island Container Yard and Wharf, and State Department of Transportation, maritime use area;
- Immediately east within the SIWWTP site is an alcohol treatment and rehabilitation facility surrounded by land that is currently undeveloped. Further east, outside of the SIWWTP site is a general industrial subdivision with auto repair, metals recycling and waste reclamation, and related industrial and light industrial uses;
- West of the site is the Sand Island Parkway, and uncleared public lands which are at the boundary of the Sand Island State Recreational Park; and,
- South and west of the site is the Sand Island State Recreational Park.

The proposed project will involve the development of structures which will support operations of SIWWTP. Existing structures at the site are approximately 30 to 80 feet high. Dimensions of major proposed structures will be as follows (all heights are from grade):

Flotator Clarifiers:	±150 feet in diameter x ±30 feet in height
Trickling Filters:	±110 feet in diameter x ±55 feet in height
Secondary Clarifiers:	±100 feet in diameter x ±30 feet in height

Heights for all structures will limited to 60 feet, which is the maximum permissible in the I-3 (Waterfront Industrial District) zoning district.

POTENTIAL IMPACTS AND MITIGATION MEASURES

The proposed project is not anticipated to adversely impact the public's enjoyment of view planes from the SIWWTP to views of urban Honolulu and the Pacific Ocean beyond. Similarly, the proposed modifications are not expected to reduce or impede views from urban Honolulu to the SIWWTP and surrounding area. The site is within the I-3, Waterfront Industrial District designation of the City and County of Honolulu, Land Use Ordinance (LUO). The existing and proposed use of the site for expansion of the wastewater treatment plant will be consistent with this zoning designation.

Although the surrounding area is used for industrial purposes there is the nearby Sand Island Recreational Park. It is anticipated that most of the uses at the recreational area will be primarily directed within the park and to the beaches along the shoreline. Although park users will be able to view portions of the proposed expansion, potential for negative adverse view impacts are not expected.

3.2 POPULATION AND SOCIOECONOMIC CHARACTERISTICS

3.2.1 POPULATION AND ECONOMY

The existing Sand Island WWTP serves metropolitan Honolulu from Moanalua-Aliamanu to Niu Valley-Paiko Peninsula and includes U.S. Army facilities at Fort Shafter and Tripler Army Medical Center. According to the East Mamala Bay Wastewater Facilities Plan, Final Environmental Impact Statement, 1993, the estimated population of the SIWWTP service area was 417,407 persons.

POTENTIAL IMPACTS AND MITIGATION MEASURES

Potential for negative adverse impacts to the area population are not anticipated. This is because the purpose of the project is to meet conditions of the NPDES permit for the SIWWTP, to provide for future wastewater treatment needs, and to replace equipment that is nearing the end of its useful life.

The greatest potential impact from the project will be economic due to the cost of constructing the proposed modifications. Cost control will be handled through the use of value engineering and design approaches that will maximize the operating efficiency of the plant. The City will benefit by providing for improvements that will reduce future litigation due to violations of the: 1) Federal Clean Water Act and related water quality operating permits such as the SIWWTP National Pollutant Discharge Elimination System (NPDES) permit; and 2) air permits.

3.2.2 LAND OWNERSHIP, SURROUNDING LAND USE, AND LAND USE DESIGNATION

The Sand Island WWTP site is located on a 50 acre parcel (**Figure 1-3**) in the Honolulu judicial district identified as Tax Map Key (TMK): 1-5-41: 5. The parcel is owned by the State of Hawaii and leased to the City and County of Honolulu under General Lease No. S-4341. SIWWTP is located in the approximate midpoint of Sand Island. To the north are maritime facilities owned by the State Department of Transportation (DOT). Further to the northwest is the Sand Island Container Yard, and to the northeast is the U.S. Coast Guard Station. To the South is the Sand Island State Recreational Park under jurisdiction of the State of Hawaii. Immediately east of the facility is the Sand Island Treatment Center (an alcohol treatment and rehabilitation facility) occupying 70,567 square feet. Further east of the site are general industrial parcels used for auto repair, metals recycling and recovery, and related light industrial uses.

The State Land Use designation of the site is Urban. City and County of Honolulu Zoning for the parcel is I-3-Waterfront Industrial District. The current State Land Use designation

and City Zoning of the site supports continued use of the site for a wastewater treatment facility.

POTENTIAL IMPACTS AND MITIGATION MEASURES

The proposed project will modify and expand the existing wastewater treatment plant and is therefore not anticipated to result in potential for negative adverse impacts to existing land uses in the area.

The nearby Sand Island Treatment Center, which has been in operation since 1960, already operates within proximity to the wastewater treatment plant.

Potential impacts to the Sand Island Treatment Center are anticipated to be caused by additional odor and noise, both during construction and during operation of the modified SIWWTP facility. Potential for adverse impacts caused by odor and noise can be addressed somewhat by use of appropriate controls to limit vehicle and equipment exhausts and noise. This will include adherence by the construction contractor to Federal and State laws and regulations governing use of dust screens, mufflers, and proper upkeep of vehicles and equipment.

The proposed project will also remove and use the northwest corner of the Sand Island Treatment Center for the new clarifiers, drainage ditch, and road. This area is presently used by the Sand Island Treatment Center for parking during weekly family meetings. The City is currently investigating use of land adjacent to the treatment center to accommodate the needed parking space.

In the future, the relocation of the Sand Island Treatment Center may be considered to prevent any continuous adverse impacts to the facility, or to expand the treatment plant. The City, however, recognizes the important service that the Sand Island Treatment Center provides to the community, and any relocation actions will be closely coordinated between the City and the Sand Island Treatment Center to minimize impacts to its residents.

Surrounding land uses including industrial, light industrial, and commercial uses are not anticipated to be adversely impacted due to existing use of the site for the current SIWWTP.

SECTION 4
RELATIONSHIP TO STATE AND COUNTY LAND USE PLANS AND POLICIES

4.1 HAWAII STATE PLAN

The Hawaii State Plan, Chapter 226, Hawaii Revised Statutes, serves as a written guide for the future long range development of the State. The Plan identifies statewide goals, objectives, policies, and priorities as policy statements to facilitate a future desired "Hawaii". The proposed project would be in conformance with the State Plan's objectives and policies for the physical environment, facility system, and sociocultural advancement through the provision of basic infrastructure necessary for public health and welfare.

> "**Section 226-13 - Objectives and policies for the physical environment-land, air, and water quality.** 226-13 (a) Planning for the state's physical environment with regard to land, air, and water quality shall be directed towards achievement of the following objectives:
>
> (1) Maintenance and pursuit of improved quality in Hawaii's land, air, and water resources.
>
> 1-5 Greater public awareness and appreciation of Hawaii's environmental resources."

"226-13 (b) To achieve the land, air, and water quality objectives, it shall be the policy of this state to:

(2) Promote the proper management of Hawaii's land and water resources.

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

(4) Encourage actions to maintain or improve aural and air quality levels, to enhance the health and well-being of Hawaii's people.

(6) Encourage design and construction practices that enhance the physical qualities of Hawaii's communities."

"Section 226-14 - Objective and policies for facility systems-in general. 226-14 (a) Planning for the state's facility systems in general shall be directed towards achievement of the objective of water, transportation, waste disposal, and energy and telecommunication systems that support statewide social, economic, and physical objectives.

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

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

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

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

"Section 226-15 Objectives and policies for facility systems-solid and liquid wastes. 226-15 (a) Planning for the state's facility systems with regard to solid and liquid wastes shall be directed towards the achievement of the following objectives:

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

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

"226-15 (b) To achieve solid and liquid waste objectives, it shall be the policy of this state to:

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

(2) Promote re-use and recycling to reduce solid and liquid wastes and employ a conservation ethic.

(3) Promote research to develop more efficient and economical treatment and disposal of solid and liquid wastes."

"Section 226-20 Objectives and policies for socio-cultural advancement-health.

226-20 (a) Planning for the state's socio-cultural advancement with regard to health shall be directed towards achievement of the following objectives:

(1) Fulfillment of basic individual health needs of the general public.

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

226-20 (b) To achieve the health objectives, it shall be the policy of this state:

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

4.2 STATE FUNCTIONAL PLANS

The proposed project is consistent with the State Health Functional Plan, 1989, which provides for further identification of objectives, policies, and implementing actions to address statewide needs, problems and issues relative to the provision of health services and health related facilities for the State. Objectives, policies, and implementing actions which support this project include, but are not limited to, the following:

"5. **Objective: Environmental Programs to Protect and Enhance the Environment.** Continued development of new environmental protection and health services programs to protect, monitor, and enhance the quality of life in Hawaii.

5.A. Policy: Air, Land, and Water Quality Programs.
The DOH will develop and implement new programs to prevent degradation and enhance the quality of Hawaii's air, land and water.
5.A.3 Implementing Action: Develop and implement a comprehensive Recreational Water Quality Monitoring Strategy.
5.A.4 Implementing Action: Develop and implement a Non-Point Source Pollution Program to protect recreational and other surface waters."

The proposed project will facilitate the monitoring of water quality at SIWWTP and the adjoining Sand Island State Recreational Park through adherence to water quality monitoring requirements as part of the National Pollutant Discharge Elimination System (NPDES) permit.

4.3 COASTAL ZONE MANAGEMENT (CZM)

The State Department of Business, Economic Development, and Tourism (DBEDT), through the State Planning Office administers the Federal CZM program in Hawaii. The proposed project modifications do not directly involve use of Federal lands or agency involvement, which would ordinarily require the filing of a CZM Federal Consistency Review. However, the proposed project will involve lands within Hawaii's coastal zone. The proposed project is consistent with the Hawaii Coastal Zone Management Program in the following areas:

"Recreational Resources
Objective: Provide coastal recreational opportunities accessible to the public."

The proposed project will be consistent with the objective of maintaining the coastal recreational resources of the adjacent Sand Island State Recreational Park. Public access and use of the park will remain open and unaffected by operations of SIWWTP.

Historic Resources

Objective: Protect, preserve, and where desirable, restore those natural and man-made historic and pre-historic resources in the coastal zone management area that are significant in Hawaiian and American history and culture.

The project site is comprised of Fill Land, mixed (FL), and has been previously disturbed during construction of the existing SIWWTP. No archaeological sites are known within the area and none are expected due to the nature of Sand Island which was primarily constructed of fill material. No potential for negative impacts are therefore anticipated or expected.

Scenic and Open Resources

Objective: Protect, preserve and, where desirable, restore or improve the quality of coastal scenic and open space resources.

The proposed project calls for construction of facilities which are not anticipated to affect the public's enjoyment of scenic vistas or view planes from the SIWWTP to views of urban Honolulu and the Pacific Ocean. The proposed modifications are also not expected to reduce or impede views from urban Honolulu to the SIWWTP and the surrounding area. The site is currently used for a wastewater treatment plant. Although the surrounding area is used for industrial purposes there is the nearby Sand Island Recreational Area. Most of the uses at the recreational area are primarily directed within the park and to the beaches along the shoreline. No potential negative adverse impacts to views are therefore anticipated or expected.

Coastal Ecosystems

Objective: Protect valuable coastal ecosystems from disruption & minimize adverse impacts on all coastal ecosystems.

The proposed project will not adversely impact the existing ecosystem of Sand Island or the surrounding nearshore waters. Monitoring of water quality will continue to be conducted as part of the NPDES permit for the SIWWTP facility to ensure acceptable standards of the Federal Environmental Protection Agency (EPA) and State DOH.

The existing land portion of the site also does not provide habitat for endangered flora or fauna species.

Economic Uses

Objective: Provide public or private facilities and improvements important to the State's economy in suitable locations.

The proposed activity will require expenditure of City and County of Honolulu funds for development. The requirement for this expenditure is the result of a prior NPDES permit, as well as need to maintain adequate and sufficient levels of wastewater treatment service for the area extending from Moanalua-Aliamanu to Niu Valley and Paiko Peninsula. The project modifications when completed, will provide for the safe and effective treatment of municipal wastewater necessary for the public health and welfare.

Coastal Hazards

Objective: Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion, and subsidence.

The project site is designated as lying within Zone X and Zone A, of the Flood Insurance Rate Map, of the Federal Emergency Management Agency (FEMA). Zone X

is an area which is identified as lying outside the 500-year flood zone, and Zone A is an area where no base flood elevations have been determined.

The project site is located outside the tsunami innundation zone.

Managing Development

Objective: Improve the development review process, communication, and public participation in the management of coastal resources and hazards.

The proposed project conforms to all State and County land use designations. Permits required for the proposed action have been identified and are listed in Section 8. Public notification of this EA will also be provided by publication of the proposed action in the Office of Environmental Quality Control (OEQC) Bulletin.

4.4 CITY AND COUNTY OF HONOLULU GENERAL PLAN AND DEVELOPMENT PLAN

The City and County of Honolulu General Plan and Development Plan for the area covers desired population, land uses, public infrastructure, environmental concerns, and cultural resources. Under the Primary Urban Center (PUC) Development Plan, the proposed infrastructure facility use of the land will be consistent with the existing I-3 - Waterfront Industrial District zoning of the site.

The proposed project is also consistent with the wastewater treatment plant modification symbol as indicated on the Primary Urban Center Development Plan Public Facilities Map. A Development Plan Amendment, therefore, will not be required (Dept. of Planning and Permitting letter to Dept. of Design and Construction, March 19, 2001).

4.5 CITY AND COUNTY OF HONOLULU ZONING

TMK: 1-5-41:05 is zoned I-3 - Waterfront Industrial District. Public uses and structures are a permitted use subject to development standards which include minimum lot sizes and setbacks. Because there are no adjoining residential, apartment, or resort uses, yards will not be required. The floor area ratio, or the ratio of floor area to total area of the zoning lot, is limited to a maximum of 2.5, with a maximum height restriction of 60 feet for structures.

According to the City and County of Honolulu, Land Use Ordinance (LUO), the proposed facility is considered a public use. The LUO indicates that a Conditional Use Permit (CUP) - Minor, would ordinarily be required for a utility installation. However, because the proposed modifications are to an existing facility which is considered a public use, a new permit will not be necessary (Dept. of Planning and Permitting letter to Dept. of Design and Construction, March 19, 2001).

The entirety of Sand Island is within the City and County of Honolulu, Special Management Area (SMA). A SMA permit for the proposed modifications will be filed as part of the proposed project. Information that will submitted as part of the SMA permit will include, but not be limited to: 1) a site plan identifying all permitted uses and structures on the lot; and, 2) building elevations and sections with dimensions and heights meeting appropriate I-3 (Waterfront Industrial District) height requirements.

SECTION 5
ALTERNATIVES TO THE PROPOSED ACTION

There are three alternatives to the proposed action:

- No action;
- Construction of Secondary Treatment Facility; and,
- Expansion of the existing primary treatment facility.

5.1 NO ACTION ALTERNATIVE

The No Action alternative would involve no further action to upgrade or modify the existing SIWWTP. The No Action alternative is anticipated to result in the following:

- There would be failure to address requirements of the NPDES permit for the SIWWTP. According to the Environmental Protection Agency (EPA), there would also be failure to accommodate the flows caused by a 2-year, 6-hour storm event;
- There would be failure to meet regulations of EPA and the State Department of Health (DOH) which calls for implementation of capacity upgrades when wastewater flows reach 90 percent of the design capacity of the plant. Measured average annual flows have reached 80 mgd, well over 90 percent of the design capacity of the facility. Current flows, due to extended dryer weather in recent years, have averaged 74 mgd, slightly below the 90 percent criteria;
- There would be failure to meet the future hydraulic requirement which requires the facility to accommodate peak flows of 271 mgd, up from the existing estimated 200 mgd;

- There would be failure to provide for improved handling of potential air pollutants through the new fluidized bed incinerator which is much cleaner and operates with lower emission levels than the existing multiple hearth type incinerator;
- No further action would lead to eventual overloading and failure of equipment and machinery, some of which are approaching the end of their design life expectancy for effective and efficient operation. Failure of various treatment processes within the plant would lead to increased incidences of improperly or untreated effluent being released into offshore State waters. The release of improperly or untreated effluent would constitute a violation of existing NPDES permit conditions as well as regulations of Hawaii Administrative Rules (HAR), Chapter 11-54, Water Quality Standards, and the Federal Clean Water Act (CWA), and could result in fines of $22,400, or more, per day. Environmental consequences could also involve increased health and safety risks to the public and marine life in the form of contaminated coastal and offshore waters; and,
- The failure of equipment approaching the design life expectancy would require additional maintenance and repair. Costs associated with use of dilapidated and substandard equipment can be expected to eventually exceed the cost of replacement. This is an inefficient and unsatisfactory use of the public treasury.

The No Action Alternative, in summary, would result in failure to meet regulations and legal requirements of the NPDES permit; pose increased risk to public health, safety and welfare; result in potential for adverse impacts to the environment; and involve higher operating costs while failing to meet Federal and State regulations. Impacts including resultant legal penalties associated with this alternative, therefore, discount it from further consideration.

5.2 SECONDARY TREATMENT FACILITY ALTERNATIVE

The Secondary Treatment Facility Alternative would involve major expansion of the current Sand Island site with demolition of portions of the existing facility to accommodate new construction. New equipment, machinery, and personnel would be required to operate the facility. In addition, the Secondary Treatment Facility Alternative would:

- Constitute an over-design of treatment as this would be well in excess of regulatory requirements of both the EPA and State DOH;
- Require an estimated construction cost of nearly $1 billion dollars; and,
- Require a major capital expenditure cost to the City and County of Honolulu which would probably involve high taxpayer or user fee subsidization.

The conditions of the NPDES permit and governmental regulations of the EPA and State DOH do not now require that SIWWTP be upgraded to secondary treatment levels. Although the secondary upgrade would provide improved treatment of wastewater, a sufficient alternative exists that would meet regulatory and environmental requirements, while fulfilling the mandate of the City and County of Honolulu to provide infrastructure services that are safe, effective, and represent an optimum use of public resources.

5.3 PREFERRED ALTERNATIVE - SAND ISLAND WASTEWATER TREATMENT PLANT MODIFICATIONS AND EXPANSION

The preferred alternative involves modifications and expansion of the existing SIWWTP which will provide for improved primary treatment. The estimated $200 to $300 million dollar construction cost will provide improved handling of wastewater flows within the tributary area from Niu Valley to Aliamanu, and provide an environmentally effective and cost efficient solution to long term wastewater treatment needs at Sand Island. The facility modifications are based on the Preliminary Engineering Report for the Sand Island Wastewater Treatment Plant Modifications, Unit 1, Phase 2A, September 1999, and the

Design Report for the Sand Island Wastewater Treatment Plant Expansion, October 2000. Because this alternative will fulfill conditions of the NPDES permit; regulatory requirements of the EPA and State DOH; promote public health, welfare, and safety of the environment; and, provide the most efficient use of public resources, it is the preferred alternative.

SECTION 6
RELATIONSHIP BETWEEN LOCAL SHORT TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG TERM PRODUCTIVITY

Development of the project will commit the necessary construction effort and fiscal resources in order to complete the project. Development of the proposed project modifications will provide for improved operating characteristics of the SIWWTP which is important not only for public health and welfare, but to the provision of a basic infrastructure service which makes possible the conditions for continued economic development. Construction of the facility modifications will take place within an existing wastewater treatment facility and will not constrain uses within or surrounding the site. This long term use of the site for public infrastructure purposes will provide for the enhancement of long term productivity through the efficient use of both the public treasury and the land resources of Sand Island.

SECTION 7
IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES BY THE PROPOSED ACTION

Development of the project will involve the irretrievable loss of certain material and financial resources. However, the costs associated with the use of these resources should be evaluated in light of ongoing benefits through the continued use of the site to meet the major portion of Honolulu's wastewater treatment needs.

Necessary taxpayer dollars will be used in the purchase of construction materials and labor to complete the proposed modifications. Materials and labor will be used for construction purposes. Labor will also be necessary for construction and operation of the completed modifications. While reuse for most of these resources is not practicable, payments for labor will benefit the local economy during project development and during operation of the proposed modifications.

SECTION 8
REQUIRED PERMITS AND APPROVALS

The following permits and approvals are expected to be required to allow for development of the proposed project:

FEDERAL

Department of the Army Corps of Engineers

- Wetlands coordination, as required

STATE OF HAWAII

Department of Health

- NPDES Notice of Intent (NOI) Form C - Construction Stormwater Discharges
- NPDES Notice of Intent (NOI) Form G - Discharges Involving Construction Dewatering
- NPDES Notice of Intent (NOI) Form F - Hydrotesting Discharges
- Community Noise Permit/Community Noise Variance
- Construction Plan Review and Approval
- Air Quality Permit (update of existing permit)

Department of Transportation

- Right of Way Coordination (for relocation of driveway)

CITY AND COUNTY OF HONOLULU

Department of Planning and Permitting

- Special Management Area Use Permit
- Construction Plan Review and Approval (including Grading and Erosion Control Plan Review as appropriate with concurrent review by Department of Design and Construction)
- Building Permit

- Grading, Grubbing and Stockpiling Permit
- Construction Dewatering Permit
- Permit for (Clarifier) Tank Installation
- Flood District Certification (if required)

Honolulu Fire Department

- Application for Tank Installation

SECTION 9
FINDINGS AND REASONS
SUPPORTING DETERMINATION

In accordance with the content requirements of Chapter 343, Hawaii Revised Statutes, and the significance criteria in Section 11-200-12 of Title 11, Chapter 200, it is anticipated that this project will have no significant adverse impact to water quality, air quality, existing utilities, noise, archaeological sites, or wildlife habitat. All anticipated impacts will be temporary and will not adversely impact the environmental quality of the area. According to the significance criteria:

1. *Irrevocable commitment to loss or destruction of natural or cultural resources* -

   The proposed project is not expected to adversely impact any natural or cultural resources. The proposed activity will involve use of fill land on Sand Island. This area contains the existing wastewater treatment plant which has already been subject to extensive grading and land disturbance.

2. *Curtailment of the range of beneficial uses of the environment* -

   The proposed project will involve use of disturbed areas of land within the existing SIWWTP site. No curtailment of the range of beneficial uses that may be exercised at the site are therefore expected. With or without the project, the SIWWTP will continue to handle a major part of the wastewater processing needs of the City and County of Honolulu.

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

The proposed project is consistent with the environmental policies, goals and guidelines expressed in Chapter 343, HRS, and the National Environmental Policy Act. Potential sources of adverse impacts have been identified and appropriate measures have been developed to either mitigate or minimize potential impacts to negligible levels.

4. *Substantially affects the economic or social welfare of the community or state* -

The proposed project is expected to enhance the future long term stability of the City and State through the provision of basic public works infrastructure necessary to the health, welfare, and future growth of the community and region.

5. *Substantially affects public health* -

The proposed project will be constructed in accordance with Federal, State, and City and County of Honolulu, rules and regulations governing public safety and health. Concerns involving air, water, noise, and traffic impacts have been addressed in this EA document by use of appropriate mitigation measures as described. Upon completion the proposed modifications will improve public health through improved treatment of wastewater.

6. *Involves substantial secondary impacts, such as population changes or effects on public facilities* -

The proposed project will involve the construction of modifications necessary for improved operations of a wastewater treatment facility which is consistent with the

General Plan, Population, Objectives and Policies. Although the proposed project will involve employment, however, it will not generate new population growth. Public infrastructure requirements, including power and water services, which will be utilized as part of this proposal have been evaluated and appropriate actions will be made to ensure no negative adverse impacts to the public.

7. *Involves substantial degradation of environmental quality* -

The proposed project will be developed in accordance with the environmental polices of Chapter 343, HRS, and the National Environmental Policy Act. The project will also utilize an existing site with minimal development requirements. No degradation of environmental quality is, therefore, anticipated or expected.

8. *Is individually limited but cumulatively has considerable effects on the environment, or involves a commitment for larger actions* -

The proposed project is primarily intended to meet requirements of the SIWWTP NPDES permit for treatment of wastewater. The cumulative effect of implementing improvements related to the NPDES permit will result in improved wastewater effluent quality while meeting the anticipated needs of a major portion of Honolulu's population. Based on the description of the proposed action and mitigation measures identified in this document, potential for considerable adverse environmental effects and a commitment for larger actions, are neither anticipated nor expected.

9. *Substantially affects a rare, threatened or endangered species or its habitat* -

There are no endangered flora or fauna species within the project site.

10. *Detrimentally affects air or water quality or ambient noise levels* -

As required, any potential impacts to air, water quality, or noise levels will be addressed through the implementation of appropriate mitigation measures described in this document.

11. *Affects or is likely to suffer damage by being located in an environmentally sensitive area, such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, freshwater, or coastal waters* -

The proposed activity will be undertaken within an existing industrial area which is home to SIWWTP. The site contains no especially sensitive environmental characteristics which would detract from continued use for this activity.

12. *Substantially affects scenic vistas and view planes identified in county or state plans or studies* -

The proposed project is not expected to adversely affect the public's enjoyment of scenic vistas or view planes from the SIWWTP site to views of urban Honolulu and the Pacific Ocean beyond. The project is consistent with the industrial zoning designation of the site which allows for a wastewater treatment facility. The proposed project will also be consistent with the building height restriction of 60 feet.

Although the surrounding area is used for industrial purposes there is the nearby Sand Island Recreational Park. It is anticipated that most of the uses at the recreational area will be primarily directed within the park and to the beaches along the shoreline. Although park users will be able to view portions of the proposed expansion, potential for negative adverse view impacts are not expected.

13. *Requires substantial energy consumption -*

The facilities identified in this project will utilize the same or less energy than the existing facilities. The flotator clarifier, a high source of energy usage, will be removed. The primary clarifiers, which are to replace the flotator clarifiers will use substantially less energy. The new incinerator and conditioning systems are also expected to use substantially less energy than the existing systems. The City is also presently evaluating the potential to convert bio-gas to electricity. This type of conversion facility will be pursued for this project if it is deemed cost effective.

Based on the above evaluation and the information contained in this Environmental Assessment it is anticipated that an Environmental Impact Statement (EIS) will not be required and that a recommended Finding of No Significant Impact (FONSI) be published for this project.

SECTION 10

AGENCIES, ORGANIZATIONS AND INDIVIDUALS CONSULTED

10.1 FEDERAL AGENCIES

Environmental Protection Agency, Region IX

Federal Aviation Administration (height clearance)

U.S. Army, Corps of Engineers

10.2 STATE AGENCIES

Department Business, Economic Development and Tourism

- State Planning Office

Department of Health

- Clean Air Branch
- Clean Water Branch
- Solid and Hazardous Waste Branch
- Waste Water Branch

Department of Land and Natural Resources

- Land Division
- State Parks Division

Department of Transportation

- Harbors Division
- Right of Way Branch

Office of Environmental Quality Control (OEQC)

10.3 CITY AND COUNTY OF HONOLULU

Department of Environmental Services

Department of Parks and Recreation

Department of Planning and Permitting

Department of Transportation Services

Board of Water Supply

Department of Facility Maintenance

10.4 PRIVATE

Sand Island Treatment Center

Sand Island Business Association

Hawaiian Electric Company

Kalihi-Palama Neighborhood Board No. 15

SECTION 11
COMMENTS AND RESPONSES TO THE DRAFT ENVIRONMENTAL ASSESSMENT

This section reserved for comments and responses to comments to the Draft EA.

01-0743

U.S. Department of Transportation
Federal Aviation Administration

Western-Pacific Region
Real Estate and Utilities Team, AHNL-548

P. O. Box 50109
Honolulu, Hawaii 96850-5000

01 APR -5 PM 1:29

April 3, 2001

Ms. Rae M. Loui, P. E.
Director, Department of Design
and Construction
City and County of Honolulu
650 South King Street, 11th Floor
Honolulu, HI 96813

Dear Ms. Loui:

Your letter of February 13, 2001, requested review and comment of your Draft Environmental Assessment for the "Sand Island Wastewater Treatment Plant Modifications and Expansion" project.

The Federal Aviation Administration has reviewed the subject document and has no comments or concerns.

We appreciate this opportunity to review your project. Please contact me at 541-1236, if there are any questions.

Sincerely,

Darice B. N. Young
Realty Contracting Officer

DEPARTMENT OF DESIGN AND CONSTRUCTION

CITY AND COUNTY OF HONOLULU

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JEREMY HARRIS
MAYOR

RAE M. LOUI, P.E.
DIRECTOR

GEORGE T. TAMASHIRO, P.E.
DEPUTY DIRECTOR

ERIC G. CRISPIN, AIA
ASSISTANT DIRECTOR

WWDE.PD 01-182

April 12, 2001

Mr. Darice B.N. Young
Realty Contracting Officer
Federal Aviation Administration
P.O. Box 50109
Honolulu, Hawaii 96850

Dear Mr. Young:

Subject: Draft Environmental Assessment (DEA)
Sand Island Wastewater Treatment Plant (SIWWTP) Modifications and Expansion

Thank you for your response letter dated April 3, 2001. We acknowledge your review of the subject DEA and that you have no comments or concerns.

We appreciated your review of our project DEA. Should you have any further comments please contact Ms. Cindy Masuoka of our office at 527-5843.

Very truly yours,

RAE M. LOUI, P.E.
Director

cc: Leighton Lum, Ph.D., RMTC

01-0767 WDE

BENJAMIN J. CAYETANO
GOVERNOR

BRIAN K. MINAAI
DIRECTOR

DEPUTY DIRECTORS
GLENN M. OKIMOTO
JADINE Y. URASAKI

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

IN REPLY REFER TO:
HAR-ED
1943.01

April 5, 2001

Ms. Rae M. Loui, P. E., Acting Director
Department of Design and Construction
City and County of Honolulu
650 South King Street, 11th Floor
Honolulu, Hawaii 96813

Dear Ms. Loui:

Subject: Sand Island Wastewater Treatment Plant
Modifications and Expansion
Draft Environmental Assessment

Thank you for allowing us to review the Draft Environmental Assessment for the subject project. We have the following comments for your consideration.

1. The proposed modifications appear to be confined within the limits of the existing facility. Thus, they should not impact our new annex facility or operations of our tenants. However, we would appreciate a copy of updated schedules to keep apprised of impending work to anticipate potential impacts to traffic due to construction.

2. Please provide us a copy of the Findings of No Significant Impact (FONSI) upon completion.

If you have any questions, please call Ms. Angela Kunioka of the Harbors Engineering Design Section at 587-1959.

Very truly yours,

Thomas Fujikawa
Harbors Administrator

DEPARTMENT OF DESIGN AND CONSTRUCTION

CITY AND COUNTY OF HONOLULU

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JEREMY HARRIS
MAYOR

RAE M. LOUI, P.E.
DIRECTOR

GEORGE T. TAMASHIRO, P.E.
DEPUTY DIRECTOR

ERIC G. CRISPIN, AIA
ASSISTANT DIRECTOR

WWDE.PD 01-196

April 16, 2001

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

Attention: Ms. Angela Kunioka

Dear Mr. Fujikawa:

Subject: Draft Environmental Assessment (DEA)
Sand Island Wastewater Treatment Plant (SIWWTP)
Modifications and Expansion

Thank you for your response letter dated April 5, 2001, concerning the subject DEA. We acknowledge that the proposed project will remain within the limits of the existing SIWWTP site. A copy of our updated project schedules and Finding of No Significant Impact (FONSI) will be provided to your office.

We appreciated your review of the subject document. Should you have any future comments please contact Ms. Cindy Masuoka of our office at 527-5843.

Very truly yours,

RAE M. LOUI, P.E.
Director

cc: Leighton Lum, Ph.D., RMTC

01-0732

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU
PACIFIC PARK PLAZA • 711 KAPIOLANI BOULEVARD, SUITE 1200 • HONOLULU, HAWAII 96813
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01 APR -5 PM 12:38

JEREMY HARRIS
MAYOR

CHERYL D. SOON
DIRECTOR

GEORGE "KEOKI" MIYAMOTO
DEPUTY DIRECTOR

April 3, 2001

TP2/01-00718R
TPD01-00070

MEMORANDUM

TO: RAE M. LOUI, P.E., DIRECTOR
DEPARTMENT OF DESIGN AND CONSTRUCTION

FROM: CHERYL D. SOON, DIRECTOR

SUBJECT: SAND ISLAND WASTEWATER TREATMENT PLANT MODIFICATIONS AND EXPANSION

In response to your February 13, 2001 memorandum, the draft environmental assessment (EA) for the subject project was reviewed. According to the draft EA, the access to the project site is directly from Sand Island Parkway, which is under the jurisdiction of the State of Hawaii Department of Transportation. Therefore, the project should have minimal impact on roadways under City jurisdiction.

One of the projects being proposed by this department is a Sand Island Scenic Parkway that would be located along the southern boundary of the wastewater treatment plant. According to the information provided, the subject project improvements are not within the alignment of the Sand Island Scenic Parkway and would, therefore, not have an impact on plans for this roadway. We would appreciate close coordination on projects involving the wastewater treatment plant with this department.

Should you have any questions regarding this matter, please contact Faith Miyamoto of the Transportation Planning Division at Local 6976.

Cheryl D Soon
CHERYL D. SOON

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 11TH FLOOR
HONOLULU, HAWAII 96813
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JEREMY HARRIS
MAYOR

RAE M. LOUI, P.E.
DIRECTOR

GEORGE T. TAMASHIRO, P.E.
DEPUTY DIRECTOR

ERIC G. CRISPIN, AIA
ASSISTANT DIRECTOR

April 12, 2001

WWDE.PD 01-181

MEMORANDUM

TO: MS. CHERYL D. SOON, DIRECTOR
DEPARTMENT OF TRANSPORTATION SERVICES

ATTN: MS. FAITH MIYAMOTO

FROM: RAE M. LOUI, P.E., DIRECTOR
DEPARTMENT OF DESIGN AND CONSTRUCTION

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (DEA)
SAND ISLAND WASTEWATER TREATMENT PLANT (SIWWTP)
MODIFICATIONS AND EXPANSION

Thank you for your response letter dated April 3, 2001. We acknowledge your review of the subject DEA and the following:

- Access to the project site is from the Sand Island Parkway. There are no new plans to modify the existing access to the site;
- Per your review the proposed project is not within the alignment of the planned Sand Island Scenic Parkway; and,
- The Department of Design and Construction will continue to coordinate plans concerning modification of facilities at SIWWTP with your Department.

We appreciated your review of our project DEA. Should you have any further comments please contact Ms. Cindy Masuoka of our office at 527-5843.

cc: Leighton Lum, Ph.D., RMTC

Hawaiian Electric Company, Inc. • PO Box 2750 • Honolulu, HI 96840-000

GEN-6 (EA/EIS)

01-0651

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DESIGN
DIV
[illegible]

March 22, 2001

City and County of Honolulu
Department of Design and Construction
650 South King Street
Honolulu, Hawaii 96813

Attention: Ms. Cindy Masuoka

Subject: **Sand Island Wastewater Treatment Plant**

Thank you for the opportunity to comment on your January 2001 EA for the Sand Island Wastewater Treatment Plant, proposed by the City and County of Honolulu Department of Design and Construction. We have reviewed the subject document and would like to mention that HECO will be developing a new distribution substation to serve the increasing load in the area. In addition, two new 46kV circuits will be extended from Sand Island substation to the new substation.

Our point of contact for this project, and the originator of these comments, is Ronald Wong (543-7714) principal planning engineer. I suggest your staff and consultants deal directly with Ronald to coordinate HECO's continuing input on this project.

Sincerely,

Kirk Tomita
Senior Environmental Scientist

cc: R. Wong

OEQC

DEPARTMENT OF DESIGN AND CONSTRUCTION

CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11TH FLOOR
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JEREMY HARRIS
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DIRECTOR

GEORGE T. TAMASHIRO, P.E.
DEPUTY DIRECTOR

ERIC G. CRISPIN, AIA
ASSISTANT DIRECTOR

WWDE.PD 01-187

April 12, 2001

Mr. Kirk Tomita
Senior Environmental Scientist
Hawaiian Electric Company, Inc.
P.O. Box 2750
Honolulu, Hawaii 96840

Dear Mr. Tomita:

Subject: Draft Environmental Assessment (DEA)
Sand Island Wastewater Treatment Plant (SIWWTP) Modifications and Expansion

Thank you for your response letter dated March 22, 2001, concerning the subject DEA. We acknowledge your comment that HECO will be developing a new distribution substation to serve increasing load in the area. Two new 46 kilovolt (kV) circuits will be extended from Sand Island substation to the new substation. We will coordinate electrical power requirements with Mr. Ronald Wong, Principal Planning Engineer, HECO, to ensure uninterrupted service.

We appreciated your review of the subject document. Should you have any future comments please contact Ms. Cindy Masuoka of our office at 527-5843.

Very truly yours,

RAE M. LOUI, P.E.
Director

cc: Leighton Lum, Ph.D., RMTC

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET • HONOLULU, HAWAII 96813
TELEPHONE: (808) 523-4414 • FAX: (808) 527-6743 • INTERNET: www.co.honolulu.hi.us

'01 MAR 19 P3:17

JEREMY HARRIS
MAYOR

RANDALL K. FUJIKI, AIA
DIRECTOR

LORETTA K C CHEE
DEPUTY DIRECTOR

2001/CLOG-732(RY)

March 19, 2001

MEMORANDUM

TO: RAE M. LOUI, P.E., DIRECTOR
DEPARTMENT OF DESIGN AND CONSTRUCTION

FROM: for RANDALL K. FUJIKI, AIA, DIRECTOR
DEPARTMENT OF PLANNING AND PERMITTING

SUBJECT: SAND ISLAND WASTEWATER TREATMENT PLANT MODIFICATIONS AND EXPANSION DRAFT ENVIRONMENTAL ASSESSMENT, SAND ISLAND, HONOLULU, OAHU
TAX MAP KEY 1-5-041: 005

We have reviewed the Draft Environmental Assessment (DEA) for the modification and expansion of the Sand Island Wastewater Treatment Plant (SIWWTP) and have the following comments:

SECTION 1 INTRODUCTION

Section 1.1 - The Final EA should be expanded to more throughly describe the existing facilities and the specific requirements of the NPDES permit that this project needs to comply with.

SECTION 2 PROJECT DESCRIPTION

Section 2.1.2 - This section should be expanded to provide estimates on the amount of grading and excavation required for the proposed project. Will plant operation be affected?

Section 2.1.3 - The utility requirements and adequacy of the existing utilities should be discussed.

Section 2.1.5 - Will the proposed project result in an increase of liquid waste generated by the facility?

SECTION 3 AFFECTED ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATION MEASURES

Section 3.1.3 - The Federal Insurance Rate Map (FIRM) Number (effective November 20, 2000) should be provided.

> (Note: A flood determination application No. 98/FD-8 has been accepted by the Department of Planning and Permitting (DPP). Based on the flood study prepared by the U.S. Army Corps of Engineers, the portion of the parcel designated on the FIRM as Zone A, is located in a Flood Fringe District with a regulatory flood elevation which ranges from 5.9 feet to 5.7 feet above mean sea level. How surface runoff and drainage at the project site is accommodated and whether any drainage improvements are proposed should also be addressed.)

Section 3.1.5 - This section should be expanded to discuss where and how the effluent from the SIWWTP will be discharged and the effect on water quality. Are there any known rare, threatened or endangered species living in the outfall area?

Section 3.1.11 - Scenic resources in the coastal zone management area should be identified and the impact of the proposed project on scenic views discussed. The heights, bulk and design of the proposed structures should be addressed.

Section 3.2.2 - Please be aware that according to our records (see attached 9/9/94 DLU letter), the Sand Island Treatment Center (alcohol treatment and rehabilitation facility) is a nonconforming use and subject to the nonconforming use provisions of the Land Use Ordinance (LUO). Relocation of the facility within the site will not be permitted without a zoning variance.

SECTION 4 RELATIONSHIP TO STATE AND COUNTY LAND USE PLANS AND POLICIES

Section 4.4 - The project is consistent with the wastewater treatment plant modification symbol shown on the Primary Urban Center Development Plan Public Facilities Map and as such, an amendment to said public facilities map is not required.

Section 4.5 - The SIWWTP is considered a public use under the LUO. Therefore, a Conditional Use Permit-Minor (CUPm) is not required.

The project site is within the Special Management Area (SMA) and an SMP is required. Therefore, if the intent is that the Final EA will satisfy the requirements of Chapter 25, ROH, it should include the following drawings/plans:

1. A site plan identifying all permitted uses and structures on the lot.

2. Building elevations and sections with dimensions and heights meeting appropriate district height requirements.

If you have any questions, please contact Raymond Young of our staff at 527-5839.

RKF:lh
Attach.
80514, 80545

DEPARTMENT OF DESIGN AND CONSTRUCTION

CITY AND COUNTY OF HONOLULU

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JEREMY HARRIS
MAYOR

RAE M. LOUI, P.E.
DIRECTOR

GEORGE T. TAMASHIRO, P.E.
DEPUTY DIRECTOR

ERIC G. CRISPIN, AIA
ASSISTANT DIRECTOR

WWDE.PD 01-183

April 16, 2001

MEMORANDUM

TO: MR. RANDALL K. FUJIKI, AIA, DIRECTOR
DEPARTMENT OF PLANNING AND PERMITTING

FROM: RAE M. LOUI, P.E., DIRECTOR
DEPARTMENT OF DESIGN AND CONSTRUCTION

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (DEA)
SAND ISLAND WASTEWATER TREATMENT PLANT (SIWWTP)
MODIFICATIONS AND EXPANSION

Thank you for your response letter dated March 19, 2001, concerning the subject DEA. We have prepared the following itemized response to your comments:

1. A description of existing facilities at the SIWWTP will be provided in the forthcoming Final Environmental Assessment.

The Preliminary Engineering Report for the Sand Island Wastewater Treatment Plant Modifications, Unit 1, Phase 2A, Honolulu, Oahu, Hawaii, September 1999, which is cited in the references section of the DEA, provides a detailed description of both existing facilities at SIWWTP and requirements for compliance with the National Pollutant Discharge Elimination System (NPDES) Permit.

A summary of the major NPDES treatment requirements include:

Item	Biochemical Oxygen Demand	Suspended Solids
Monthly Removals	≥30%	≥60%
Monthly Ave. Effluent Concentration Limit	116 mg/l	69 mg/l
Weekly Average Effluent Concentration Limit	160 mg/l	104 mg/l

2. The grading requirements are anticipated to be minimal because the site is relatively flat.

   The present excavation requirement estimate is 125,000 cubic yards. This quantity is considerable because excavation is required for the construction and installation of underground piping, a Headworks structure, two clarifiers, a trickling filter, a secondary clarifier, dewatering systems, pump station, and other various structures. The project's design has and will attempt to limit the quantity of excavation to the least amount required, and the above quantity may increase or decrease as the design is developed.

   Precautions and alternate access routes will be provided to prevent adverse impacts to Plant operations from grading and excavation activities.

3. Utility requirements and adequacy of existing utilities - Adequacy of existing utilities for the proposed Unit 1, Phase 2A project has been coordinated with the Honolulu Board of Water Supply (BWS) and Hawaiian Electric Company (HECO). According to both parties there is sufficient capacity to accommodate the proposed project. A new onsite HECO electrical substation will provide sufficient step down power. Water meter modifications will also be made in conjunction with comments from BWS.

4. Increase of liquid waste generated by the facility - The treatment capacity will increase from the current 82 million gallons per day (mgd) to 90 mgd by the year 2020 (projected).

5. Surface drainage - Surface drainage will be accomplished by replacing an existing unlined ditch with a lined ditch. Surface drainage will enter the proposed ditch through existing culverts (90% of drainage) and curb and gutter drains. The proposed ditch will drain into an existing man-made ditch which eventually discharges into Honolulu Harbor.

6. Effluent Water Quality - The proposed project will involve improvements to the processing of waste water flows in accordance with conditions of the existing SIWWTP NPDES Permit. Water quality, therefore, will be in accordance with applicable Federal, State, and City and County of Honolulu regulations. There are no known rare, threatened or endangered species that will be adversely affected by the proposed project.

   The effluent will be discharged through the existing 84 inch ocean outfall. Additional specific information on the outfall and effluent water quality may be obtained from the SIWWTP Disinfection Facility and Effluent Pump Station

Environmental Assessment, September 2000, and the East Mamala Bay Wastewater Facilities Plan, Final Environmental Impact Statement, December 1993, which is referenced in our Draft EA.

7. Scenic Resources - As indicated in Section 3.1.11, the site is located in the I-3, Waterfront Industrial District designation of the City and County of Honolulu, Land Use Ordinance (LUO). All proposed structural characteristics including design, height limitations, setbacks, and front yard requirements, will be in accordance with the LUO. Existing structures at the site are approximately 30 to 80 feet high. Dimensions of major proposed structures will be as follows (all heights are from grade):

Flotator Clarifiers:	±150 feet in diameter x ±30 feet in height
Trickling Filters:	±110 feet in diameter x ±55 feet in height
Secondary Clarifiers:	±100 feet in diameter x ±30 feet in height

Heights for all structures will be limited to 60 feet, which is the maximum permissible in the I-3 zoning district.

As noted in the DEA, although the surrounding area is used for industrial purposes, there is the nearby Sand Island Recreational Park. It is anticipated that most of the users will be primarily directed within the park and to the beaches along the shoreline. It is expected that while park users will be able to view portions of the proposed SIWWTP expansion, potential for negative adverse impacts to scenic views are not anticipated. This is primarily because mauka views from the park toward the SIWWTP modification and expansion area will continue to be of the SIWWTP and other industrial developments located beyond.

8. Sand Island Treatment Center - We acknowledge that the treatment center is subject to provisions of the LUO. Relocation within the site, therefore, will require filing and approval of a zoning variance permit application.

9. Development Plan Public Facilities Designation and LUO Public Use Facility - We acknowledge that the proposed project will not require a DP Amendment or a Conditional Use Permit - Minor, since SIWWTP is an existing designated public use facility.

10. We acknowledge the requirement for a SMA permit and have filed a permit application with your Department. A site plan and project description identifying necessary informational requirements will be provided.

We appreciated your review of the subject document. Should you have any future comments please contact Ms. Cindy Masuoka of our office at 527-5843.

cc: Leighton Lum, Ph.D., RMTC

01-0584 W06

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

01 MAR 14 PM 12:

March 9, 2001

TO: RAE M. LOUI, ACTING DIRECTOR
DEPARTMENT OF DESIGN AND CONSTRUCTION

FROM: FOR CLIFFORD S. JAMILE, MANAGER AND CHIEF ENGINEER

SUBJECT: YOUR TRANSMITTAL OF FEBRUARY 13, 2001 OF THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE SAND ISLAND WASTEWATER TREATMENT PLANT MODIFICATIONS AND EXPANSION, HONOLULU, OAHU, TMK: 1-5-41: 05

Thank you for the opportunity to review the subject document for the proposed wastewater treatment plant improvements.

We have the following comments to offer:

1. The existing off-site water system is presently adequate to accommodate the proposed project.

2. The availability of water will be determined when the Building Permit Applications are submitted for our review and approval. If water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission and daily storage.

3. There are four existing services to the subject TMK parcel. Three are active, while one is inactive. Only one of the active services, six-inch compound meters installed in a siamese connection, serves the project site.

4. If additional three-inch or larger meters are required, the construction drawings showing the installation of the meter(s) should be submitted for our review and approval.

5. The on-site fire protection requirements should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.

6. Board of Water Supply approved Reduced Pressure Principle Backflow Prevention Assemblies are required to be installed immediately after all meters serving the project site.

If you have any questions, please contact Scot Muraoka at 527-5221.

DEPARTMENT OF DESIGN AND CONSTRUCTION

CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11TH FLOOR
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Phone: (808) 523-4564 • Fax: (808) 523-4567
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JEREMY HARRIS
MAYOR

RAE M. LOUI, P.E.
DIRECTOR

GEORGE T. TAMASHIRO, P.E.
DEPUTY DIRECTOR

ERIC G. CRISPIN, AIA
ASSISTANT DIRECTOR

WWDE.PD 01-186

April 12, 2001

MEMORANDUM

TO: MR. CLIFFORD S. JAMILE, MANAGER AND CHIEF ENGINEER
BOARD OF WATER SUPPLY

FROM: RAE M. LOUI, P.E., DIRECTOR
DEPARTMENT OF DESIGN AND CONSTRUCTION

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (DEA)
SAND ISLAND WASTEWATER TREATMENT PLANT (SIWWTP)
MODIFICATIONS AND EXPANSION

Thank you for your response letter dated March 9, 2001, concerning the subject DEA. We have prepared the following itemized response to your comments. We acknowledge the following:

1. The existing off-site water system is presently adequate to accommodate the proposed project. However, water availability will be determined when Building Permit Applications are submitted for review and approval. If approved, SIWWTP will be subject to a Water System Facilities Charge;

2. There is only one active water meter system which serves the project site. If additional meters are required, construction drawings showing the installation of the meter(s) must be submitted for your review and approval;

3. On-site fire protection requirements pertaining to fire flow will continue to be coordinated with the Honolulu Fire Department, Fire Prevention Bureau; and,

4. Reduced Pressure Principle Backflow Prevention Assemblies will be installed immediately following the installation of all water meters serving the project site.

We appreciated your review of the subject document. Should you have any future comments please contact Ms. Cindy Masuoka of our office at 527-5843.

cc: Leighton Lum, Ph.D., RMTC

01-0530
B

THE HAWAII ALCOHOLISM FOUNDATION
PO BOX 3045
HONOLULU, HAWAII 96802

SITC

March 8, 2001

To: Ms. Cindy Masuoka
Wastewater Design and Engineering Division
Department of Design and Construction
City and County of Honolulu

From: L. Mason Henderson CSAC, CSAPA
Chief Executive Officer
The Hawaii Alcoholism Foundation dba The Sand Island Treatment Center
1240 Sand Island Parkway
Honolulu, Hawaii 96819

Re: Environmental Impact Assessment:
Proposed Expansion of Sand Island Wastewater Treatment Facility.

Dear Ms. Masuoka,

I read, with great interest, the document your agency was kind enough to forward for my review. I would like to commend your staff for the obvious thoroughness and professionalism shown in the preparation of this draft environmental assessment. I realize that a great deal of thought and careful planning has gone into this substantial and important project.

Of course, my specific area of interest would be in how this expansion, as currently proposed, would potentially impact the operation of one of the largest, busiest and most effective drug treatment facilities in the State of Hawaii. You can imagine my concern when I found that this potentially crippling impact upon Hawaii's ability to treat its citizens suffering from Drug related disorders, was addressed only in passing, and then only to the extent to say, "the Halfway House could be relocated, if necessary".

Based upon my meeting with Ms. Rae Loui, Acting Director of Planning and Design, it is clear that callousness and indifference played absolutely no part in the understatement of a substantial negative Public Health impact which would result from an interruption of the services provided at the Sand Island Treatment Center. I realize, as a result of that meeting, that there is a high degree of sensitivity to the legitimate drug treatment needs of our fellow citizens. I believe that the author of this report was simply unaware of certain facts that, if shared, would tend to more fully illuminate the terrain and bring into focus the profound and dramatic consequences implicit in the statement "relocate, if needed"

The Sand Island Treatment Center was the first Licensed Special Treatment Facility in the State of Hawaii and is currently licensed and accredited to provide a full continuum of care for our citizens suffering from Substance Related Disorders. Last year alone, citizens of the State of Hawaii were provided with well over 50,000 individual days of professional substance abuse rehabilitation services at this site. That is not a small number.

The Alcohol and Drug Rehabilitation Facility on Sand Island Parkway has been in continuous operation, at this site, since October of 1960 ... long before the University of Hawaii, or the State, considered leasing the land to the City and County for the purposes of building a sewage treatment plant. Continuous operation since 1960 would indicate that the initial construction of the Wastewater Treatment Plant, after 1970, did not prove to be an intolerable intrusion on the important work being done by the Foundation.

Were the medical, psychiatric and drug rehabilitation services currently offered at the Sand Island Treatment Center to be interrupted, there would be an immediate and significant negative public health impact in the State of Hawaii. While it is impossible to gauge on an individual, citizen by citizen, basis the depth and breadth of that impact, some of the ways in which Public Health would suffer are readily apparent. A few of the more obvious are listed below.

An immediate, and prolonged, 20% - 25% reduction in overall licensed and accredited drug treatment capacity in the State of Hawaii.

An immediate, and prolonged, 50% reduction in true long-term residential drug treatment in the State of Hawaii.

An immediate, and prolonged, 100% reduction in true long-term residential drug treatment for Hawaii citizens who have otherwise expended limited insurance benefits, or other sources of funding. Each year we provide in excess of $3,000,000.00 worth of unreimbursed treatment services to Hawaii citizens.

An immediate, and prolonged, loss of one of the major drug treatment resources for the Judiciary of the State of Hawaii.

An immediate, and prolonged, loss of the principal Dual Diagnosis Treatment Program in the State of Hawaii. Programs designed for Hawaii citizens suffering from chronic mental disorders as well as chronic substance related disorders.

An immediate, and prolonged, loss of an increasingly important Drug Treatment Program for 18 year old males and females connected with the Hawaii Youth Correctional Facility.

An immediate, and prolonged, loss of a significant resource for primary medical and psychiatric care for indigent Hawaii citizens.

An immediate, and prolonged, loss of extensive free family counseling services for family members of the Patients at SITC.

An immediate, and prolonged, loss of a significant free supplemental feeding program for the children of Patients at SITC.

When we begin to speak about negatively impacting a major component in Hawaii's response to our State's worsening drug problem, we aren't even required to speak in the hypothetical. We have a fairly recent example of the impact of casually dismantling elements of our State's drug treatment strategy. Less than ten years ago a decision was made to upgrade the facilities on the grounds of the Hawaii State hospital, in Kaneohe. Impressive environmental impact statements were pulled together, many jobs were created, nice new buildings were designed but, in the process, a major drug treatment center was required to close its residential facility with the promise that a nice new building would be provided in short order. Hina Mauka's residential facility was closed for over five years due to cost overruns, changes made to the original plans, all the things that happen on projects of this type, (e.g. the construction of the Nimitz by-pass and H-3.) By the time the facility was reopened, the taxpayers of the State of Hawaii were left holding the bag for a net loss of five residential beds ... at a cost of over $6,000,000.00.

In the case of Hina Mauka we're talking about a facility that originally had (50) beds, the Sand Island Treatment Center received a Certificate of Need from the State Health Planning and Development Agency in 1995 for (123) beds. Factoring in inflation, and more than double the number of beds involved, the math does look fairly significant.

When Hina Mauka closed, there was a stampede for residential treatment services. Our request for a CON increase from SHPDA sailed through in record time due to the severity of the problem and due to the fact that the Hawaii Alcoholism Foundation provided (93) additional treatment slots to the State of Hawaii ... at no charge. It's important to remember that the (45) replacement beds at Hina Mauka cost the taxpayers $6,000,000,00 and five years of the reduced availability of those critically needed services.

In attempting to determine that which would contribute to the greater future good of the community we must carefully look where we are about to place our feet in our journey toward that future. When we, through a lack of understanding or insight, devalue or diminish the potential for negative impact from a project, such as the one proposed, we cease working for the public good and find ourselves in the position of seeking to impose our own view of what would be good for the public. There is a difference.

It's true that public works projects benefit the community, but it's critically important that such projects refrain from doing unforeseen and unanticipated damage to suffering members, of that same community in the process. Citizens, who by the very nature of their disease, have been stigmatized and marginalized to the point that proposing to whittle away at, or dismantle, one of the best chances they have for reclaiming their lives can be reduced to a few lines in a very impressive report.

The "half-way house", as it is termed in the report, was a compassionate effort to help our Grandfathers when it opened in 1960. The Sand Island Treatment Center of today is one of the most effective and vibrant centers for recovery in the pacific region. To trample on such a vital

and valuable resource is unthinkable when the magnitude of loss and suffering that would be experienced by our people is clearly and cleanly considered.

One can dismiss Kiawe and weeds and non-native Mangrove ... One can sweep aside trash and squalor if the narrative description is blandly dismissive or perjurative enough ... When one considers the real suffering of real people, the process becomes more real and the evaluation of negative impact becomes more important and more accurate and more humane.

I fully agree that the expansion of human waste treatment capacity and the reduction of biological contaminants in our near ocean environment are very important considerations, but I am extremely gratified by the sensitivity to the reclamation of wasted human potential that is being shown by your agency. It is clear that we are all involved in trying to help our fellow citizens and improve the quality of life we share here, in Hawaii. I look forward to a continuing collaboration as this project moves forward.

Again, thank you for providing me with the opportunity to review this draft assessment and add my comments. If I can be of any further service or provide you with any additional information, please feel free to contact me at any time.

Sincerely,

L. Mason Henderson CSAC, CSAPA
Chief Executive Officer
The Hawaii Alcoholism Foundation
The Sand Island Treatment Center Programs

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 11TH FLOOR
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JEREMY HARRIS
MAYOR

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DIRECTOR

GEORGE T. TAMASHIRO, P.E.
DEPUTY DIRECTOR

ERIC G. CRISPIN, AIA
ASSISTANT DIRECTOR

WWDE.PD 01-184

April 12, 2001

Mr. L. Mason Henderson, CSAC, CSAPA
Chief Executive Officer
The Hawaii Alcoholism Foundation
The Sand Island Treatment Center
1240 Sand Island Parkway
Honolulu, Hawaii 96819

Dear Mr. Henderson:

Subject: Draft Environmental Assessment (DEA)
Sand Island Wastewater Treatment Plant (SIWWTP) Modifications and Expansion

Thank you for your response letter dated March 8, 2001, concerning the subject DEA. We acknowledge the important public service your facility provides to the community and appreciate your constructive review of the subject DEA. Should you wish to provide further comments please contact Ms. Cindy Masuoka of our office at 527-5843.

Very truly yours,

RAE M. LOUI, P.E.
Director

cc: Leighton Lum, Ph.D., RMTC

BENJAMIN J. CAYETANO
GOVERNOR

GENEVIEVE SALMONSON
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4186

March 8, 2001

Ms. Rae Loui, P.E., Acting Director
City and County of Honolulu
Department of Design and Construction
650 South King Street
Honolulu, HI 96813

Dear Ms. Loui:

Subject: Draft Environmental Assessment for the Sand Island Wastewater Treatment Plant Modifications and Expansion

Thank you for the opportunity to review and comment on the subject document. We have the following comments.

1. Please discuss alternatives to incinerating the sludge. What are the costs and benefits of the various sludge handling alternatives?

2. What is the additional cost of producing reuse water just enough for irrigating an 18-hole golf course adjacent to the Sand Island facility?

3. Currently, there are several projects that are happening concurrently related to the Sand Island Wastewater Treatment Facility. To ensure that all related projects are analyzed as a whole and to ensure adequate disclosure of cumulative impacts, we recommend that all these current projects and anticipated future projects be covered under a single environmental impact assessment.

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

Sincerely,

Genevieve Salmonson
Director

c: R.M. Towill

DEPARTMENT OF DESIGN AND CONSTRUCTION

CITY AND COUNTY OF HONOLULU

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JEREMY HARRIS
MAYOR

RAE M. LOUI, P.E.
DIRECTOR

GEORGE T. TAMASHIRO, P.E.
DEPUTY DIRECTOR

ERIC G. CRISPIN, AIA
ASSISTANT DIRECTOR

WWDE.PD 01-193

April 16, 2001

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

Dear Ms. Salmonson:

Subject: Draft Environmental Assessment (DEA)
Sand Island Wastewater Treatment Plant Modifications and Expansion

Thank you for your response letter dated March 8, 2001, concerning the subject DEA. We have prepared the following itemized response to your comments:

1. Sludge Handling Alternatives - Alternatives to incineration that were evaluated by the Department of Design and Construction included: a) continued heat treatment; and, b) anaerobic digestion.

   a) Continued heat treatment: Heat treatment is a sludge conditioning step that, when included in the overall sludge handling process results in the most costly alternative of the 3 systems. It requires significant fuel, energy and manpower costs. The original selection of the system was based on its compatibility with the old "multiple hearth" incineration system. The heat treatment system was intended to produce a highly dewaterable product that would allow the old "multiple hearth" incineration system to operate without the addition of fuel. Currently the incineration system is not operable and the heat treated sludge is disposed of after dewatering.

   The new dewatering systems available today and the new and modern "fluidized bed" type incineration systems combine to eliminate the need for heat treatment. A higher sludge disposal requirement is also another major disadvantage. With the limited life remaining in current landfills and the uncertainty of the availability of new landfills, the much higher amount of sludge required for disposal than the incineration process is a significant disadvantage.

b) Anaerobic Digestion: Anaerobic digestion involves a solids reduction and stabilization step in the overall solids handling process. It is one of the most commonly used processes. This process was not chosen for the following reasons:

- Higher life cycle cost. The capital cost and life cycle costs are higher than the new "fluidized" bed incineration. The new incineration system makes use of existing buildings, thereby significantly lowering capital costs.
- Higher sludge disposal requirement. Same as alternative a).
- Higher land requirements. In an already land constrained site, anaerobic digestion would require a significant amount of land

2. Additional Cost of Producing Reuse Water for Irrigation of 18-Hole Golf Course Adjacent to Sand Island. There is not enough information to develop a reasonable cost estimate at this time. SIWWTP receives wastewater that is high in chlorides (~8,000 parts per million), thus R-1 water will be too toxic for plants or grass. It is therefore not feasible to reuse SIWWTP effluent unless a more expensive reverse osmosis system is used in combination with R-1, secondary treatment, filtration, and disinfection.

3. Projects at Sand Island Wastewater Treatment Plant (SIWWTP) -
The EA references the East Mamala Bay Wastewater Facilities Plan, Final Environmental Impact Statement, December 1993, which discussed overall upgrades and improvements to the East Mamala Bay district's wastewater facilities, including the SIWWTP. The Final EA for the Sand Island WWTP Disinfection Facility and Effluent Pump Station, supplements the East Mamala Bay Wastewater Facilities Plan, Final Environmental Impact Statement, which did not discuss a UV disinfection facility in detail. The Sand Island WWTP Disinfection Facility and Effluent Pump Station is referenced in our EA.

We appreciate this opportunity to respond. Should you have any future comments please contact Ms. Cindy Masuoka of our office at 527-5843.

Very truly yours,

RAE M. LOUI, P.E.
Director

cc: Leighton Lum, Ph.D., RMTC

01-0603

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

BRUCE S. ANDERSON, Ph.D. M.P.H.
DIRECTOR OF HEALTH

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

March 6, 2001

Ms. Rae M. Loui, P.E.
Acting Director
Department of Design and Construction
City and County of Honolulu
650 South King Street, 11th Floor
Honolulu, Hawaii 96813

Dear Ms. Loui:

Subject: Comments on the "Draft Environmental Assessment for the Sand Island Wastewater Treatment Plant Modifications and Expansion Project"

Thank you for allowing the Department of Health, Clean Air Branch, to review and comment on the Draft Environmental Assessment for the "Sand Island Wastewater Treatment Plant Modifications and Expansion" project. The project proposes the construction of a number of new facilities and major modifications to the existing facility. Due to the nature of the project, there is a significant potential for fugitive dust to be generated during the removal of debris and during the grading, trenching, and construction activities that would impact nearby businesses and thoroughfares. It is suggested that a dust control management plan be developed which identifies and addresses activities that have a significant potential for fugitive dust to be generated. Implementation of adequate dust control measures during all phases of the project is warranted.

Construction activities must comply with provisions of Hawaii Administrative Rules §11-60.1-33 on Fugitive Dust. The contractor should provide adequate means to control dust from road areas and during the various phases of construction activities, including but not limited to:

a. planning the different phases of construction, focusing on minimizing the amount of dust-generating materials and activities, centralizing material transfer points and on-site vehicular traffic routes, and locating potentially dusty equipment in areas of the least impact;
b. providing an adequate water source at the site prior to start-up of construction activities;

c. landscaping and rapid covering of bare areas, including slopes, starting from the initial grading phase;
d. controlling of dust from shoulders, project entrances, and access roads; and
e. providing adequate dust control measures during weekends, after hours, and prior to daily start-up of construction activities.

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

Sincerely,

BRUCE S. ANDERSON, Ph.D., M.P.H.
Director of Health

DEPARTMENT OF DESIGN AND CONSTRUCTION

CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11TH FLOOR
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JEREMY HARRIS
MAYOR

RAE M. LOUI, P.E.
DIRECTOR

GEORGE T. TAMASHIRO, P.E.
DEPUTY DIRECTOR

ERIC G. CRISPIN, AIA
ASSISTANT DIRECTOR

WWDE.PD 01-190

April 12, 2001

Dr. Bruce S. Anderson, Ph.D., M.P.H.
Director of Health
State Department of Health
P.O. Box 3378
Honolulu, Hawaii 96801

Attention: Calen Miyahara, CAB

Dear Dr. Anderson:

Subject: Draft Environmental Assessment (DEA)
Sand Island Wastewater Treatment Plant (SIWWTP) Modifications and Expansion

Thank you for your response letter dated March 6, 2001, concerning the subject DEA. We acknowledge our requirement for compliance with Hawaii Administrative Rules (HAR), Chapter 11-60.1-33, concerning fugitive dust. We will ensure the contractor(s) for the proposed activity is made aware of this requirement through the specification of HAR 11-60.1-33, in the project construction drawing notes.

We appreciated your review of the subject document. Should you have any future comments please contact Ms. Cindy Masuoka of our office at 527-5843.

Very truly yours,

RAE M. LOUI, P.E.
Director

cc: Leighton Lum, Ph.D., RMTC

FILE

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

01 MAR 15 PM 1:16

GILBERT S. COLOMA-AGARAN, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES
JANET E. KAWELO
UNNEL NISHIOKA

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
Kakuhihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, Hawaii 96707

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND RESOURCES ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND
STATE PARKS

March 5, 2001

Rae M. Loui, Acting Director
Department of Design and Construction
City & County of Honolulu
650 South King Street, 11th floor
Honolulu, Hawaii 96813

LOG NO: 27043
DOC NO: 0102EL15

RECEIVED
MAR 15 2 37 PM '01
DIV. OF LAND SURVEY AND ACQUISITION

Dear Ms Loui:

SUBJECT: Chapter 6E-8 Historic Preservation Review – Draft Environmental Assessment for the Sand Island Wastewater Treatment Plant, Modifications and Expansion
Honolulu, Kona, O'ahu
TMK:1-5-041:005

Thank you for the opportunity to comment on the DEA for the Sand Island Wastewater Treatment Plant Modifications and Expansion. Our review is based on historic reports, maps, and aerial photographs maintained at the State Historic Preservation Division; no field inspection was made of the project areas.

The DEA is correct in stating that the project site is comprised of fill lands and mixed fill lands. A review of our records shows that there are no known historic sites at the project location. This area of Sand Island has been in-filled to enlarge the shoreline. Since modifications are proposed for the existing Sand Island WWTP, and the plant is built upon fill soils, we believe that this project will have "no effect" on historic sites.

If you have any questions please call Elaine Jourdane at 692-8027.

Aloha,

Don Hibbard, Administrator
State Historic Preservation Division

EJ:jk

DEPARTMENT OF DESIGN AND CONSTRUCTION

CITY AND COUNTY OF HONOLULU

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JEREMY HARRIS
MAYOR

RAE M. LOUI, P.E.
DIRECTOR

GEORGE T. TAMASHIRO, P.E.
DEPUTY DIRECTOR

ERIC G. CRISPIN, AIA
ASSISTANT DIRECTOR

WWDE.PD 01-185

April 12, 2001

Mr. Don Hibbard, Administrator
State Historic Preservation Division
State Department of Land and Natural Resources
Kakuhihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, Hawaii 96707

Attention: Elaine (Muffet) Jourdane

Dear Mr. Hibbard:

Subject: Draft Environmental Assessment (DEA)
Sand Island Wastewater Treatment Plant (SIWWTP) Modifications and Expansion

Thank you for your response letter dated March 5, 2001, concerning the subject DEA. We acknowledge your statement that the State Historic Preservation Division believes that the proposed project will have "no effect" on historic sites.

In accordance with existing construction practice the contractor for the proposed project will be instructed that should any potentially significant cultural resources or burials be discovered that work in the immediate area will temporarily cease until your Division is notified for further instructions.

We appreciated your review of the subject document. Should you have any future comments please contact Ms. Cindy Masuoka of our office at 527-5843.

Very truly yours,

RAE M. LOUI, P.E.
Director

cc: Leighton Lum, Ph.D., RMTC

01-0534
SE

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

BRUCE S. ANDERSON, Ph.D., M.P.H.
DIRECTOR OF HEALTH

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

'01 MAR -9

In reply, please refer to:
EMD/SHW

March 5, 2001

SO304LO

Ms. Rae M. Loui, P.E.
Acting Director
Department of Design and Construction
City and County of Honolulu
650 South King Street, 11th Floor
Honolulu, HI 96813

Dear Ms. Loui:

Subject: Sand Island Wastewater Treatment Plan
Modifications and Expansion
Draft Environmental Assessment

Thank you for the opportunity to review the Draft Environmental Assessment for the Sand Island Wastewater Treatment Plan Modifications and Expansion project. The Solid and Hazardous Waste Branch has no comments at this time.

Please contact Mr. Lane Otsu of the Office of Solid Waste Management at 586-4240 if there are any questions.

Sincerely,

STEVEN Y.K. CHANG, P.E., CHIEF
Solid and Hazardous Waste Branch

DEPARTMENT OF DESIGN AND CONSTRUCTION

CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11TH FLOOR
HONOLULU, HAWAII 96813
Phone: (808) 523-4564 • Fax: (808) 523-4567
Web site: www.co.honolulu.hi.us

JEREMY HARRIS
MAYOR

RAE M. LOUI, P.E.
DIRECTOR

GEORGE T. TAMASHIRO, P.E.
DEPUTY DIRECTOR

ERIC G. CRISPIN, AIA
ASSISTANT DIRECTOR

WWDE.PD 01-188

April 12, 2001

Mr. Steven Y.K. Chang, Chief
Solid and Hazardous Waste Branch
State Department of Health
P.O. Box 3378
Honolulu, Hawaii 96801

Dear Mr. Chang:

Subject: Draft Environmental Assessment (DEA)
Sand Island Wastewater Treatment Plant Modifications and Expansion

Thank you for your response letter dated March 5, 2001, concerning the subject DEA. We acknowledge that the Solid and Hazardous Waste Branch, DOH, has no comments to offer at this time. Should you have any future comments please contact Ms. Cindy Masuoka of our office at 527-5843.

Very truly yours,

RAE M. LOUI, P.E.
Director

cc: Leighton Lum, Ph.D., RMTC

01-0581

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

BRUCE S. ANDERSON, Ph.D., M.P.H.
DIRECTOR OF HEALTH

'01 MAR 14 [illegible]

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

In reply, please refer to:
EMD / WB

March 5, 2001

O1054105.wpd WP1
010166

Ms. Rae M. Loui, P.E.
Acting Director
Department of Design and Construction
City and County of Honolulu
650 South King Street, 11th Floor
Honolulu, Hawaii 96813

Dear Ms. Loui:

Subject: **Draft Environmental Assessment**
Sand Island Wastewater Treatment Plant Modifications and Expansion
1350 Sand Island Parkway, Sand Island, Honolulu, Oahu
TMK: (1) 1-5-41: 05

We have reviewed subject project.

We concur with the modifications to the Sand Island Wastewater Treatment Plant which will improve the treatment and disposal of domestic wastewater and comply with the requirements of the National Pollution Discharge Elimination System (NPDES) permit.

All wastewater plans must conform to applicable provisions of the Department of Health's Administrative Rules, Chapter 11-62, "Wastewater Systems." We do reserve the right to review the detailed wastewater plans for conformance to applicable rules.

Should you have any further questions, please contact Mr. Dennis Tulang, Branch Chief of our Wastewater Branch at 586-4294.

Sincerely,

Thomas E. Arizumi

THOMAS E. ARIZUMI, P.E., CHIEF
Environmental Management Division

LNK:erm

Enclosure

DEPARTMENT OF DESIGN AND CONSTRUCTION

CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11TH FLOOR
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DIRECTOR

GEORGE T. TAMASHIRO, P.E.
DEPUTY DIRECTOR

ERIC G. CRISPIN, AIA
ASSISTANT DIRECTOR

WWDE.PD 01-191

April 12, 2001

Mr. Thomas E. Arizumi, P.E., Chief
Environmental Management Division
State Department of Health
P.O. Box 3378
Honolulu, Hawaii 96801

Dear Mr. Arizumi:

Subject: Draft Environmental Assessment (DEA)
Sand Island Wastewater Treatment Plant (SIWWTP) Modifications and Expansion

Thank you for your response letter dated March 5, 2001, concerning the subject DEA. We have prepared the following itemized response to your comments:

1. We acknowledge your comment that the proposed modifications to SIWWTP will improve the treatment and disposal of domestic wastewater and comply with requirements of the National Pollutant Discharge Elimination System (NPDES) Permit.

2. We acknowledge that all wastewater plans must conform to applicable provisions of Hawaii Administrative Rules, Chapter 11-62, Wastewater Systems.

We appreciated your review of the subject document. Should you have any future comments please contact Ms. Cindy Masuoka of our office at 527-5843.

Very truly yours,

RAE M. LOUI, P.E.
Director

cc: Leighton Lum, Ph.D., RMTC

01-050f

BENJAMIN J. CAYETANO
GOVERNOR

BRUCE S. ANDERSON, Ph.D., M.P.H.
DIRECTOR OF HEALTH

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

'01 MAR -6 P 2:14

In reply, please refer to:
EMD/CWB

02073PJS.01

February 27, 2001

Ms. Rae M. Loui, P.E.
Acting Director
Department of Design and Construction
City and County of Honolulu
650 South King Street, 11th Floor
Honolulu, Hawaii 96813

Attention: Ms. Cindy Masuoka
Wastewater Design and Engineering Division

Dear Ms. Loui:

Subject: **Draft Environmental Assessment for**
Sand Island Wastewater Treatment Plant Modifications and Expansion
1350 Sand Island Parkway
Sand Island, Honolulu, Oahu, Hawaii
TMK: (1) 1-5-41:05
NPDES Permit No. HI 0020117

The Department of Health (Department), Clean Water Branch has reviewed the February 13, 2001 transmittal of the subject document received on February 20, 2001. The document was prepared for "two separate construction contracts: 'New Headworks and Primary Clarifiers 7 & 8' and 'New Odor Control System and Modifications to Primary Facilities'." The Department has the following comments:

1. The Army Corps of Engineers should be contacted to identify whether a Federal permit (including a Department of Army permit) is required for the construction project. If it is determined that a Federal permit is required for the subject project, then a Section 401 Water Quality Certification would also be required from our office.

2. If the construction project involves any of the following discharges into Class A or Class 2 State waters, a National Pollutant Discharge Elimination System (NPDES) general permit coverage is required for each activity:

a. Storm water runoff associated with "[c]onstruction activities, including clearing, grading, and excavation that result in the disturbance of equal to or greater than five (5) acres of total land area." The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale.

Note: After March 10, 2003, NPDES general permit coverage will be required for discharges of storm water associated with construction activities, including clearing, grading, and excavation that result in the disturbance of one (1) acre or more.

b. Hydrotesting water; and

c. Construction dewatering effluent.

Notices of Intent (NOI) for NPDES general permit coverages should be submitted at least 30 days before the discharge is to occur. NPDES individual permit applications should be submitted at least 180 days before the discharge is to occur. NOI and NPDES individual permit application forms can be downloaded from the Clean Water Branch website at *http://www.state.hi.us/doh/eh/cwb/forms/index.html.*

Section 1.3 states that "[c]onstruction is tentatively scheduled to start in November 2001 and is expected to continue for approximately three years to February 2004." The NPDES Notice of General Permit Coverages will expire at midnight September 21, 2002 or when amendments to Chapter 11-55, Appendices (the NPDES general permits) are adopted, whichever occurs first. Therefore, the Permittee would need to reapply for all NPDES general permit coverages prior to the expiration date. An NPDES individual permit coverage may be issued for a term of less than five (5) years and would eliminate the requirement to reapply for any NPDES general permit coverages if construction was completed within the term of the NPDES individual permit.

If you have any questions, please contact Ms. Joanna L. Seto, Engineering Section of the Clean Water Branch, at 586-4309.

Sincerely,

DENIS R. LAU, P.E., CHIEF
Clean Water Branch

JLS:cr

DEPARTMENT OF DESIGN AND CONSTRUCTION

CITY AND COUNTY OF HONOLULU

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JEREMY HARRIS
MAYOR

RAE M. LOUI, P.E.
DIRECTOR

GEORGE T. TAMASHIRO, P.E.
DEPUTY DIRECTOR

ERIC G. CRISPIN, AIA
ASSISTANT DIRECTOR

April 12, 2001

WWDE.PD 01-189

Mr. Denis R. Lau, P.E., Chief
Clean Water Branch, Environmental Management Division
State Department of Health
P.O. Box 3378
Honolulu, Hawaii 96801

Attention: Ms. Joanna L. Seto

Dear Mr. Lau:

Subject: Draft Environmental Assessment (DEA)
Sand Island Wastewater Treatment Plant (SIWWTP) Modifications and Expansion

Thank you for your response letter dated March 22, 2001, concerning the subject DEA. We have prepared the following itemized response to your comments:

1. Coordination with the Army Corps of Engineers was completed during calendar year 2000. The Corps issued a determination on August 23, 2000, that a Department of the Army permit will not be required since waters of the U.S. will not be affected by construction activities; and,

2. We acknowledge that National Pollutant Discharge Elimination System (NPDES) permits will be required since construction stormwater, construction dewatering, and hydrotesting discharges will eventually be directed to waters of the State, at Honolulu Harbor.

We appreciated your review of the subject document. Should you have any future comments, please contact Ms. Cindy Masuoka of our office at 527-5843.

Very truly yours,

RAE M. LOUI, P.E.
Director

cc: Leighton Lum, Ph.D., RMTC

WDE-2

Sand Island Business Association

01 FEB 28 PM 2:23

'01 MAR -1 10:10

01-0484

12

February 26, 2001

Rae M. Loui, P.E./Acting Director
Dept. of Design & Construction
City & County of Honolulu
650 S. King St., 11th Fl.
Honolulu, HI 96813

RE: Sand Island Wastewater Treatment Plant Modifications & Expansion

Dear Director Loui:

Thank you for allowing us to review the Draft Environmental Assessment for this project.

We have reviewed the report and have no comments or questions.

Very truly yours,

Rodney Kim
Executive Director

P.O. Box 17603 • Honolulu, HI 96817-0603 • (808)842.1359 • Fax (808)841.1270

DEPARTMENT OF DESIGN AND CONSTRUCTION

CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11TH FLOOR
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JEREMY HARRIS
MAYOR

RAE M. LOUI, P.E.
DIRECTOR

GEORGE T. TAMASHIRO, P.E.
DEPUTY DIRECTOR

ERIC G. CRISPIN, AIA
ASSISTANT DIRECTOR

WWDE.PD 01-192

April 12, 2001

Mr. Rodney Kim
Executive Director
Sand Island Business Association
P.O. Box 17603
Honolulu, Hawaii 96817

Dear Mr. Kim:

Subject: Draft Environmental Assessment (DEA)
Sand Island Wastewater Treatment Plant (SIWWTP) Modifications and Expansion

Thank you for your response letter dated February 26, 2001, concerning the subject DEA. We acknowledge that you have no comments or questions concerning our proposed project.

We appreciated your review of the subject document. Should you have any future comments please contact Ms. Cindy Masuoka of our office at 527-5843.

Very truly yours,

RAE M. LOUI, P.E.
Director

cc: Leighton Lum, Ph.D., RMTC

01-0229
To: Laverne

DEPARTMENT OF DESIGN AND CONSTRUCTION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 11th FLOOR
HONOLULU, HAWAII 96813
PHONE: (808) 523-4564 • FAX: (808) 523-4567
WEB SITE ADDRESS: www.co.honolulu.hi.us

'01 FEB 26 P1:50

JEREMY HARRIS
MAYOR

RAE M. LOUI, P.E.
Acting Director

GEORGE T. TAMASHIRO, P.E.
Deputy Director

01-0446

WWDE.PD 01-054

February 13, 2001

RECEIVED
FEB 15 8 59 AM '01
DEPARTMENT OF FACILITY MAINTENANCE

MEMORANDUM

TO: MR. ROSS S. SASAMURA, ACTING DIRECTOR
DEPARTMENT OF FACILITY MAINTENANCE

FROM: RAE M. LOUI, P.E., ACTING DIRECTOR
DEPARTMENT OF DESIGN AND CONSTRUCTION

SUBJECT: SAND ISLAND WASTEWATER TREATMENT PLANT
MODIFICATIONS AND EXPANSION
DRAFT ENVIRONMENTAL ASSESSMENT

We request your review of the attached Draft Environmental Assessment for the "Sand Island Wastewater Treatment Plant Modifications and Expansion" project.

We would greatly appreciate the return of your comments by March 10, 2001.

Please contact Cindy Masuoka of our Wastewater Design and Engineering Division at extension 5843 if there are any questions, or if further information is needed.

Attachment

February 22, 2001
We do not have any comments. If you have any questions, please call Laverne Higa at x-6246

ROSS S. SASAMURA
Director and Chief Engineer

DEPARTMENT OF DESIGN AND CONSTRUCTION

CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11TH FLOOR
HONOLULU, HAWAII 96813
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JEREMY HARRIS
MAYOR

RAE M. LOUI, P.E.
DIRECTOR

GEORGE T. TAMASHIRO, P.E.
DEPUTY DIRECTOR

ERIC G. CRISPIN, AIA
ASSISTANT DIRECTOR

WWDE.PD 01-197

April 18, 2001

MEMORANDUM

TO: MR. ROSS S. SASAMURA, DIRECTOR
DEPARTMENT OF FACILITY MAINTENANCE

FROM: RAE M. LOUI, P.E., DIRECTOR
DEPARTMENT OF DESIGN AND CONSTRUCTION

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (DEA)
SAND ISLAND WASTEWATER TREATMENT PLANT (SIWWTP)
MODIFICATIONS AND EXPANSION

Thank you for your response dated February 22, 2001, concerning the subject DEA. We acknowledge that you have no comments or questions regarding the proposed project.

We appreciated your review of the subject document. Should you have any future comments, please contact Ms. Cindy Masuoka of our office at 527-5843.

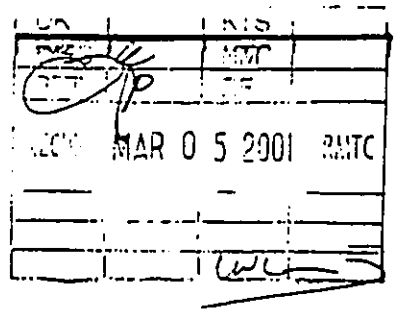
cc: Leighton Lum, Ph.D., RMTC

CITY COUNCIL

CITY AND COUNTY OF HONOLULU

HONOLULU, HAWAII 96813-3065 / TELEPHONE 547-7000

STEVE HOLMES
COUNCILMEMBER
Phone: (808)547-7002
Fax: (808)523-4220
E-mail: holmes@co.honolulu.hi.us



March 1, 2001

Ms. Rae M. Loui
Department of Design and Construction
City and County of Honolulu
650 S. King Street
Honolulu, Hawaii 96813

Dear Ms. Loui:

SUBJECT: Draft Environmental Assessment for the Sand Island Wastewater Treatment Plant Modifications and Expansion Project

In reviewing the Environmental Assessment for this project, we would like to formally request that your department include, as part of the alternatives analysis, a discussion of the potential for on-site electrical generation with or without bio-gas as a fuel source.

The Mayor, in his State of the City Address, specifically included the city's bio-gas to energy efforts as a goal of the city. Tim Steinberger has been designated to work with these types of projects, and we are currently pursuing such a project at the Kailua Wastewater Treatment Plant with the assistance of The Gas Company.

Since the EA contemplates the potential use of digester it is particularly appropriate to include this discussion because the digester could provide a free fuel source. Bio-gas to energy would also save on environmental impacts and achieve significant cost savings over traditional electricity purchasing.

Thank you for your attention to this matter, and if you have any questions, please give me a call at 547-7002.

Sincerely,

STEVE HOLMES, Chair
Environment and Public Works Committee

c: R.M. Towill Corporation
420 Waiakamilo Road, Suite 411
Honolulu, Hawaii 96817
Attn: Brian Takeda

Office of Environmental Quality Control
235 South Beretania Street
State Office Tower, Suite 702
Honolulu, Hawaii 96813

DEPARTMENT OF DESIGN AND CONSTRUCTION

CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 11TH FLOOR
HONOLULU, HAWAII 96813
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JEREMY HARRIS
MAYOR

RAE M. LOUI, P.E.
DIRECTOR

GEORGE T. TAMASHIRO, P.E.
DEPUTY DIRECTOR

ERIC G. CRISPIN, AIA
ASSISTANT DIRECTOR

WWDE.PD 01-165

March 29, 2001

The Honorable Steve Holmes, Chair
Environment and Public Works Committee
City Council
City and County of Honolulu
Honolulu, Hawaii 96813

Dear Chair Holmes:

Subject: Sand Island Wastewater Treatment Plant (WWTP)
Modifications and Expansion Project
Draft Environmental Assessment

Per the attached letter dated March 1, 2001, and an earlier discussion with you and your staff, we acknowledge that the potential to convert bio-gas to electricity is an important energy effort that merits consideration.

We are aware of the bio-gas to electricity conversion facility that is presently being evaluated for the Kailua WWTP. We will follow the progress of this evaluation, and will consider installation of this type of facility for the Sand Island WWTP if it is shown to be cost-effective.

The following wording will be added to our Final Environmental Assessment document:

> "The City is presently evaluating the potential to convert bio-gas to electricity. This type of conversion facility will be pursued for this project if it is deemed cost-effective."

Please call Cindy Masuoka at extension 5843 if there are any questions, or if more information is needed.

Very truly yours,

RAE M. LOUI, P.E.
Director

Attachment

FORWARDED:

BENJAMIN B. LEE, FAIA
Managing Director

cc: Tim Steinberger, ENV

bcc: Managing Director's Office
DDC - WWDE

SECTION 12

REFERENCES

(listed in chronological order)

Design Report for the Sand Island Wastewater Treatment Plant Expansion, City and County of Honolulu, Dept. of Design and Construction, by R. M. Towill Corporation, October 2000.

Sand Island Wastewater Treatment Plant Disinfection Facility and Effluent Pump Station, Revised Draft Environmental Assessment, City and County of Honolulu, Dept. of Design and Construction, by Brown and Caldwell, July 2000. (FONSI issued September 2000).

Sand Island Parkway Wastewater Pump Station Modifications, Draft Environmental Assessment, City and County of Honolulu, Dept. of Design and Construction, by GMP Associates, Inc., June 2000 (FONSI issued January 2001).

Preliminary Engineering Report for the Sand Island Wastewater Treatment Plant Modifications, Unit 1, Phase 2A, City and County of Honolulu, Dept. of Design and Construction, by R. M. Towill Corporation, September 1999.

Atlas of Hawaii, Third Edition. Department of Geography, University of Hawaii at Hilo, Sonia P. Juvik and James O. Juvik, Eds., 1998.

East Mamala Bay Wastewater Facilities Plan, Final Environmental Impact Statement, City and County of Honolulu, Department of Wastewater Management, by Belt Collins Hawaii, December 1993.

Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii, U.S. Dept. of Agriculture, Soil Conservation Service, August 1972.

Sites of Oahu, Bishop Museum Press, Elspeth P. Sterling and Catherine C. Summers, 1978, First Published 1962.

Appendix A

WETLAND SURVEY

Botanical consultants
240 makee, suite 7b honolulu, hawaii 96815 (808) 923-4193 fax (808) 923-4193

September 12, 2000

Mr. Brian Takeda, Senior Planner
R. M. Towill Corporation
420 Waiakamilo Road, Suite 411
Honolulu, Hawaii 96817-4951

Re: Sand Island Waste Water Treatment Plant Wetland Survey

Dear Mr. Takeda,

Our findings at the Sand Island Waste Water Treatment Plant Site are as follows:

1. That portion of the site located southwest of the drainage canal was found to be partly taken up by equipment and waste concrete storage, part bare open land, and part covered with alien vegetation. The alien vegetation consists of very widely separated kiawe trees (*Prosopis pallida* (Humb. & Bonpl. ex Willd.) Kunth) some as much as thirty-five feet in height. The shrub layer consists of a few widely scattered castor bean shrubs (*Ricinus communis* L.), some koa haole (*Leucaena leucocephala* (Lam.) deWit), wild tobacco (*Nicotiana glauca* R. C. Graham), and some Indian fleabane (*Pluchea indica* (L.) Less.). The ground layer is a changing mosaic of low growing weeds which includes Australian saltbush (*Atriplex semibaccata* R. Br.), *Flaveria trinervia* (Spreng) C. Mohr., *Bidens alba* (L.) DC, Golden crown beard (*Verbesina encelioides* (Cav.) Benth. & Hook.), *'aheahea (Chenopodium murale* L.), *Trianthema portulacastrum* L., *Sida ciliaris* L., spiny amaranth (*Amaranthus spinosus* L.), khaki weed (*Alternanthera pungens* Kunth), *Chamaesyce maculata* (L.) Small, and *Sporobolus pyramidatus* (Lam.) Hitchc. along with many others. All appeared to be very stressed.

2. In the strip of land that lies between the canal and Sand Island Parkway there was a lot of open space surrounded by mostly kiawe trees, some koa haole bushes, a few grasses such as Guinea grass (*Panicum maximum* Jacq.), swollen fingergrass (*Chloris barbata* (L.) Sw.), and stargrass (*Chloris divaricata* R. Br.). *Boerhavia coccinea* Mill. and ivy gourd (*Coccinia grandis* (L.) Voight.) are both well established in this area. Long branches of pickle weed (*Batis maritima* L.), some ten to twelve feet in length were seen growing out of the canal border.

3. The canal vegetation consists of two obligate wetland species, pickle weed and red mangrove (*Rhizophora mangle* L.) i.e. obligate species are those that there is a 95% probability that they will be found under wetland conditions. Also the facultative wetland shrub Indian fleabane is plentiful along the canal. (Facultative species have a 34

to 66% probability of occurring under wetland conditions). In addition several weed species occur on the banks of the canal. They include wild tobacco, stargrass, spiny amaranth, kiawe trees, and bristly foxtail (*Setaria verticillata* (L.) P. Beauv.).

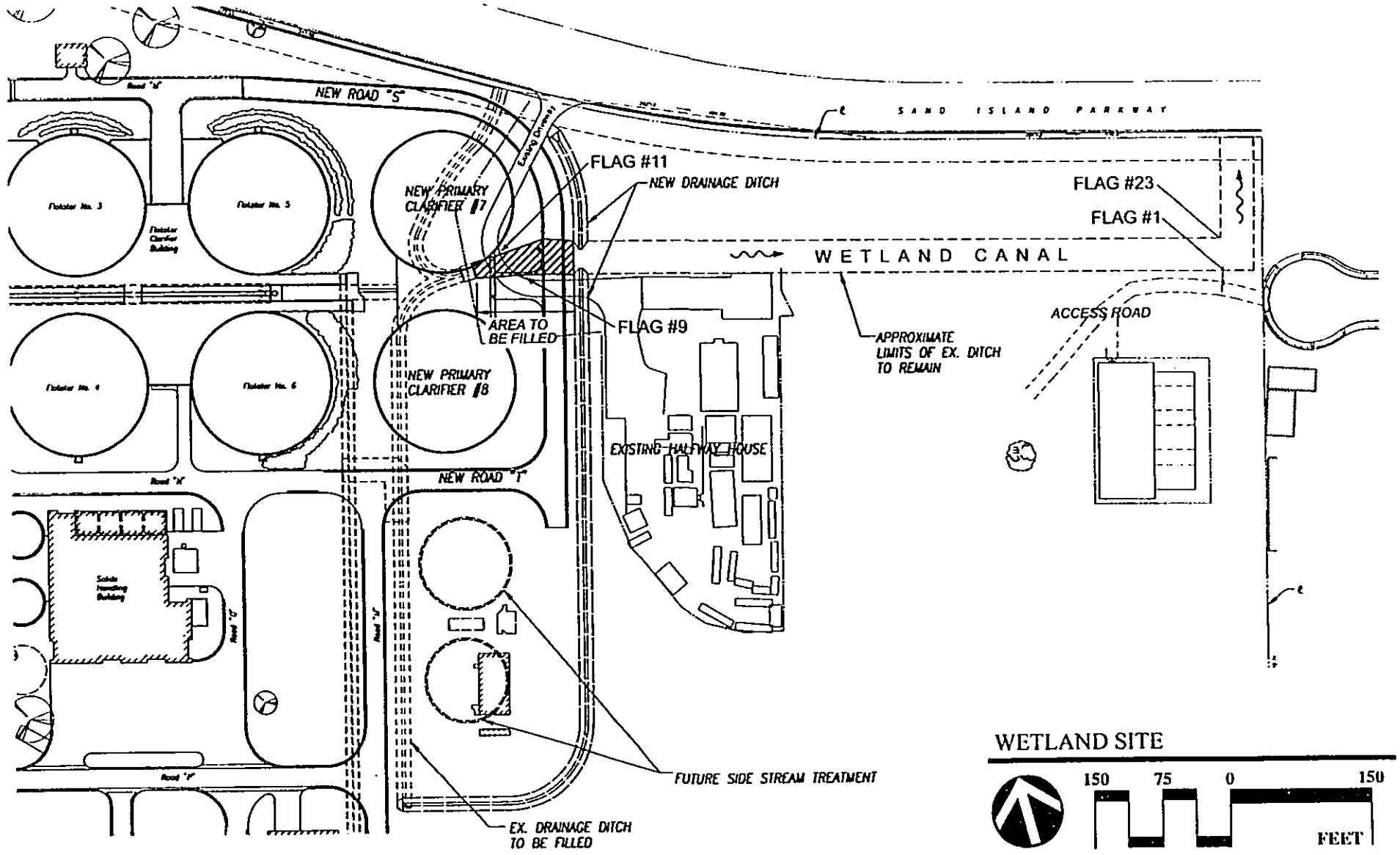
4. None of the vegetation of this site is native to the Hawaiian Islands. There were no proposed or listed threatened or endangered species present on this site.

5. The Wetland The wetland is a trapezoidal shaped drainage ditch with steeply inclined banks about four or five feet in height (Figure 1). The canal was partly created by very old fill which was used to develop the flat land that surrounds the waterway. Of the three Corps of Engineers criteria that define a wetland, i.e. hydrophytic vegetation, standing water within 18 inches of the surface for at least three weeks of the growing season (hydrology) and the presence of hydric soils, two are met on this site. The hydrophytic vegetation criterion is met by the presence in all parts of the canal by the afore mentioned obligate and facultative plant species. The hydrology criterion is met by the presence of standing water in the full length of the canal. The depth of the water varies from a few inches to several feet. The third criterion, hydric soils, cannot be tested due to the drastic topographic change created by the steep banks of the canal and the fact that the soil surrounding the canal appears to be old fill. However, since the soil was saturated almost to the top of the inclined banks the upper lip of the bank was taken to be the edge of the wetland. The wetland area has been flagged with numbered blue flags. Flag #1 is located on the makai side of the wetland near the entrance of the site access road (Figure 1). From Flag #1 along the rim of the wetland to the half-way house fence there is to be found flags #1 through flag #9. Inside the half-way house fence are to be found flags #10, 10A, and 10B. Flag #11 is located at the junction of the half-way house drive way and the wetland fence on the mauka side (Figure 1). Flags #11 through #23 (Figure 1) mark the mauka rim of the wetland. Flag #23 is across the wetland from flag #1. Some of the mangrove trees and some of the pickle weed extend beyond the marked wetland boundary. However, they are all rooted within the wetland area.

If you have any questions regarding this site, please callme.

Yours truly,

Evangeline J. Funk, Ph.D.



SAND ISLAND WASTEWATER
TREATMENT PLANT WETLAND SURVEY

BOTANICAL CONSULTANTS, HONOLULU, HAWAII

R. M. TOWILL CORPORATION

Oct 2000

Revised 4/2001.

Appendix B

PHASE I ENVIRONMENTAL SITE ASSESSMENT

PHASE I

ENVIRONMENTAL SITE ASSESSMENT

FOR

Sand Island Wastewater Treatment Plant Modifications

90 MGD PER

1350 Sand Island Parkway

Honolulu, Oahu, Hawaii

PREPARED FOR:

City and County of Honolulu
Department of Wastewater Management
Honolulu, Hawaii 96813

PREPARED BY:

R. M. Towill Corporation
420 Waiakamilo Road, Suite 411
Honolulu, Hawaii 96817

March 1999

TABLE OF CONTENTS

1.0 INTRODUCTION

R. M. Towill Corporation (RMTC) has been retained by the City and County of Honolulu Department of Wastewater Management (DWWM) to perform a Phase I - Environmental Site Assessment (ESA) for portions of the Sand Island Wastewater Treatment Plant (SIWWTP), located at 1350 Sand Island Parkway Road, Honolulu, Oahu, Hawaii (Tax Map Key (TMK) # 1-5-41: 5). For the purpose of the 90 MGD PER, the areas to be evaluated in the ESA include those portions of SIWWTP as follows: 1) Pretreatment Facility area, 2) Influent Screens Building area, and 3) Flotator Clarifier Building area. Throughout this ESA the proposed project parcel of interest will be referred to as *the property*.

2.0 PURPOSE AND SCOPE OF WORK

The purpose of this ESA was to investigate past and present land uses of the property and surrounding areas to determine if the potential for hazardous materials contamination exists. This ESA includes a site and vicinity walk-through, a database and documents search and review, an aerial photograph review, and a limited hydrogeological review.

This assessment was performed in accordance with American Society for Testing and Materials (ASTM) Standard: E 1527, "Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process". The ASTM Standard defines customary practice for conducting environmental site assessments of a parcel of commercial real estate with respect to contaminants within the scope of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) and to petroleum products.

RMTC performed the following tasks:

Reviewed available documents including maps and aerial photographs to assess past land use at the property;

- Conducted a database review and contacted local and State agencies to determine the regulatory history associated with the property;
- Conducted site reconnaissance to assess present site conditions;
- Conducted interviews with personnel having knowledge of potential environmental hazards in the area;
- Reviewed site geology and hydrogeology; and
- Prepared Phase I Environmental Site Assessment Report which documents RMTC's findings.

This assessment is based on information that has been provided to RMTC by applicable agencies and individuals. Conclusions and recommendations are drawn from the cumulative findings of the aforementioned sections.

Photo documentation follows the text of this report.

3.0 SITE DESCRIPTION

3.1 CURRENT SITE LAYOUT

The parcel on which SIWWTP is located (TMK # 1-5-41: 05) is zoned I-3, Waterfront Industrial District on the island of Oahu. See Figures 1.1-1 and 2.1-2. The total area of the SIWWTP property is approximately 50.000 acres. For the purpose of the 90 MGD PER, the areas to be evaluated in the ESA include those portions of SIWWTP as follows: 1) Pretreatment Facility area, 2) Influent Screens Building area, and 3) Flotator Clarifier Building area.

3.2 SITE PHYSIOGRAPHY

According to the U.S. Geological Survey topographic map of the area (Honolulu Quadrangle), the property is located at approximately 21.3103 North latitude and 157.8847 West longitude. The property is located on Sand Island, approximately 1 mile west of the downtown Honolulu.

A review of the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (Community Panel Number 150001 0115C, revised September 28, 1990) indicates that the property falls within Zone X, defined as an area outside the 500-year flood plain.

3.3 GEOLOGIC AND HYDROGEOLOGIC SETTING

3.3.1 Geology

The property is located near the center of Sand Island, less than 1/3 mile from the shoreline of the Pacific Ocean, off the south coast of the island of Oahu, on land classified by the U.S. Department of Agriculture Soil Conservation Service as Recent Man-Made Fill (Rf). This classification represents low areas which were filled during urbanization. The majority of these low areas are underlain at relatively shallow depths by Recent Alluvium (RA) and were originally marshy areas. The fill materials range from clays to gravels and mixtures of soils. The consistencies range from soft or loose to hard or very dense. Frequently placed without control, the quality and composition of the fill is variable.

The property as well as the entire Sand Island is located on area of landfill created from dredged material on the reef flat. This took place during the creation of the Kapalama Basin in Honolulu Harbor during the 1930s (Thompson, 1985). SIWWTP is adjacent to the edge of the area that was called Quarantine Island in the nineteenth century that was also partially created by landfill of the fringing coral reef at the end of the nineteenth century (Monsarrat, 1897).

3.3.2 Groundwater

The property is situated makai of the underground injection control (UIC) line, according to the Hawaii Department of Health Underground Injection Program Map, dated July 6, 1984. Groundwater in the area is reported to be brackish to saline and encountered at approximately or slightly higher than sea level. No drinking water sources are identified on or surrounding the property on Sand Island.

4.0 SITE RECONNAISSANCE

On January 27, 1999, Keith Kawaoka and Larry Baczeski of RMTC performed a site visit and area reconnaissance. They met with Mr. Jay Nakadakari, DWWM, who escorted the site assessors on a tour of the project area and discussed his knowledge of the property in general.

The SIWWTP property consists of a single 50.000-acre parcel (Figures 1.1-1 and 2.1-2). The property is located on Sand Island, approximately 1 mile west of the downtown Honolulu. The City and County of Honolulu owns and operates SIWWTP, which treats domestic and industrial wastewater. SIWWTP is designed to treat an average flow of 82 million gallons per day (mgd) of wastewater (BCA, 1993). Average daily flow to the plant is approximately 73 mgd, or about 89 percent of capacity.

The property is situated in the central area of Sand Island. Access to the site is from Sand Island Parkway Road. According to title records, the property is bound on all sides by State property. The SIWWTP property is bounded by Sand Island State Park to the south, vacant land to the west, container freight station to the north, and various commercial and industrial subdivision activities to the east.

The area where the proposed Pretreatment Facility is to be located was visited. This area is located along the northwestern area of SIWWTP and south of the State Training Facility and parking lot. The land is currently vacant and planted with lawn grass and trees. No stressed vegetation was observed. The adjoining property is separated from SIWWTP by a chain-link fence with brush vegetation and characterized by miscellaneous solid waste debris such as assorted vehicle and machinery pieces and trash.

The Influent Screens Building was inspected during the visit. This area screens and removes coarse and grit material from the influent arriving at the headworks facility. A walkthrough of the building noted workstations where small quantities of hazardous materials were used and stored. These products were used mainly for maintenance, cleaning, and touchup and were stored in at the workbench area and in metal cabinets. Examples include paint, bleach, insecticide, and lubricating materials. No evidence of spills were noted in the various areas visited. Spill cleanup containers were noted in various locations of the facility.

The Flotator Clarifier area was examined, particularly the area east of Flotators #5 and #6, south of Sand Island Parkway Road and west of the halfway house. This location is proposed for the additional Flotators #7 and #8. This section currently has a paved roadway and vacant land. A dry drainage swale also traverses this area. No evidence of spills or stressed vegetation were noted.

Reconnaissance of the remaining areas of the plant property was also conducted. For the purposes of the 90 MGD PER, observations of the current conditions of the non-project areas were noted. However, specific conclusions and recommendations will be addressed when the plant modifications affect these areas of the property. The area bounded by the eastern boundary of the property, south of Sand Island Parkway Road, north of Sand Island State Park, and west of the neighboring industrial area is largely vacant. Except for the halfway house and Dewatering Facility (northeast corner), the area is characterized by brush and grass vegetation and bare ground. This area is littered with discarded tires, vehicle and machinery parts, and miscellaneous debris. According to Mr. Nakadakari, the area has undergone several removal cleanups and is still being cleared of refuse. The area east of the Chlorination Building is a miscellaneous storage area consisting of various plant parts including piping and machinery items. A plastic storage tent has been erected to hold some of these items.

Hazardous materials and wastes are also stored in a fenced off section. Drums of unknown materials are stored in an open area on pallets. Per drum labels, materials include oil, antifreeze, and sandblasting grit. The storage area could not be accessed during the visit. Additional storage is available in metal hazardous materials containment buildings.

According to Mr. Nakadakari, there is one underground storage tank (1,000 gallon diesel) located on the property. Located at the Sand Island Wastewater Pump Station, it was replaced in 1998.

5.0 PAST SITE CONDITIONS

RMTC reviewed property title records, the property entry in the Experian Realty Directory, and aerial photographs from the RMTC Photogrammetry Department to obtain information regarding the history of land use at the property.

5.1 PROPERTY RECORDS

Review of property title records indicate that the property was transferred from the U. S. Government by Presidential Executive Order 3752 to the Territory of Hawaii on July 15, 1946. Under Governor Executive Order 1188, the City and County of Honolulu was granted use of the property on February 5, 1947. The property is currently owned by the State of Hawaii.

5.2 REALTY DIRECTORY

RMTC reviewed the Experian Realty Directory, 31th Edition, for relevant data on the property. The Directory listed the property as Parcel # 1-5-41:5 comprising of 50.000 acres owned by the State of Hawaii. The Directory indicated the property was classified for industrial use.

5.3 AERIAL PHOTOGRAPHS

Aerial photographs obtained from the RMTC Photogrammetry Department for the property from the years 1949, 1966, 1974, 1983, and 1994 and examined for evidence of previous site usage.

In the 1949 photograph, the property appears vacant. Quarantine Island is visible to the north of the property. Shipping operation activities are noted to the north.

In the 1966 photograph, there appears to be a vehicle junkyard on and adjacent to the property.

In the 1974 photograph, most of the property is vacant with some vegetation noted.

In the 1983 photograph, the SIWWTP is observed. The vehicle junkyard is still noted adjacent to the property to the west. The current Sand Island Parkway Road is noted in its present alignment. Areas to the east of the property is largely vacant with scattered development present. The halfway house is noted in the photograph.

In the 1994 photograph, shows the Sand Island State Park to the south of the property. Remnants of the automobile junkyard is still noted. Development of the area east of the property is progressing with several buildings evident.

6.0 ENVIRONMENTAL DATABASE REVIEW

A review was performed of the environmental regulatory databases (all updated within 90 days of search, or at most recent update available) required by ASTM methodology at the respective search distances specified by the methodology.

The review of the regulatory databases indicated the following:

- No U. S. EPA or state Superfund sites were within a 1.0 mile radius of the property;
- No CERCLIS site was located within a 0.5 mile radius of the property;
- No RCRA treatment, storage, and disposal facility was located within a 1.0 mile radius of the property;
- No RCRA generators were located on the property or adjacent properties;
- One underground storage tank facility was located on the property;
- Six leaking underground storage tanks were located within half-mile radius of the property;
- No active landfills were located within a 0.5 mile radius of the property; and

- No spills or incidents connected with the property were entered in the ERNS database.

Data files for the leaking underground storage tank sites were reviewed at the Department of Health Solid and Hazardous Waste Branch. Five of the six LUST sites were issued a no further action from DOH based on site cleanups. The James L. K. Tom property (about 1/4 mile ENE of SIWWTP) notified DOH on February 21, 1998 of a release from a 2,000 gallon diesel UST. No reports were available regarding the initiation of cleanup action at this site.

7.0 FINDINGS AND RECOMMENDATIONS

RMTC has performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Standard E 1527 for the property identified as TMK # 1-5-41: 5. For the purpose of the 90 MGD PER, the areas evaluated in the ESA include those portions of SIWWTP as follows: 1) Pretreatment Facility area 2) Influent Screens Building area and 3) Flotator Clarifier Building area. Based on data compiled and evaluated including a site reconnaissance to observe existing conditions and a review of available local, state, and federal records, the assessment did not reveal evidence of recognized environmental conditions in connection with affected areas of the property.

Hazardous materials, consisting of suspect asbestos-containing materials and lead-containing paint were observed in a structure on the property, as were scattered areas of debris and solid waste. A program to remove and clear the debris material is currently underway. An evaluation will be conducted as the plant modifications involve this area of the property. The presence of lead paint and asbestos presents additional costs to any modification of the existing structures on the property.

No other environmental conditions were observed at the property or during the neighborhood survey.

Based on the available information reviewed, RMTC concludes that the property affected by the 90 MGD PER has no significant environmental concerns and recommends no further environmental evaluation at this time.

8.0 LIMITATIONS

The conclusions presented in this report are professional opinions based solely upon visual observations of the sites and their respective vicinities, and our interpretation of the available historical information and documents reviewed. They are intended exclusively for the purpose outlined herein and at the site location and project indicated. The scope of services performed in execution of this investigation may not be appropriate to satisfy the needs of other users, and any use or re-use of this document or the findings, conclusions, or recommendations presented herein is at the sole risk of said user.

R.M. Towill Corporation's services are performed, within the limits prescribed by its Clients, with the usual thoroughness and competence of the consulting profession, in accordance with the standard for professional services at the time those services are rendered. No warranty or representation, either expressed or implied, is included or intended in its proposals, contracts, or reports.

Opinions and recommendations presented herein apply to site conditions existing at the time of our investigation and those reasonably foreseeable; they cannot necessarily apply to site changes of which this office is not aware and has not had the opportunity to evaluate.

9.0 SIGNATURES

The Phase I Environmental Site Assessment was performed by Mr. Larry Baczeski and Dr. Keith E. Kawaoka of R. M. Towill Corporation.

Keith E. Kawaoka 3-31-99
Keith E. Kawaoka Date

Larry Baczeski 3.31.99
Larry Baczeski Date

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Belt Collins Hawaii, *East Mamala Bay Wastewater Facilities Plan, Final Environmental Impact Statement*, prepared for City and County of Honolulu Department of Wastewater Management, December 1993.

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PHOTO DOCUMENTATION

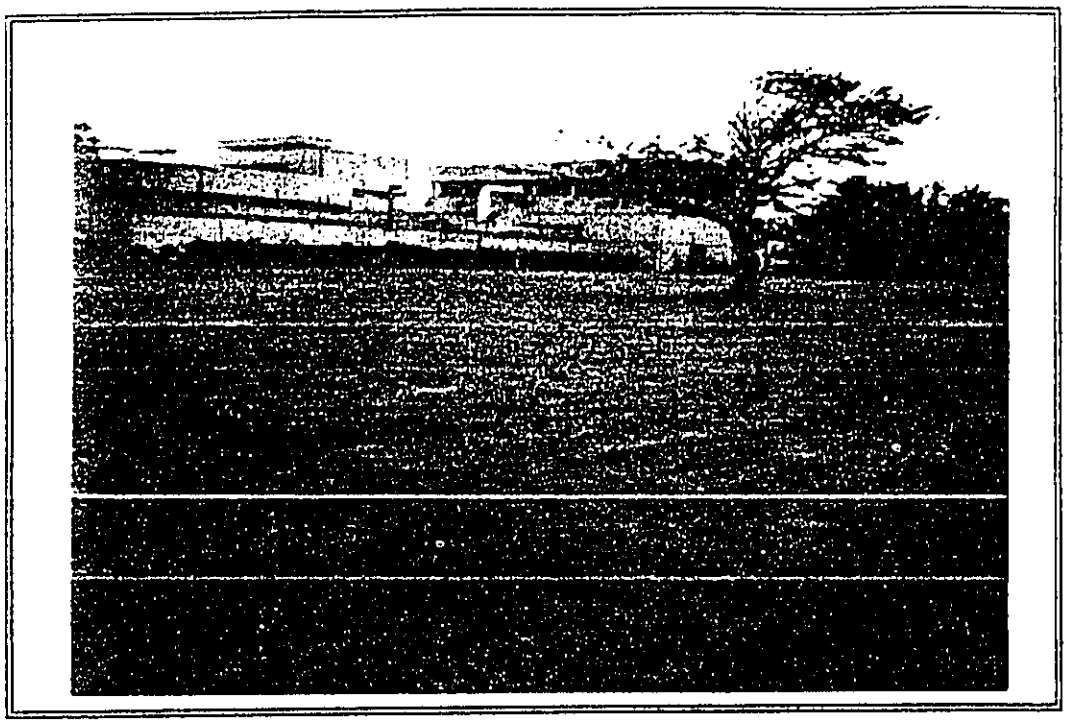

Photo 1: View of proposed Pretreatment Facility area looking south. Influent Screens Building is in the background.

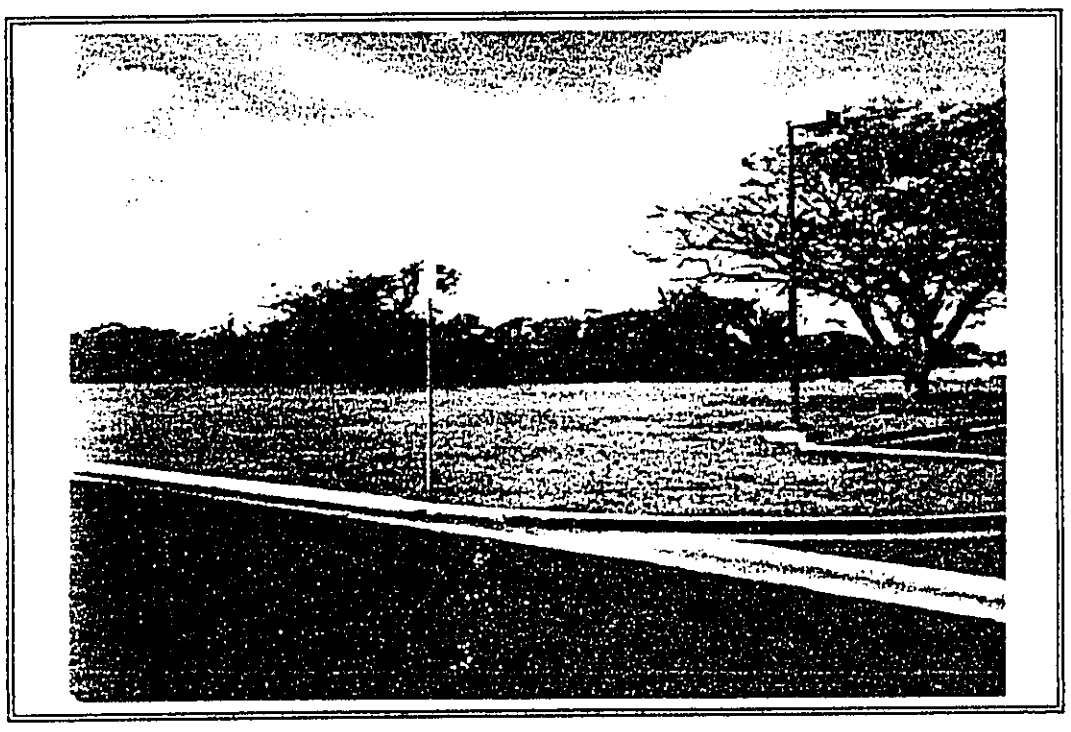

Photo 2: Proposed Pretreatment Facility area looking southwest. SIWWTP parking lot is on the right.

Sand Island Wastewater Treatment Plant
90 MGD Modifications PER
Phase I Environmental Site Assessment
Honolulu, Oahu, Hawaii

Photographer: K. Kawaoka
Date: January 21, 1999

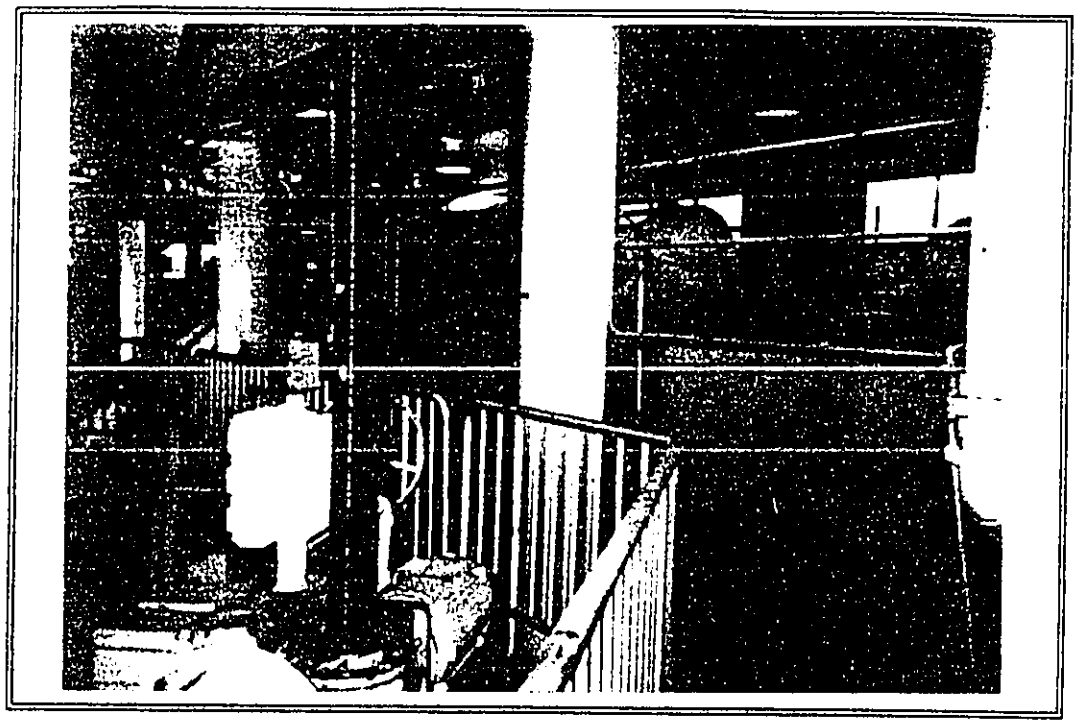

Photo 3: View of interior portion of Influent Screens Building.

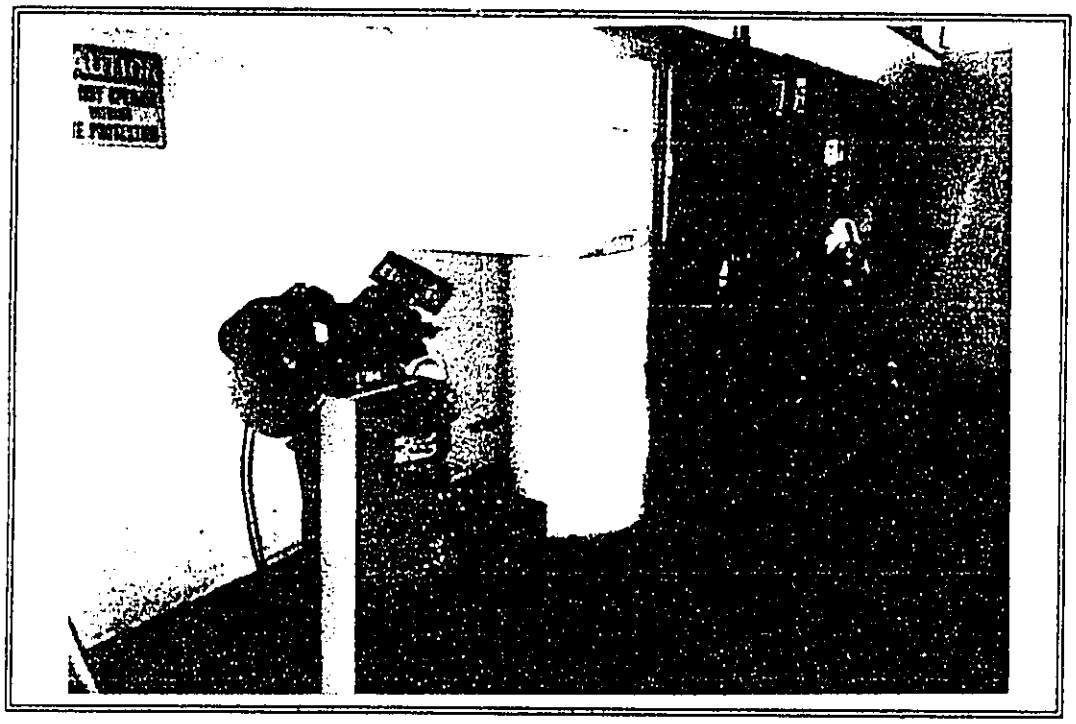

Photo 4: Workstation area of Influent Screens Building. Oily waste can is on the left.

Sand Island Wastewater Treatment Plant
50 MGD Modifications PER
Phase I Environmental Site Assessment
Honolulu, Oahu, Hawaii

Photographer: K. Kawaoka
Date: January 21, 1999

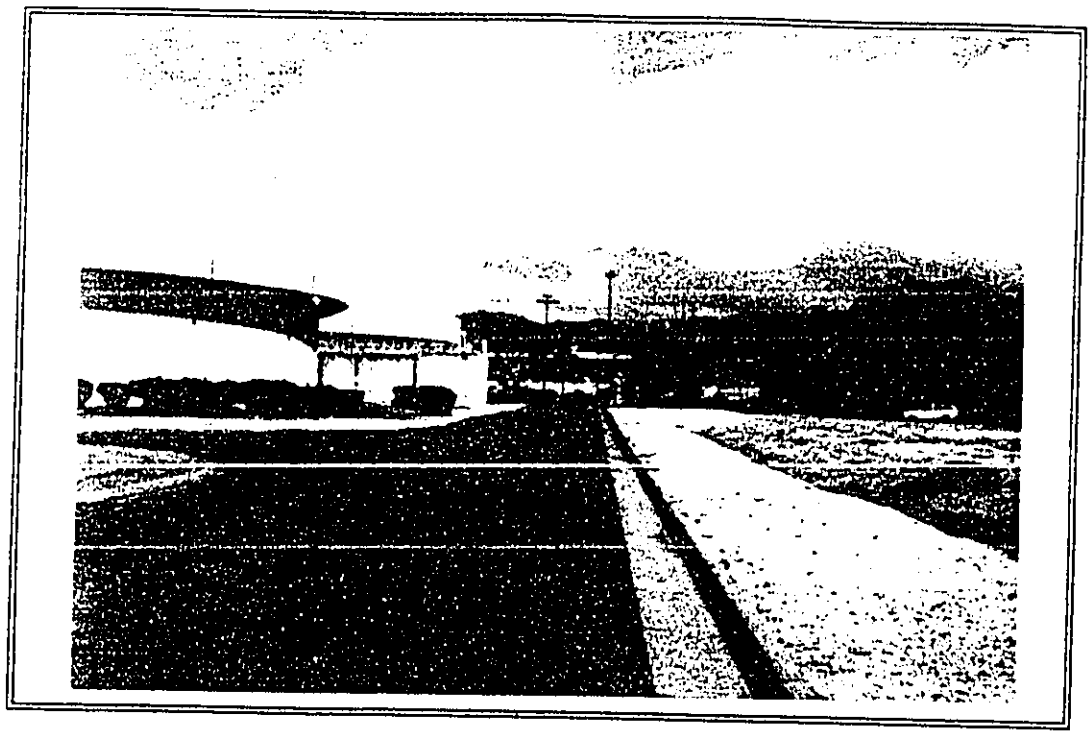

Photo 5: View looking to the north of the proposed clarifier modifications area.

Photo 6: View looking to the east in the area of the proposed clarifier modication area. Sand Island Road Parkway is on the left.

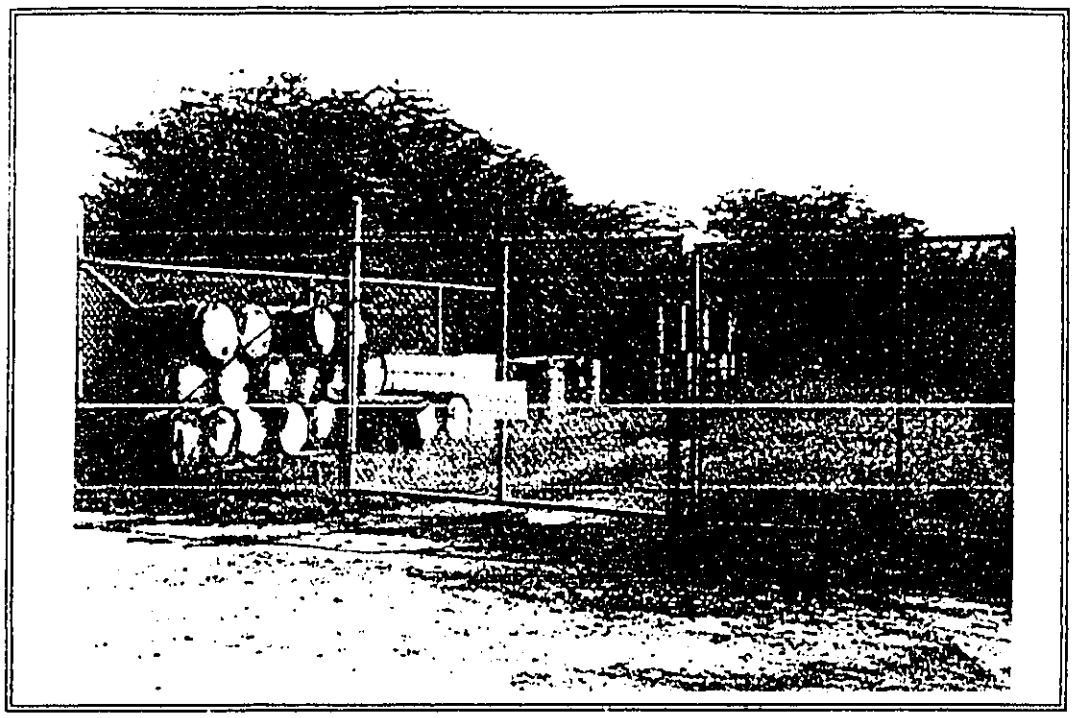

Photo 7: Drum storage area.

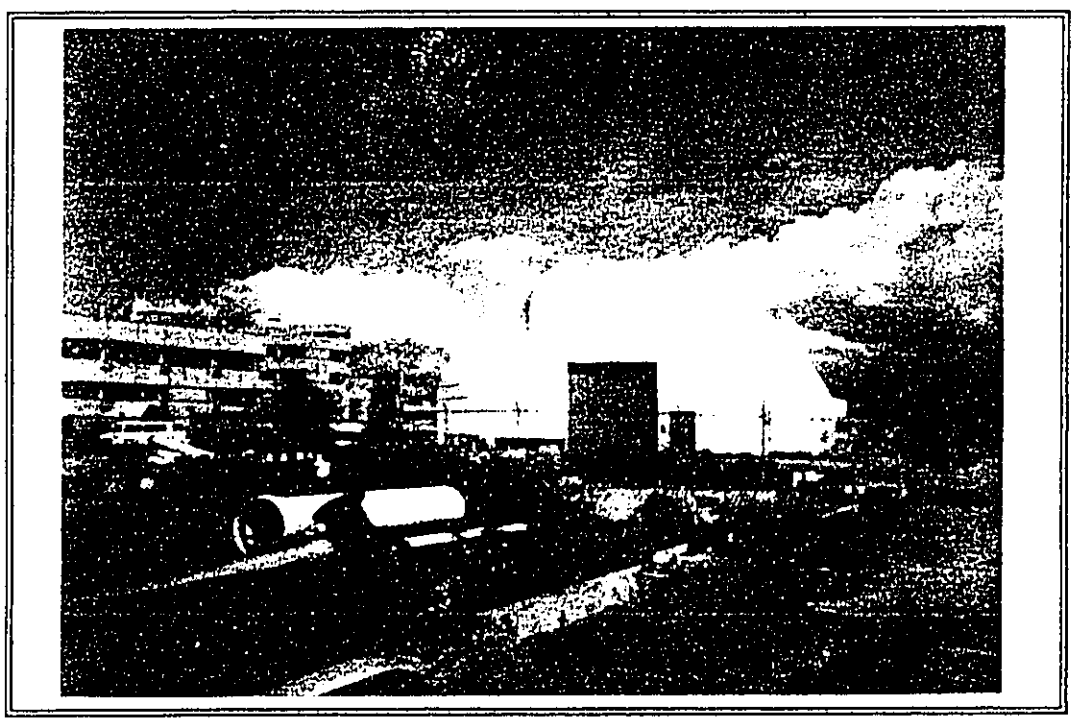

Photo 8: Miscellaneous equipment storage area. Tent storage building also stores equipment and piping.

Photo 9: Area of stockpiled miscellaneous debris awaiting removal. Area is located in the vacant undeveloped eastern portion of SIWWTP.

Photo 10: Assorted tire and vehicle debris located in the eastern vacant portion of SIWWTP.