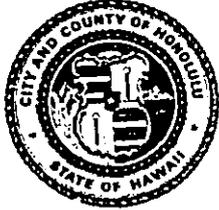


DEPARTMENT OF WASTEWATER MANAGEMENT
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813



FRANK F. FABI
MAYOR

RECEIVED
'94 MAY 20 P1:49

KENNETH M. RAPPOLT
DIRECTOR

OFC. OF ENVIRONMENTAL
QUALITY CONTROL

FELIX B. LIMTIACO
DEPUTY DIRECTOR

WEP 94-220

May 16, 1994

Bruce Anderson, Ph.D.
Interim Director
Office of Environmental Quality Control
State of Hawaii
220 South King Street, 4th Floor
Honolulu, Hawaii 96813

Attention: Mr. Brian Choy

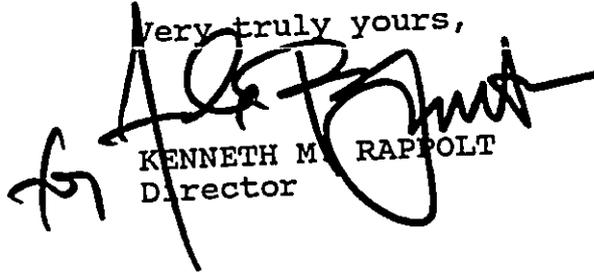
Dear Dr. Anderson:

Subject: Notice of Determination - Proposed Leeward
Regional Wastewater Maintenance Facility at
Honouliuli Wastewater Treatment Plant

We did not receive any comments following the 30-day review period of the Draft Environmental Assessment. The issuance of a Negative Declaration is anticipated since no significant environmental impacts are expected to occur from this project. As a result, the preparation of an Environmental Impact Statement will not be required.

Enclosed are four (4) copies of the Final Environmental Assessment for the project. If you have any questions, please contact C. Hamada at 523-4323.

Very truly yours,


KENNETH M. RAPPOLT
Director

Attachments

JUN - 8 1994

1994-06-08-DA-PEA - Leeward Regional
Wastewater Maintenance Facility

FINAL ENVIRONMENTAL ASSESSMENT
FOR
PROPOSED LEEWARD REGIONAL WASTEWATER
MAINTENANCE FACILITY

AT

HONOULIULI WASTEWATER TREATMENT
PLANT

TMK: 9-1-13:07

Proposing Agency:

Department of Wastewater Management
City and County of Honolulu



ASSOCIATES, INC.
Engineers/Architects

Responsible Officer

Kenneth M. Rappolt

MAY 10 1994

Kenneth M. Rappolt Date
Director

This document is prepared pursuant
to Chapter 343, HRS

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EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Maintenance activities and spare parts storage for City and County of Honolulu wastewater facilities are currently located at the Sand Island and Kailua Regional Wastewater Maintenance Buildings. The Sand Island Regional Maintenance Building serves the Leeward and Honolulu Wastewater Maintenance Districts. Due to its location on Sand Island, it is inconvenient to provide maintenance operations to the leeward side of the island. As a result considerable costs are incurred for employee commuting and equipment mobilization. In addition, the proposed expansions at the Honouliuli WWTP will require a larger maintenance area and the ability to handle the more complex secondary treatment process equipment.

To provide a more conveniently located repair and spare parts storage center for the Leeward Wastewater Maintenance District, the Department Wastewater Management (DWWM) is proposing to construct a regional maintenance building at Honouliuli Wastewater Treatment Plant (WWTP). The maintenance building will serve the Honouliuli, Nanakai, Paalaa Kai, Wahiawa, Waianae, and Whitmore Village WWTPs and 25 leeward pump stations. Associated parking facilities and a truck/equipment wash station will also be developed as amenities to the project. The Sand Island Regional Wastewater Maintenance Building will be released from Leeward district maintenance duties, therefore serving the Honolulu district better.

The proposed maintenance building will encompass about 29,400 square feet between two-floors. It will feature a mechanical maintenance and repair shop; a electrical technician shop; records and reference library; offices; employee eating area; restroom and locker facilities; and storage areas for spare parts, equipment and general supplies. Public safety amenities such as fire protection, mechanical ventilation, guardrails, slip-proof footing, eye wash stations, spill containment, and warning signs will be incorporated into the design of the proposed maintenance building. Approximately 40 personnel will occupy the building once it is complete.

The City plans to develop 95 additional parking stalls on-site for employees, visitors and the disabled as a part of the proposed project. Current building code and land use requirements require the addition of 36 additional standard parking stalls and 2 handicap stalls. The remainder of the extra stalls are provided to improve the employee parking situation. A covered parking structure for sludge hauling trucks and heavy equipment will also be constructed. These parking facilities will serve the new maintenance building and the Honouliuli WWTP, which presently lacks adequate parking.

In addition, a truck/equipment wash station will be constructed adjacent to the new maintenance building. This station will be used to clean and prepare equipment prior and/or following servicing and to wash down sludge hauling trucks and sludge bins. A drain system is planned to collect waste

washwater and convey it to the headworks of the plant for proper treatment.

This draft Environmental Assessment, EA, was prepared in accordance with Chapter 343, Hawaii Revised Statutes and its Administrative Rules contained in Title 11, Chapter 200 to address the existing environmental conditions at and adjacent to the WWTP site, the potential impacts the proposed maintenance building and parking facilities may have on environmental and human resources, possible mitigative measures to be taken to reduce potential adverse impacts, and areas where further study is warranted. Preparation of the EA is considered an initial step of the construction permitting process.

The Honouliuli WWTP site does not have any archaeological/historical resources and any significant, threatened, or endangered fauna and flora species. The nearest community, Varona Village, is located roughly 1,000 feet northwest of the plant. New residential subdivisions are being developed approximately 1,500 feet northeast of the plant along Geiger Road. Construction activities for the proposed project are expected to have minimal adverse impacts on the environment and adjacent communities. Likewise, operation of the proposed maintenance and truck/equipment wash facilities is also expected to have minimal adverse impacts.

INTRODUCTION

SECTION 1
INTRODUCTION

1.1 BACKGROUND

The City and County of Honolulu, Department of Wastewater Management operates and maintains 12 wastewater treatment plants and 67 sewage pump stations on the island of Oahu. Combined, these facilities convey, treat and dispose of an average of about 120 million gallons of domestic sewage per day.

Maintenance operations for these facilities are organized under three Wastewater Maintenance Districts, namely the Windward, Leeward and Honolulu Districts. Preventive maintenance and repair activities within each district are carried out on-site or at a regional maintenance facility that serves the District. Currently, the Honolulu and Leeward Maintenance Districts are served by the Sand Island Regional Wastewater Maintenance Building located at the Sand Island Wastewater Treatment Plant. The Windward Wastewater Maintenance District is served by the Kailua Regional Wastewater Maintenance Building located at the Kailua Wastewater Treatment Plant. In addition to having large mechanical and electrical repair shops, the regional maintenance buildings serve as spare parts storage centers.

To better support maintenance operations within the Leeward Wastewater Maintenance District, the City is proposing

to construct a Regional Maintenance Building at the Honouliuli Wastewater Treatment Plant in Ewa. This proposed facility will offer a more convenient and centrally located center for maintenance operations and parts storage in the Leeward area than that offered by the Sand Island Regional Maintenance Facility.

Three previous Environmental Impact Statements have been prepared for the Honouliuli WWTP and Barbers Point Ocean Outfall System. In December 1973, the Environmental Protection Agency, Region IX, completed a Federal EIS for the Mamala Bay Wastewater Treatment and Disposal System which includes the Honouliuli WWTP and Sand Island WWTP facilities. This EIS was followed by a Supplemental EIS prepared by the DPW in June 1975 to satisfy Chapter 343, Hawaii Revised Statutes requirements. The Supplemental EIS was accepted by Governor Ariyoshi on August 6, 1975.

Although the 1975 EIS described the impact of a secondary treatment plant with a capacity of 51 MGD, a third supplemental EIS was prepared in June 1988 for the First Incremental Expansion project. This EIS better describes the environment as it exists today. Details regarding the proposed project's scope, location, need and requirements are discussed in the following sections.

1.2 STUDY OBJECTIVE

The draft Environmental Assessment (EA) document is prepared in accordance with Chapter 343, Hawaii Revised Statutes and its Administrative Rules contained in Title 11, Chapter 200. It is considered the initial step of the permitting process. The document identifies the proposed project, project need, existing environment conditions, probable impacts of the project, proposed mitigation measures, and areas where further study is warranted. If an EIS is not required, a Negative Declaration document will be prepared stating that the project will have no significant adverse impacts on the environment. All public notices regarding the EA for the proposed project will be submitted to the Office of Environmental Quality Control, OEQC, and published in the OEQC Bulletin.

1.3 PROPOSED PROJECT

The proposed regional maintenance building will consist of two floors, each with a foot print of 14,700 square feet in area. It will feature roughly 3,800 square feet (sq. ft.) of mechanical maintenance shop; 310 sq. ft. of electric technician shop; 430 sq. ft. of reference library; 9,250 sq. ft. of storage area for supplies, equipment and records; a bridge crane; an employee eating area; offices; and locker and restroom facilities. The storage area is designed such that similar equipment and supplies may be stored together in separate

designated areas. Adequate aisle space will be maintained such that movement throughout the storage area is efficient and safe. A receiving and staging area will also be designated within the facility. Public safety amenities such as fire protection, guardrails, slip-proof footing, eyewash stations, mechanical ventilation, spill containment and warning signs will be incorporated into the design of the proposed maintenance building. Floor plans and building sections for the proposed maintenance building are shown in Figures 1-1 through 1-3.

As amenities to the proposed project, a truck/equipment wash station and additional parking facilities will also be developed. The wash station will consist of a designated staging area and pressurized water facilities. Drainage facilities will be provided to collect all runoff generated at the station and convey it to the headworks of the plant for proper treatment.

The proposed parking facilities consist of 95 new parking stalls for maintenance building and plant employees, visitors and the handicapped. Parking facilities will have curbs and painted lines marking stalls. A covered parking area will also be constructed for roughly ten sludge hauling trucks or other heavy equipment. Floor plan and building sections of the proposed covered parking facilities is shown in Figure 1-4.

Shrubs, trees and other landscape features will be developed as a buffer between the proposed building and parking facilities and adjacent areas.

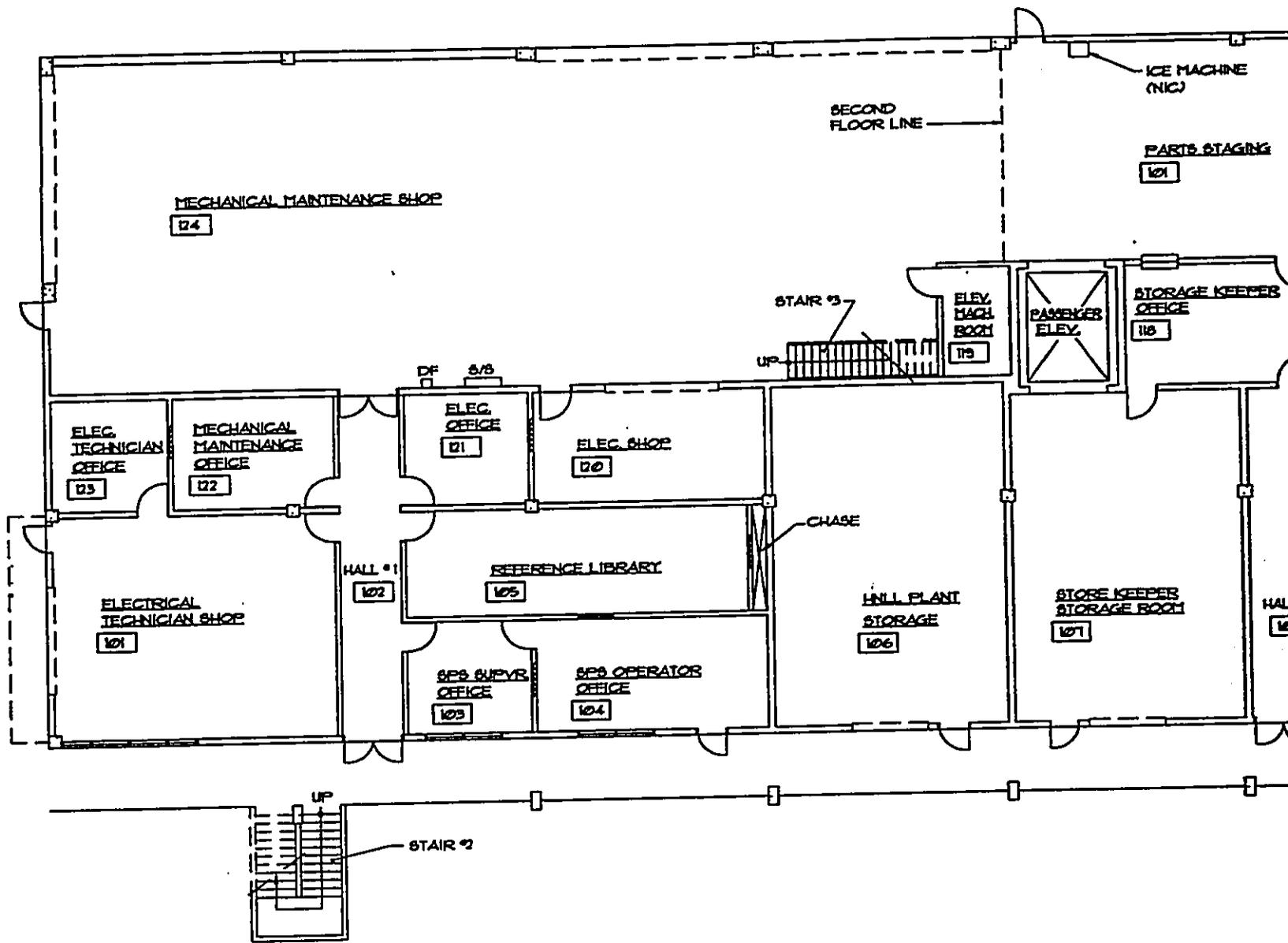
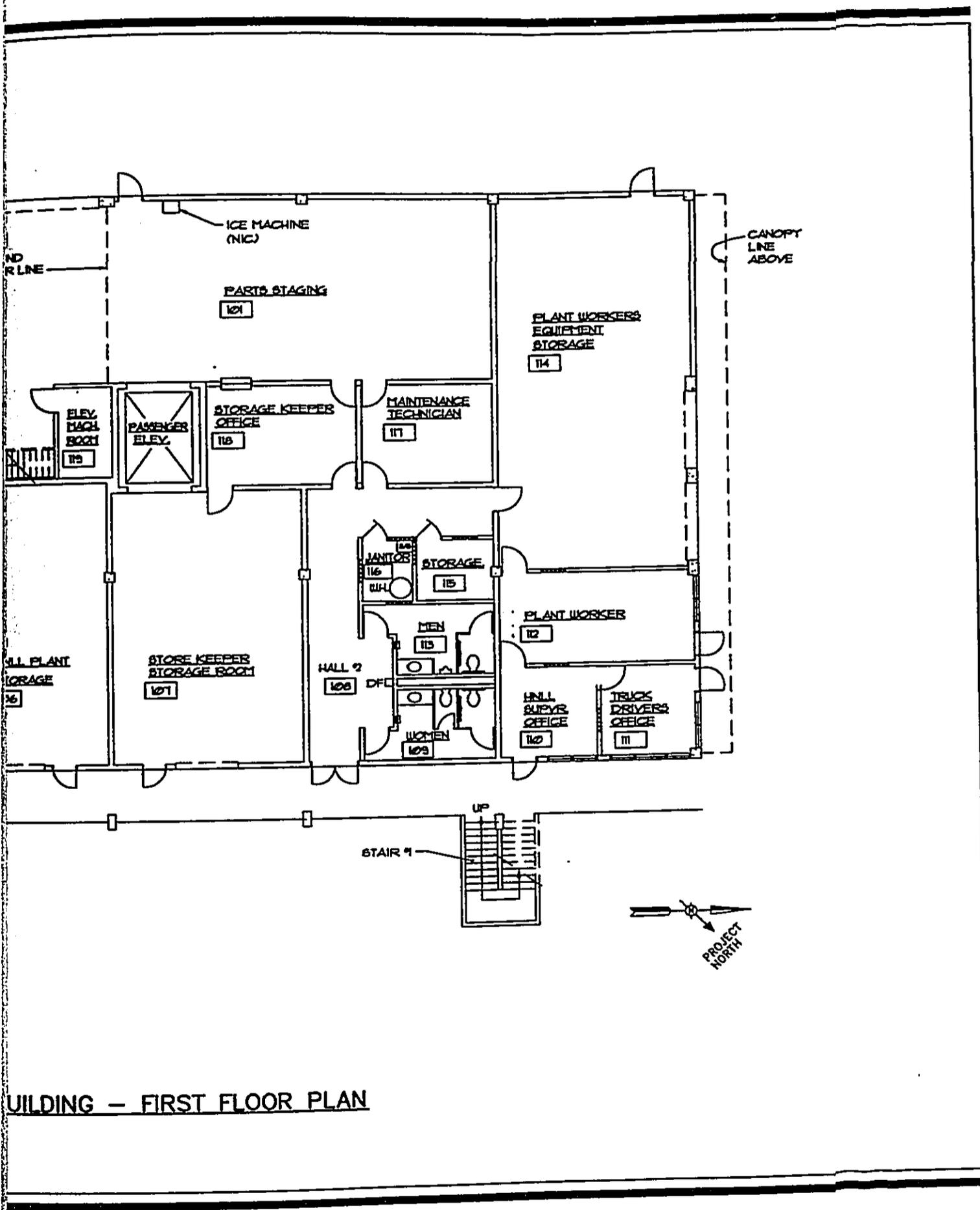


FIGURE 1-1 MAINTENANCE BUILDING - FIRST FLOOR PL.
SCALE 1/16" = 1'-0"

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BUILDING - FIRST FLOOR PLAN

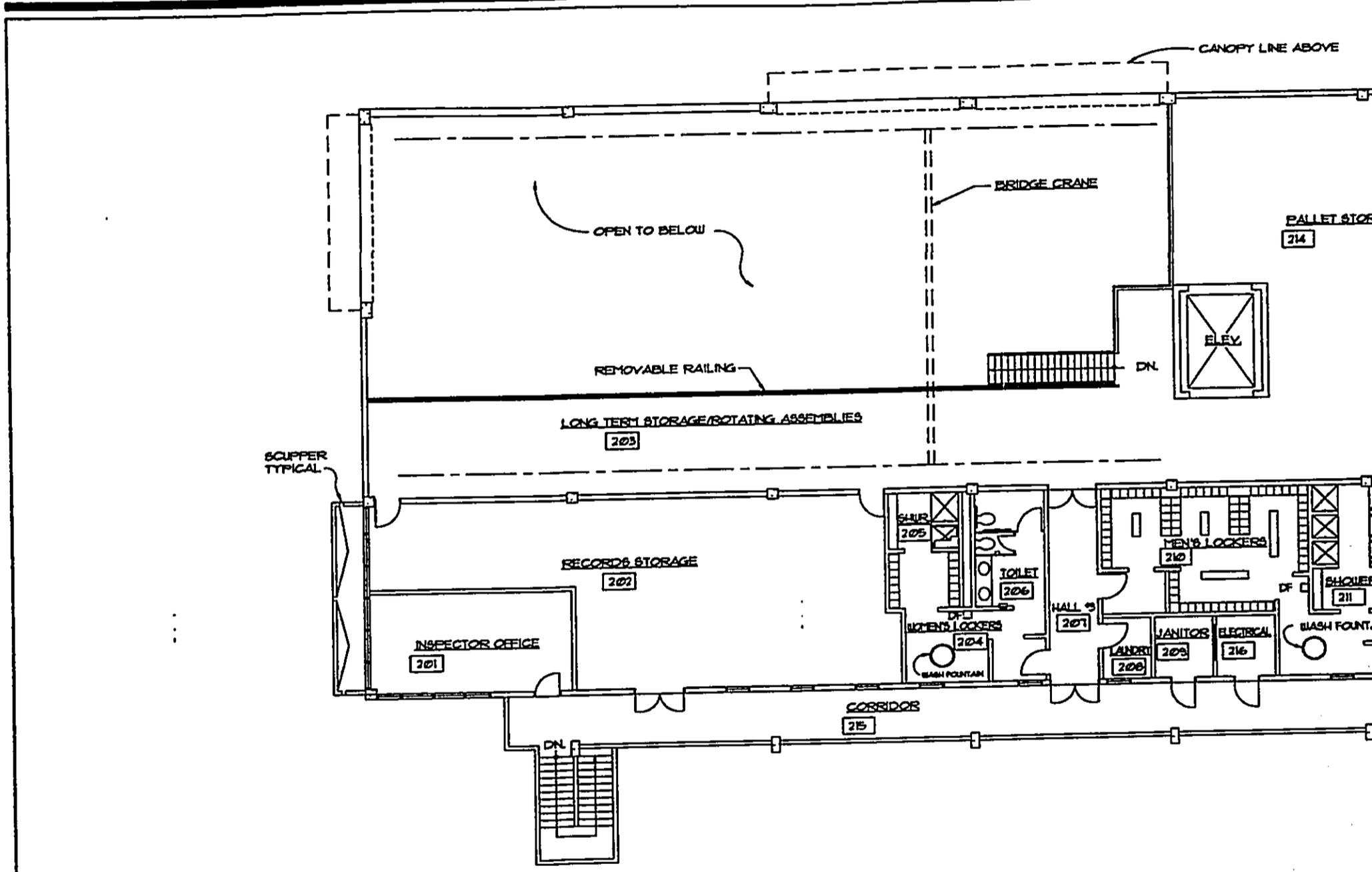
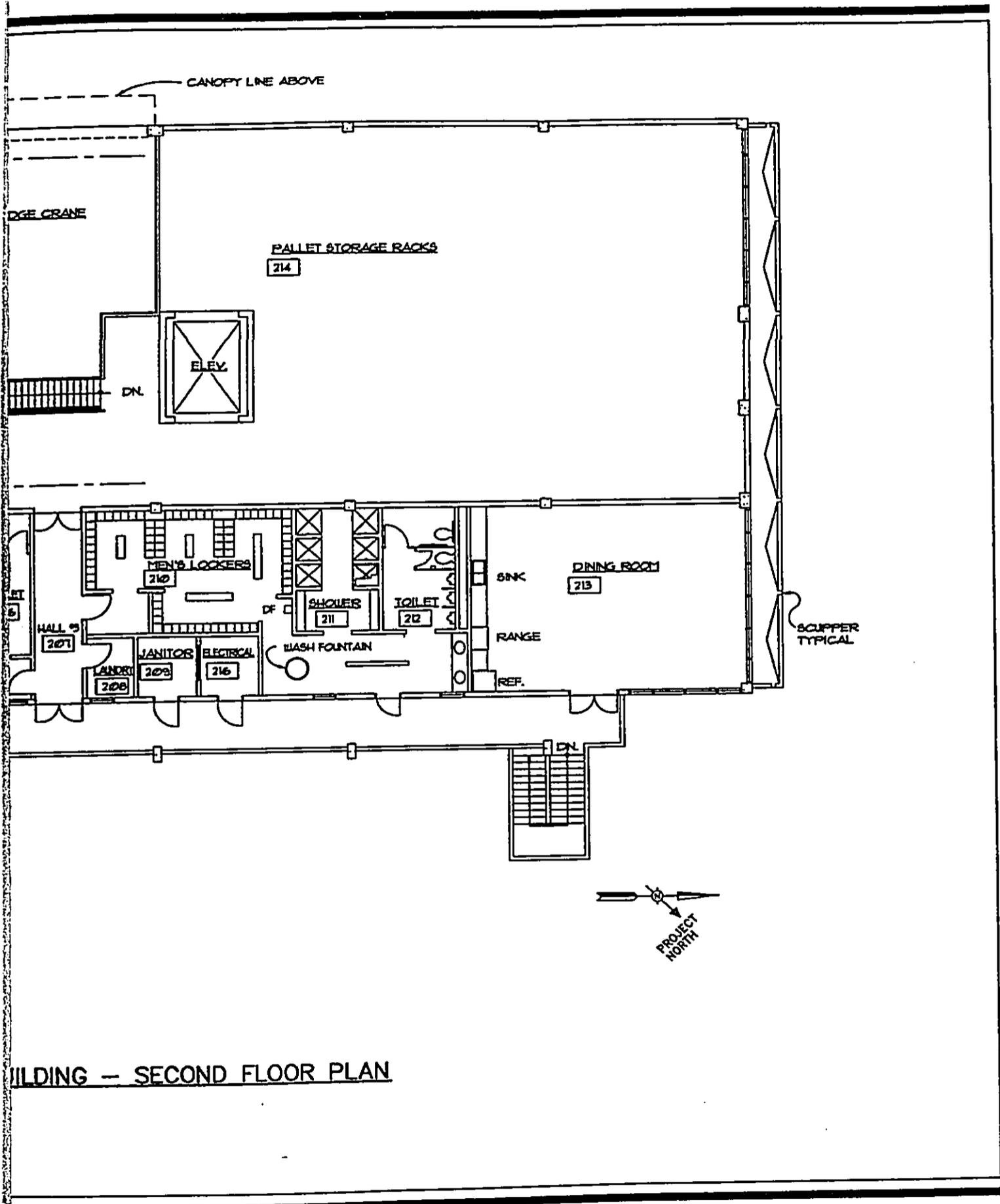
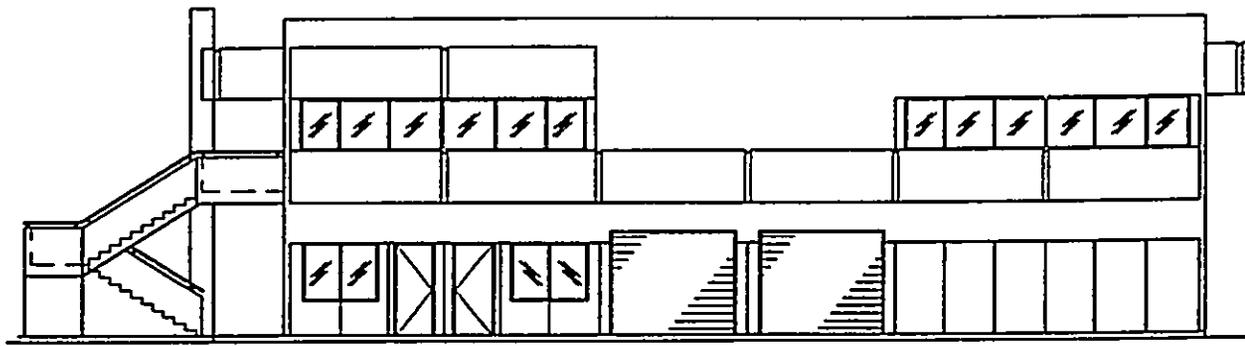


FIGURE 1-2 MAINTENANCE BUILDING - SECOND FLOOR PLAN
 SCALE 1/16" = 1'-0"

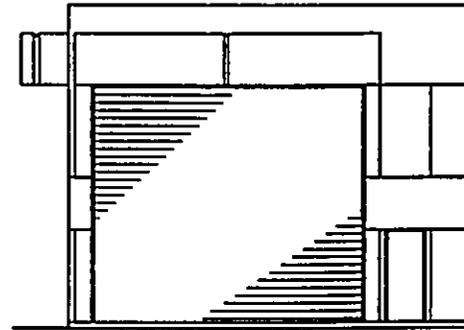
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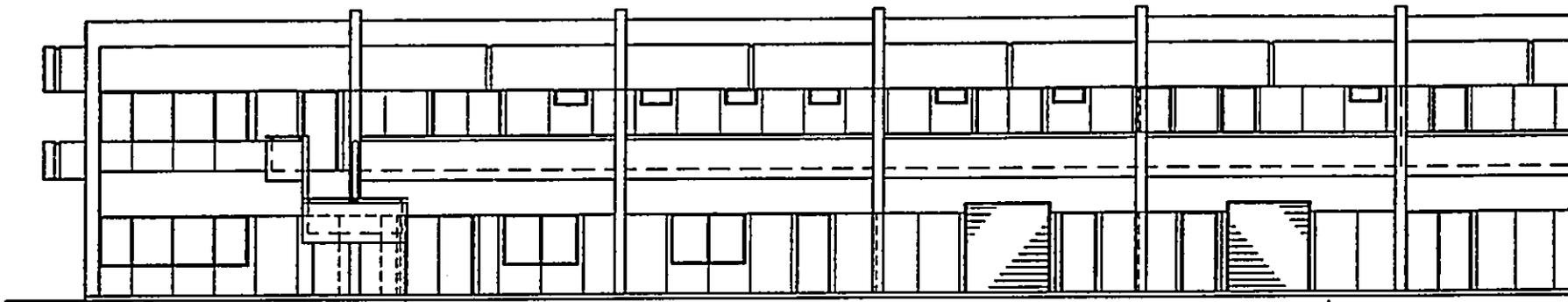
BUILDING - SECOND FLOOR PLAN



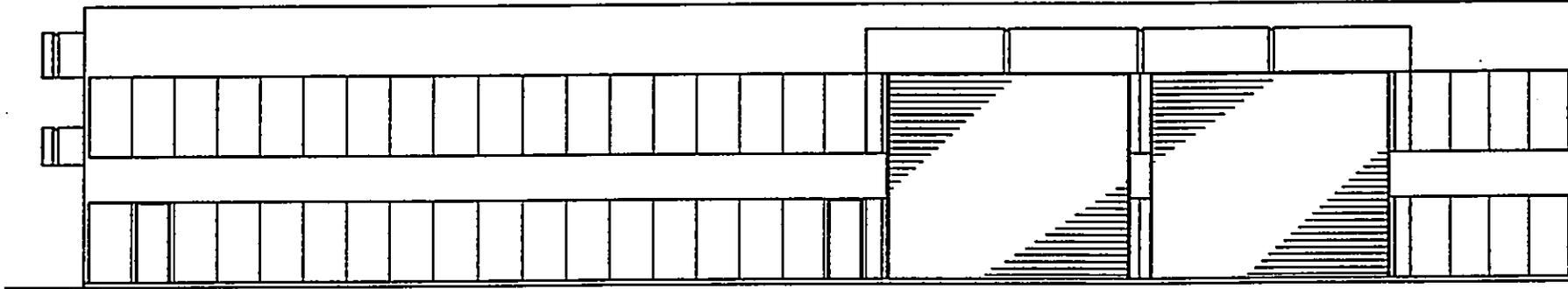
NORTH ELEVATION



SOUTH ELEVATION



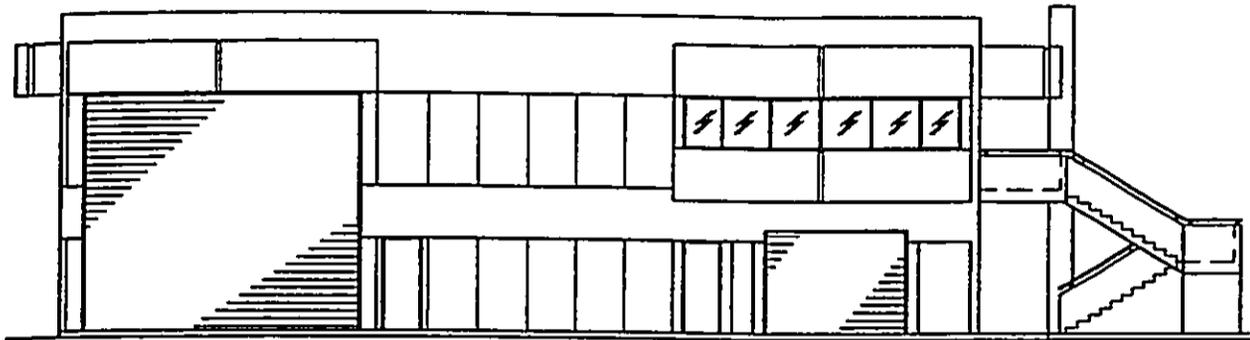
EAST ELEVATION



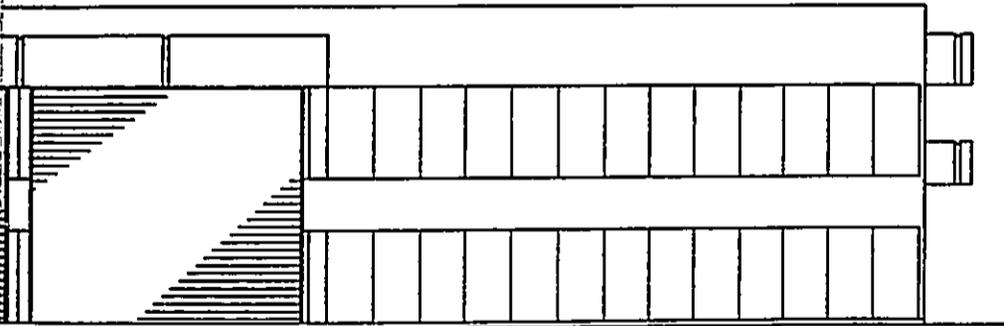
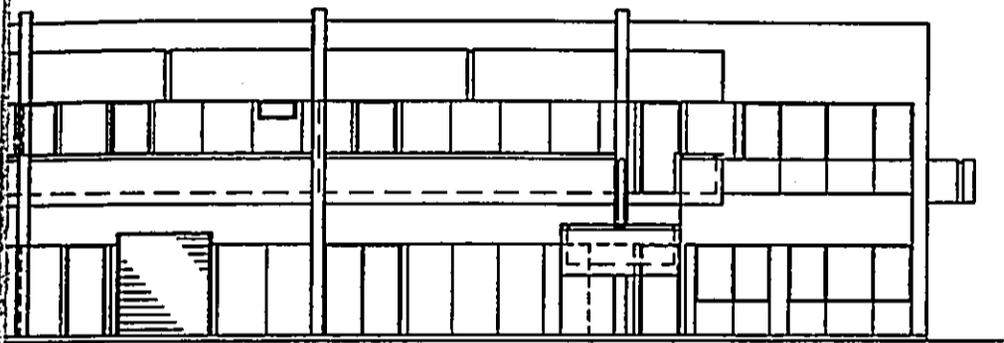
WEST ELEVATION

FIGURE 1-3 MAINTENANCE BUILDING - EXTERIOR ELEVATION
SCALE 1/16" = 1'-0"

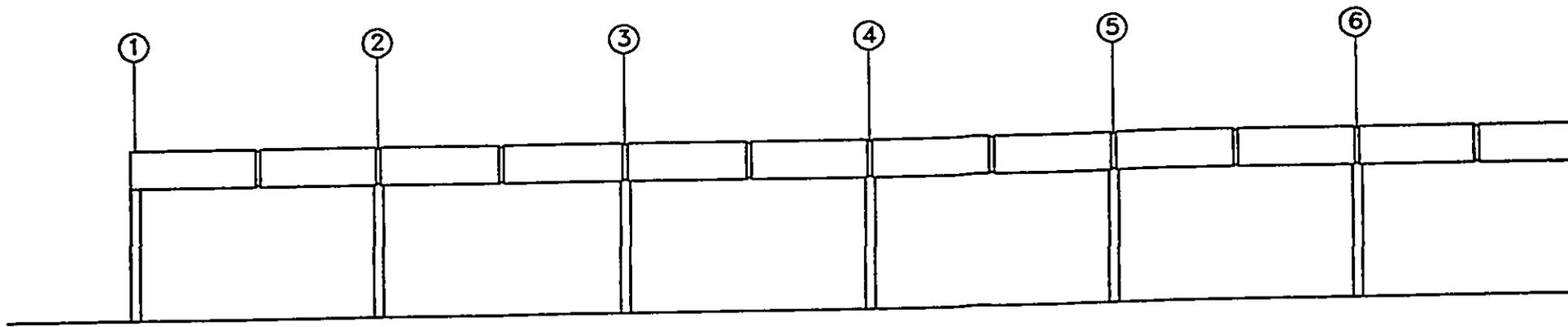
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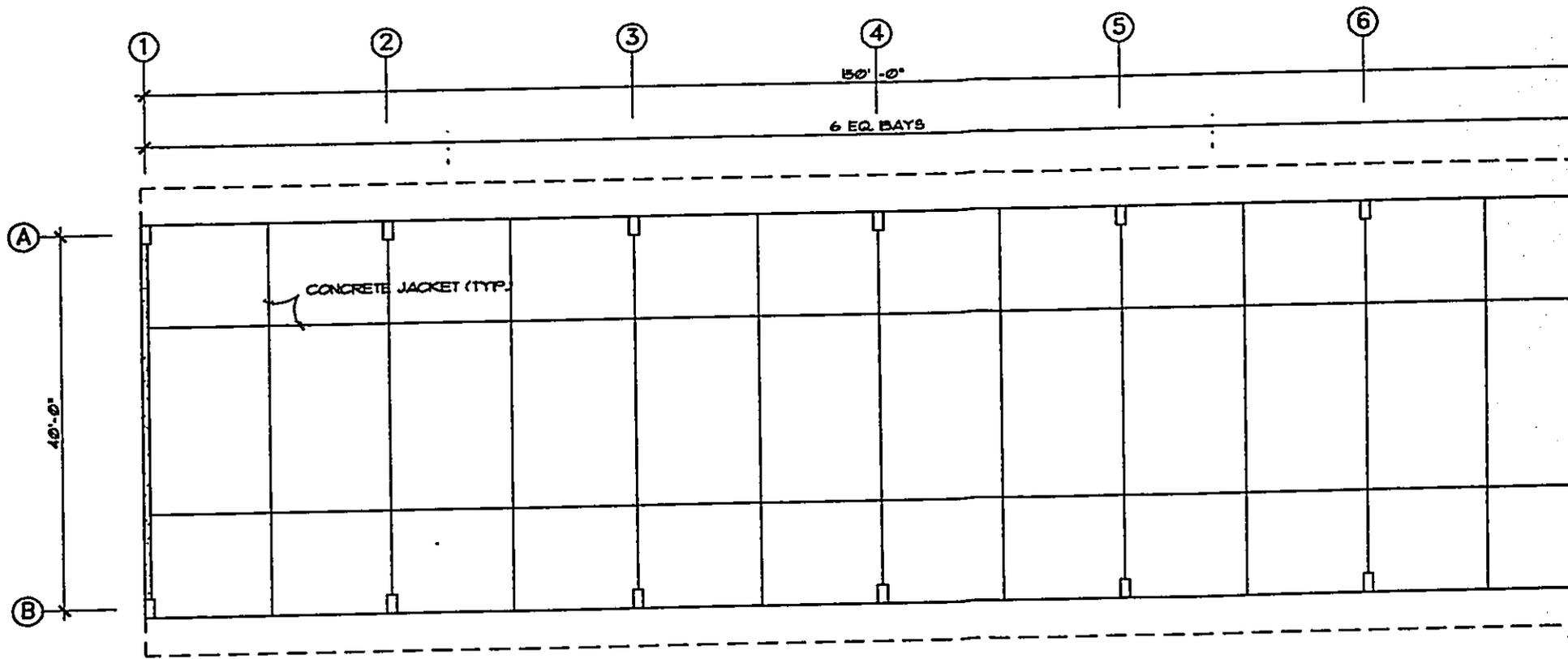
SOUTH ELEVATION



LDING - EXTERIOR ELEVATIONS



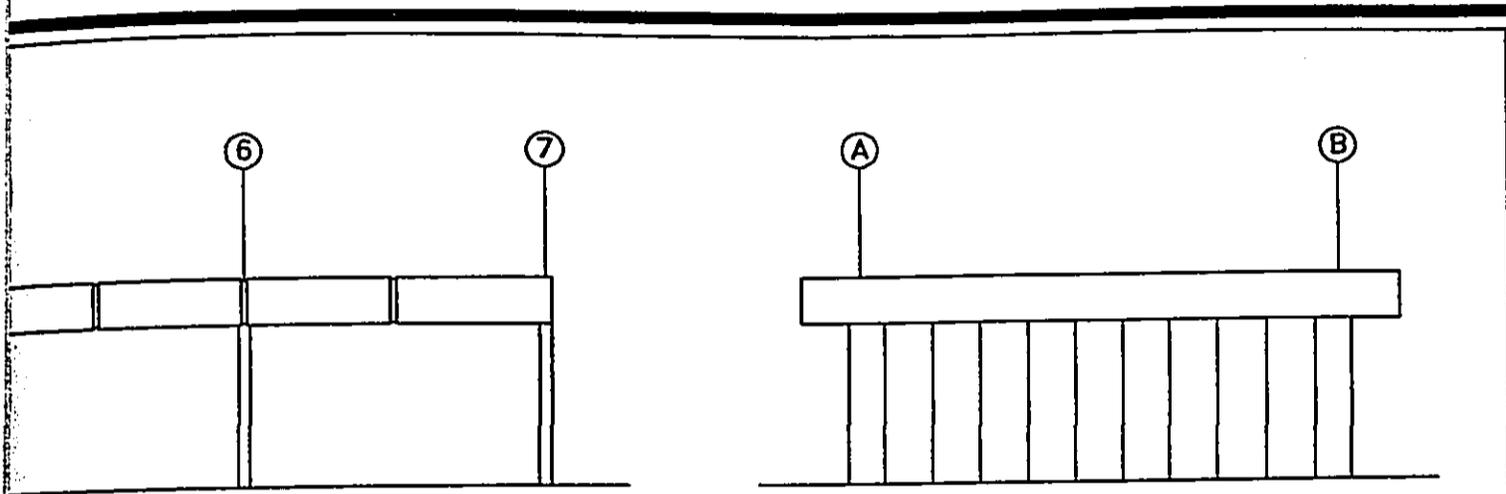
FRONT AND BACK ELEVATIONS



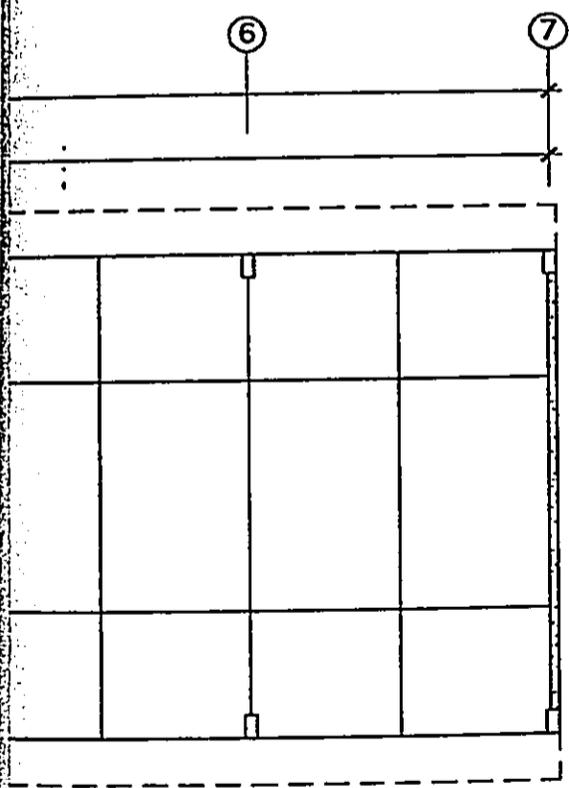
FLOOR PLAN

FIGURE 1-4 COVERED PARKING FACILITY - PLAN AND ELEVATIONS
 SCALE: 1/8" = 1'-0"

SC22650X



SIDE ELEVATIONS



FACILITY - PLAN AND ELEVATIONS

1.4 PROJECT LOCATION

The proposed project will be constructed within the boundaries of the Honouliuli Wastewater Treatment Plant Property. The plant is located on 51.3 acres adjacent to Barbers Point Naval Air Station shown in Figure 1-5. The property is identified by Tax Map Key Nos. 9-1-12-26 and 9-1-13-17. Access to the plant is provided by Geiger Road which intersects Fort Weaver Road (Route 760). The plant site was originally a portion of Barbers Point NAS. In 1974, the City and County of Honolulu acquired the land fee simple from the Federal Government and designated it as public facility (PF) on the County Development Plan Land Use Map. Varona Village, a subdivision of Ewa Village, is the nearest residential community to the plant. The village is separated by approximately 1000 feet of Oahu Sugar Company's cane fields from the mauka property line of the plant. Barbers Point Military Housing is located 2.2 miles west of the plant. To the south is the Barbers Point NAS golf course. There are no business or commercial areas found immediately outside of the property. The ocean is located three miles from the site. The proposed maintenance building, truck/equipment wash station and parking facilities are located on the makai portion of the plant property adjacent to Access Road "A". A site plan for the project is presented in Figure 1-6.

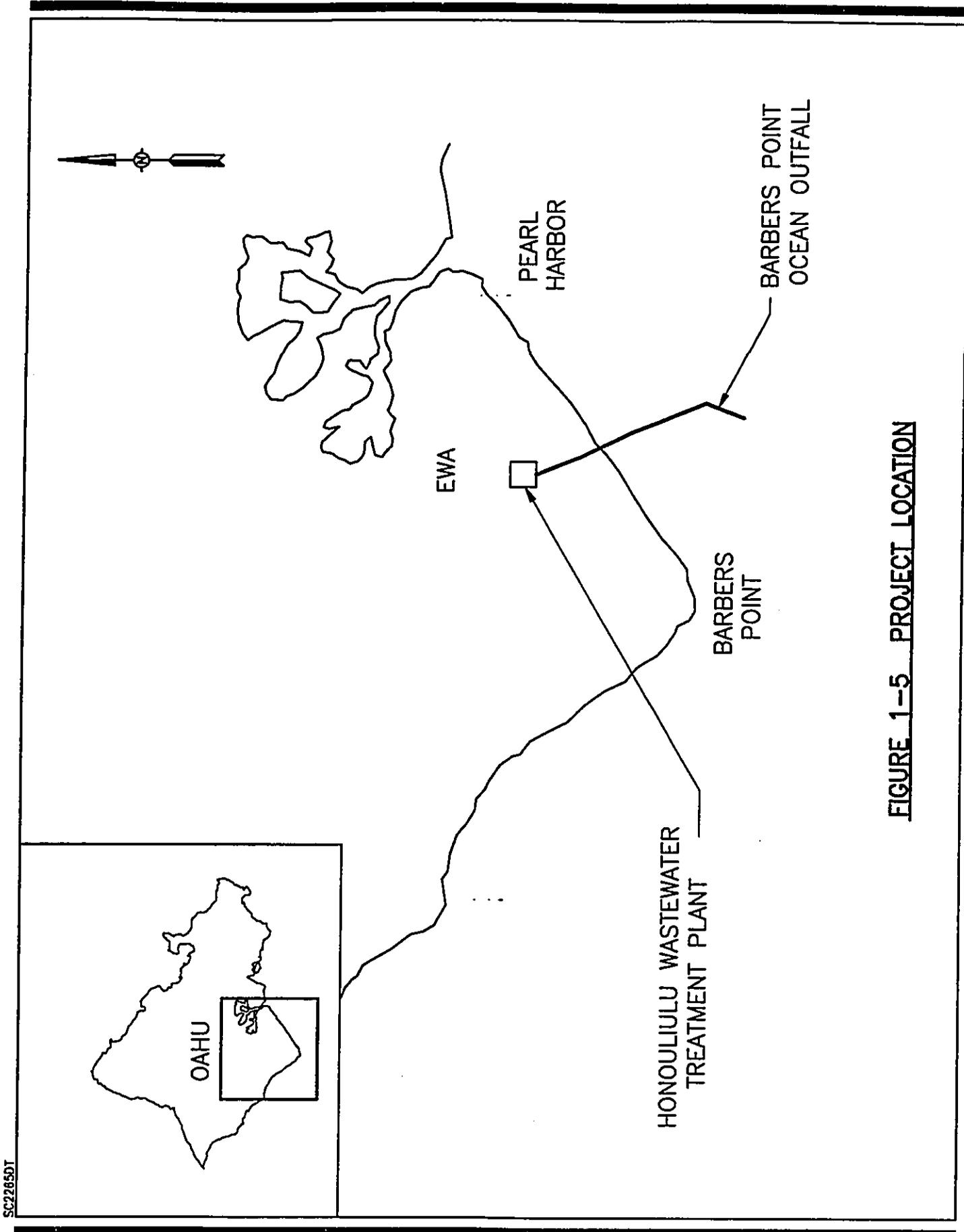
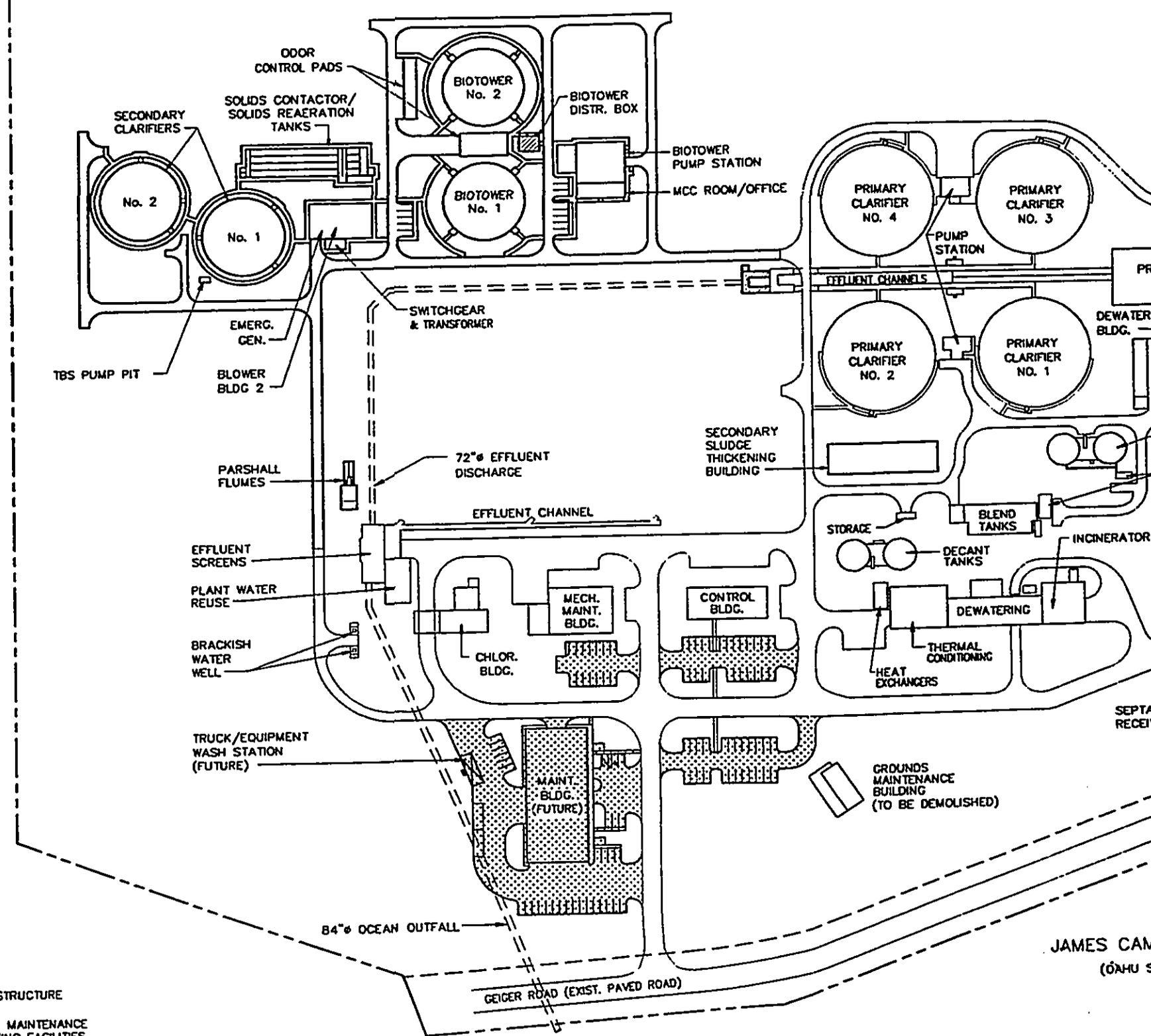


FIGURE 1-5 PROJECT LOCATION

SC22850T

JAMES CAMPBELL ESTATE

BARBERS POINT NAVAL STATION (U.S. NAVY)

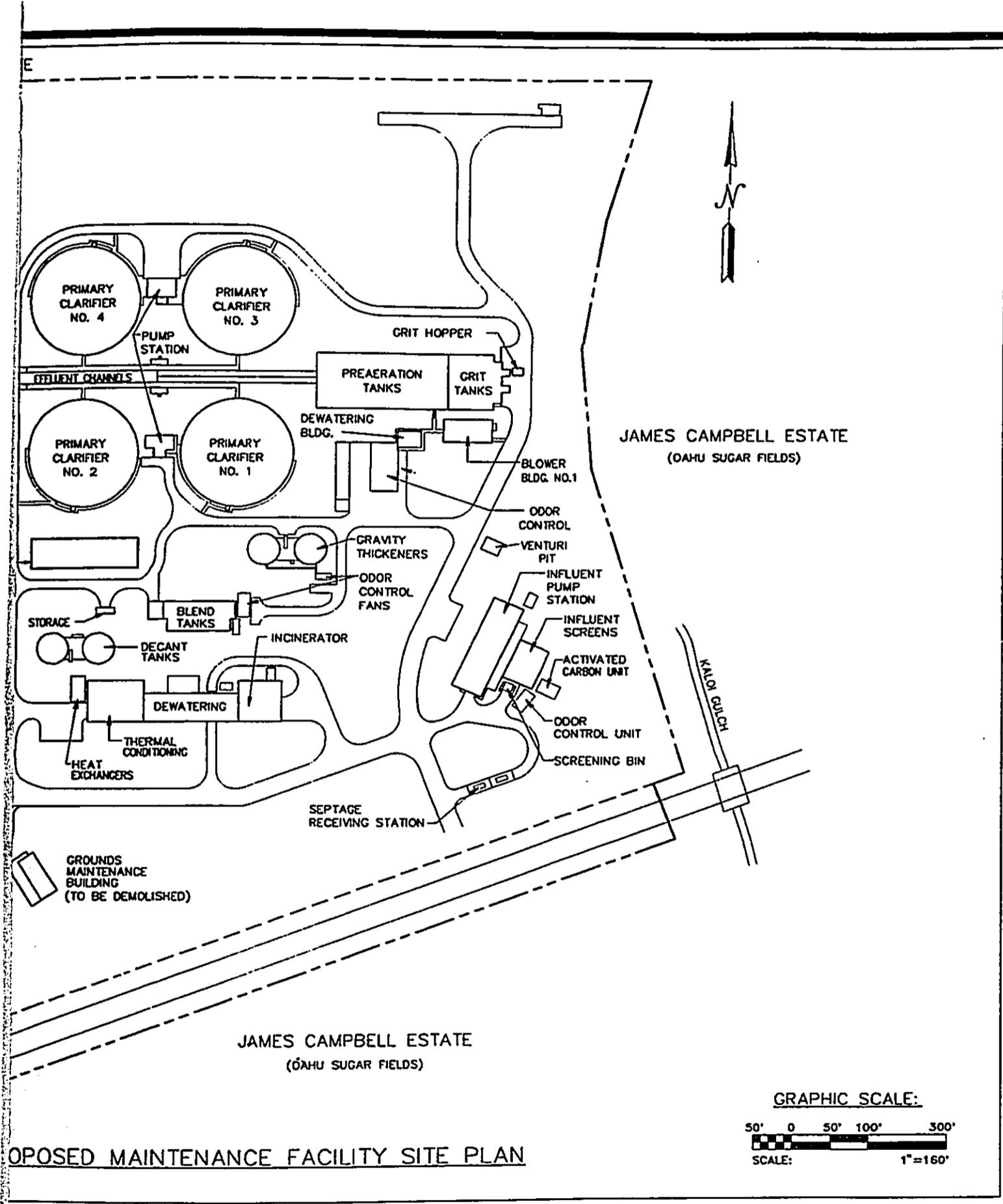


LEGEND:

- EXISTING STRUCTURE
- ▨ PROPOSED MAINTENANCE AND PARKING FACILITIES

FIGURE 1-6 HONOLIULI WWTW AND PROPOSED MAINTENANCE FACILITIES

SC226SCH



1.5 PROJECT NEED

The Leeward Wastewater Maintenance District includes the Honouliuli, Paalaa Kai, Wahiawa, Waianae, and Whitmore WWTPs and 25 pump stations as shown in Figure 1-7. Maintenance and repair activities for these facilities are presently conducted on-site or at the Sand Island Regional Maintenance Building. Spare parts for treatment plant and pump station equipment are stored at the Honouliuli and Mililani Maintenance Buildings and the Sand Island Regional Maintenance Building. Due to very limited storage capacity at the Honouliuli and Mililani Maintenance Buildings, the Leeward wastewater facilities must rely mostly on the Sand Island Regional Maintenance Building for spare parts storage. The location of the Sand Island Building, though, is inconvenient for maintenance operations on the Leeward side of the island. Maintenance personnel must travel several times a week to and from the Leeward side to Sand Island to transport machinery and retrieve spare parts. This commute covers considerable distance and is often subject to congested traffic conditions. As a result, maintenance operations are inefficient and incur unnecessary costs. The proposed regional maintenance building is centrally located for maintenance operations in the Leeward Wastewater Maintenance District. It will reduce commute times to and from the Leeward wastewater facilities and increase the overall efficiency of maintenance operations.

SC2265CX

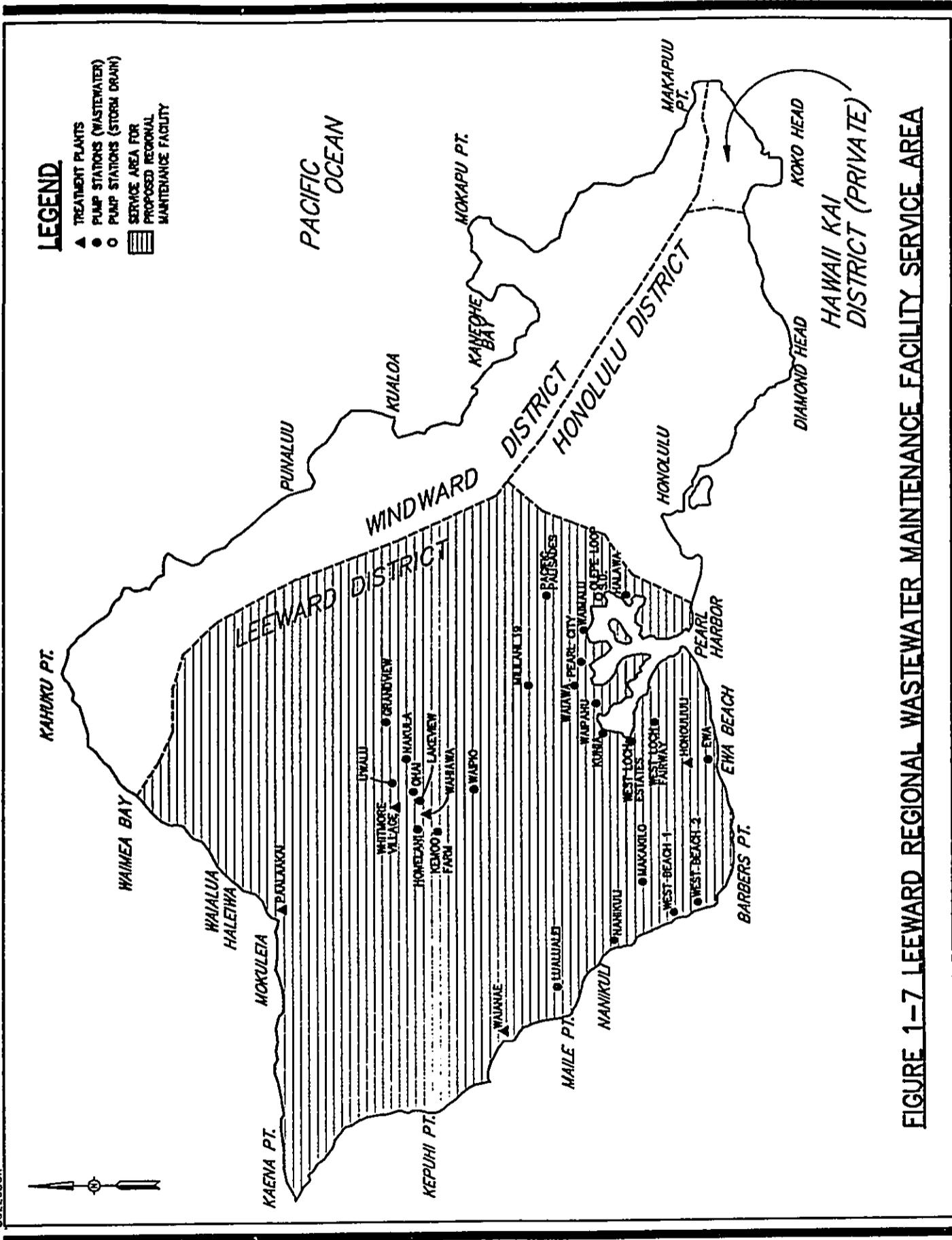


FIGURE 1-7 LEeward REGIONAL WASTEWATER MAINTENANCE FACILITY SERVICE AREA

The Honouliuli WWTP maintenance buildings and the screening headworks facilities at Mililani are expected to continue to serve their respective onsite facilities, while the new Leeward regional maintenance facility will serve the rest of the Leeward Wastewater Maintenance District. The Sand Island Regional Maintenance Building will continue to serve the Honolulu District facilities.

In addition, many of the City's wastewater facilities have recently been expanded or are planned to be expanded to meet increasing sewer demands. These expansions have increased maintenance operations and the need for adequate support facilities and spare parts storage. The proposed maintenance building will increase the overall availability of these facilities on the island as a whole. By relocating Leeward maintenance and repair operations to the Leeward side of the island, the Sand Island Regional Maintenance Building will be better able to serve the Honolulu Wastewater Maintenance District.

The proposed project will also increase maintenance and parking facilities specific to the Honouliuli WWTP. The plant currently has a mechanical maintenance building dedicated solely for plant maintenance and repairs. This building also stores some spare parts frequently needed for plant equipment. As a result of planned plant expansion, additional maintenance facilities will soon be needed. It is planned to relocate spare parts storage in the plant mechanical maintenance building to

the proposed regional maintenance building. This will allow for expansion of repair shops within the plant maintenance building.

Truck driver and groundskeeper operations for the plant will also be relocated to the new regional maintenance building. Groundskeepers presently occupy a temporary wooden shack adjacent to the plant. The proposed maintenance building will provide permanent offices and storage for plant truck driver and groundskeeper operations.

Employee, visitor and handicap parking at the plant is limited to 46 stalls even though there are presently about 80 personnel employed at the facility. Employees and visitors are often forced to park at undesignated areas or along the access roads to the plant, creating potential traffic hazards. As the plant is expanded, additional jobs will be created increasing the demand for employee parking. In addition, sludge hauling trucks and heavy equipment are stored outside at various areas of the plant, due to a lack of designated parking for this type of equipment. Currently, there is no covered parking at the plant to protect trucks and equipment from deterioration from weathering. The proposed project involves developing additional employee, visitor, handicap and covered parking facilities to meet current and future needs.

There is no designated truck/equipment wash station or structure at the plant. Sludge hauling trucks are currently washed daily at the screenings loading area of the plant. This area is equipped with a drainage system capable of conveying small volumes of screen drippage back to the headworks of the

plant. However, the system is unable of conveying larger flows of sludge runoff produced by washing sludge hauling trucks. Drain lines often become clogged, requiring flushing under this mode of operation. The proposed project will include the construction of a truck/equipment wash station and drainage system designed for sludge truck washing operations. Washwater will be returned to the headworks of the plant for proper treatment.

1.6 **PROJECT REQUIREMENTS**

1.6.1 **Land Requirements**

The proposed project will utilize approximately 1.7 acres of land for access ways, parking, the truck/equipment wash station and the maintenance building. The project site is located on the makai, vacant portion of the plant property. The entire site was previously graded when the plant was constructed.

1.6.2 **Utility Requirements**

The proposed maintenance building will be occupied by approximately 40 full-time staff and will be operated about ten hours per day. Building operations will place various demands on local electric, water and sewer utilities. Compared to utility requirements of the treatment plant and other industries

in the Ewa area, though, the proposed maintenance building will not constitute a major utility consumer. Utility requirements discussed below are based on building size and occupancy.

The facility will be equipped with general lighting, receptacle outlets, central air conditioning and electrical transporting equipment for moving machinery and stored goods. Parking areas will be lit with low-intensity lights. The maximum power requirement for the facility is estimated at 750 kVA.

The potable water requirement for the building is estimated to average 3,700 gallons per day (gpd). This figure includes 1,950 gpd for irrigating .25 acres of common landscaping (grass, shrubs, hedges, etc.) Irrigation demand may be reduced by landscaping with xerophytic vegetation. Additional quantities of potable water will be required for truck/equipment washing operations. Fire flow requirements are 2,000 gallons per minute.

Wastewater will be generated by staff lavatories and showers and by maintenance operations. Wastewater characteristics will be typical of domestic flows through some quantities of oil/grease may be present due to equipment cleaning activities. Grease traps will be provided where required. All wastewater flow will be conveyed to the headworks of the plant for proper treatment. The average wastewater flow expected from the building is 1,450 gpd. Additional flows will be generated by wash station operations.

Solid waste will also be generated by activities at the maintenance building. These wastes will consist of mostly paper and cardboard products.

1.6.3 Cost of Project

The combined cost of the proposed parking and maintenance facilities is estimated to be \$6 million based on 1993 dollars. The project will be funded by public Capital Improvement Program (CIP) appropriations from the City.

1.6.4 Development Schedule

The project schedule is dependant on the appropriation of funds, preparation of an EA, obtaining necessary government permits and approvals, construction of the proposed maintenance and parking facilities and relocating existing maintenance operations into the new maintenance building.

The City is scheduled to request design and construction funds in 1994. Parking and maintenance facilities are expected to take 12 months to construct. The Sand Island Regional Maintenance Facility will continue to operate and serve the Leeward Regional Maintenance District while construction of the new maintenance building takes place. Once this construction is complete, maintenance operations and parts storage specific to the Leeward area will be relocated from Sand Island to the new maintenance facility. In addition, spare

parts storage and offices for truck drivers and groundskeepers currently located within the Honouliuli WWTP complex will also be relocated to the new maintenance facility. The groundskeepers structure is expected to be demolished. Relocation operations should take approximately one to three months.

EXISTING ENVIRONMENT

SECTION 2
EXISTING ENVIRONMENT

The following section describes the existing environment in the general vicinity of the plant site.

2.1 HONOULIULI WWTP

The proposed regional maintenance facility will be located in the Honouliuli WWTP site. Construction of the plant was started in 1979 and was placed into full operation in 1984. It is operated by the City and County of Honolulu, Department of Wastewater Management. The plant currently serves Aiea, Pacific Palisades, Pearl City, Waipahu, Waipio, Honouliuli, Ewa, Makakilo and Barbers Point by providing primary treatment to an average 23.6 mgd of domestic wastewater. Solids removed from wastewater flows are incinerated producing a sterile ash. This ash is disposed of at the Waimanalo Gulch Landfill. Treated effluent is discharged through a 2-mile outfall to the Pacific Ocean at a depth of 200 feet. The plant operates under a 1985 NPDES permit which was issued and administratively extended by the Hawaii DOH. A 301(h) waiver, issued in 1991, was stayed pending completion of an evidentiary hearing conducted by the USEPA. This hearing, scheduled for December 1993, was cancelled. The city is currently waiting for reissuance of the waiver from the USEPA. The waiver permit is valid for five years.

The original plant was designed to treat an average domestic wastewater inflow of 25 mgd. The layout allows for future expansion to accommodate a predicted sewage inflow of 51 mgd by the year 2020. Expansion of the Honouliuli WWTP is being implemented in two phases. The first phase increases the plant's liquid stream capacity from 25 mgd to 38 mgd, and was completed in the summer of 1992. Design plans are currently underway to provide secondary treatment for 13 mgd of the 38 mgd design capacity for effluent reuse purposes. The second phase will increase the plant's liquid stream capacity to 51 mgd.

2.2 CLIMATE

The climate characteristics found on Oahu differs significantly from what is commonly ascribed to tropical conditions. Temperatures and humidity are moderate throughout the year and normally, steady trade winds blow from the northeast across the islands. This is a result of Oahu's marine location remote from any continental land mass and the presence of a stationary anticyclone (high pressure cell) to the north and east of the Hawaiian chain.

Two well-defined seasons, summer and winter, characterize Oahu's climate. Summer occurs in May through September and is marked by persistent trade wind flow. The Winter months occur during October through April when trade wind flow is interrupted by frequent storms. Most of the rainfall in the lowlands is derived from winter storms.

The Barbers Point area is characterized by equable temperatures, persistent tradewinds, moderate humidities, and slight rainfall. The mean annual temperature during summer months is 79°F and 72°F during the winter. Average annual rainfall is about 20 inches. Northeasterly trade winds predominate during most of the year with a mean speed of 9 knots. Southerly Kona winds occur occasionally, usually during the winter. Wind characteristics are shown in Figure 2-1 for the Barbers Point area.

2.3 EXISTING LAND USE, ZONING

The Honouliuli WWTP site consists of two parcels of land identified by Tax Map Key numbers 9-1-12-26 and 9-1-13-7. Parcel 26 is designated urban on the State Land Use Map and is zoned Residential R-5. Parcel 7 is designated for agriculture use and is zoned as Restricted Agricultural AG-1. The General Plan of the City and County of Honolulu was amended by Ordinance No. 4136 dated April 16, 1973 to change the land use of the site from military and agriculture to public facility (PF). Public facilities are permitted on lands zoned as Residential, R-5, and Agriculture, AG-1.

Existing land uses in the Ewa area as designated on the Ewa Development Plan Land Use Map are shown in Figure 2-2. Land designated for military use lies adjacent to the west border of the plant property, while agriculture lands surround the rest of the property. Residential development towards

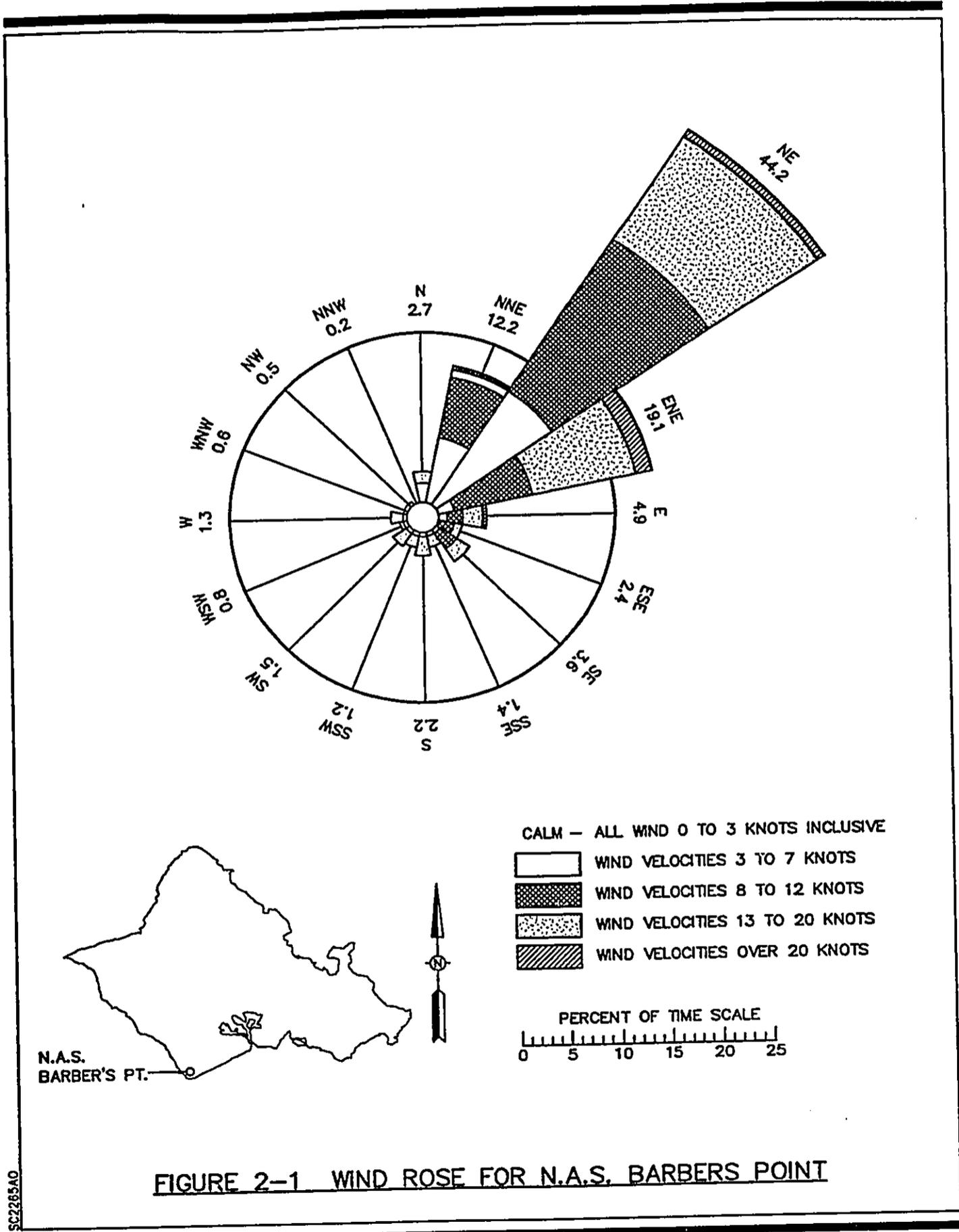


FIGURE 2-1 WIND ROSE FOR N.A.S. BARBERS POINT

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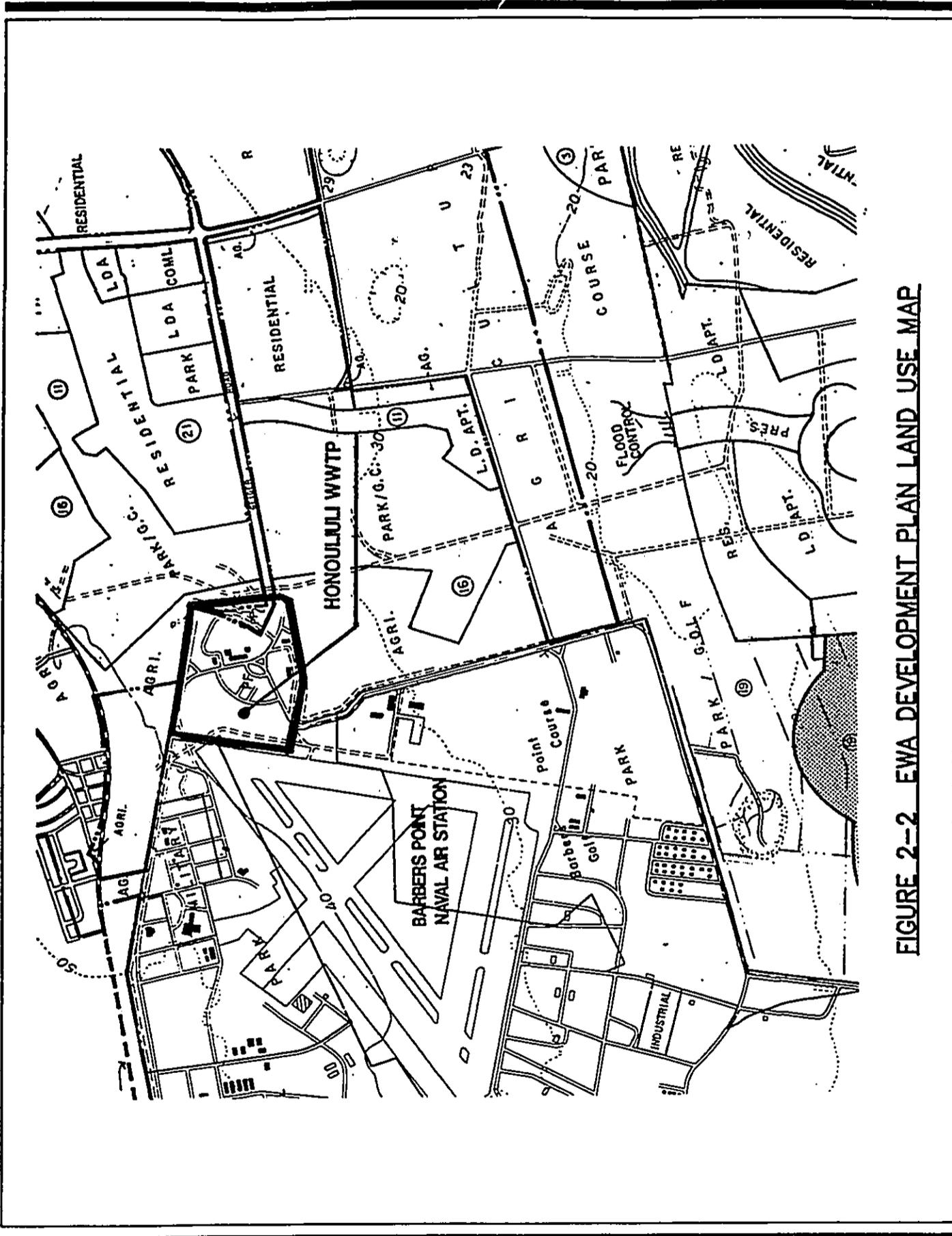


FIGURE 2-2 EWA DEVELOPMENT PLAN LAND USE MAP

Geiger Road will reduce the sugar cane buffer between urban lands and the plant. The State Land Use Map surrounding the plant is shown in Figure 2-3.

The project site was at one time located within the Special Management Area (SMA) of the City and County of Honolulu. The boundary of the SMA has since been revised such that the plant site is now Mauka of the property. The SMA is shown in Figure 2-4.

2.4 TOPOGRAPHY AND GEOLOGY

Ground elevations at the project site range from 32 feet above mean sea level at Geiger Road to 42 feet at the mauka boundary. The site is generally flat due to previous grading and landscaping operations. Adjacent areas are also relatively flat and void of any significant surface features.

The project site is part of the Ewa Plain, created during the later stages of the geological history of Oahu. As the region sank, stream sediments from the Waianae and Koolau volcano ranges were deposited, creating alluvial plain formations. Then during the warmer, interglacial stages of the Ice Age, the sea level rose above its present height giving rise to coral reef growth across the plain. Later during the glacial stage of the Ice Age, sea levels declined due to the accumulation of water in the glaciers. The existing reef became exposed to rain water and decaying vegetation, resulting in slightly

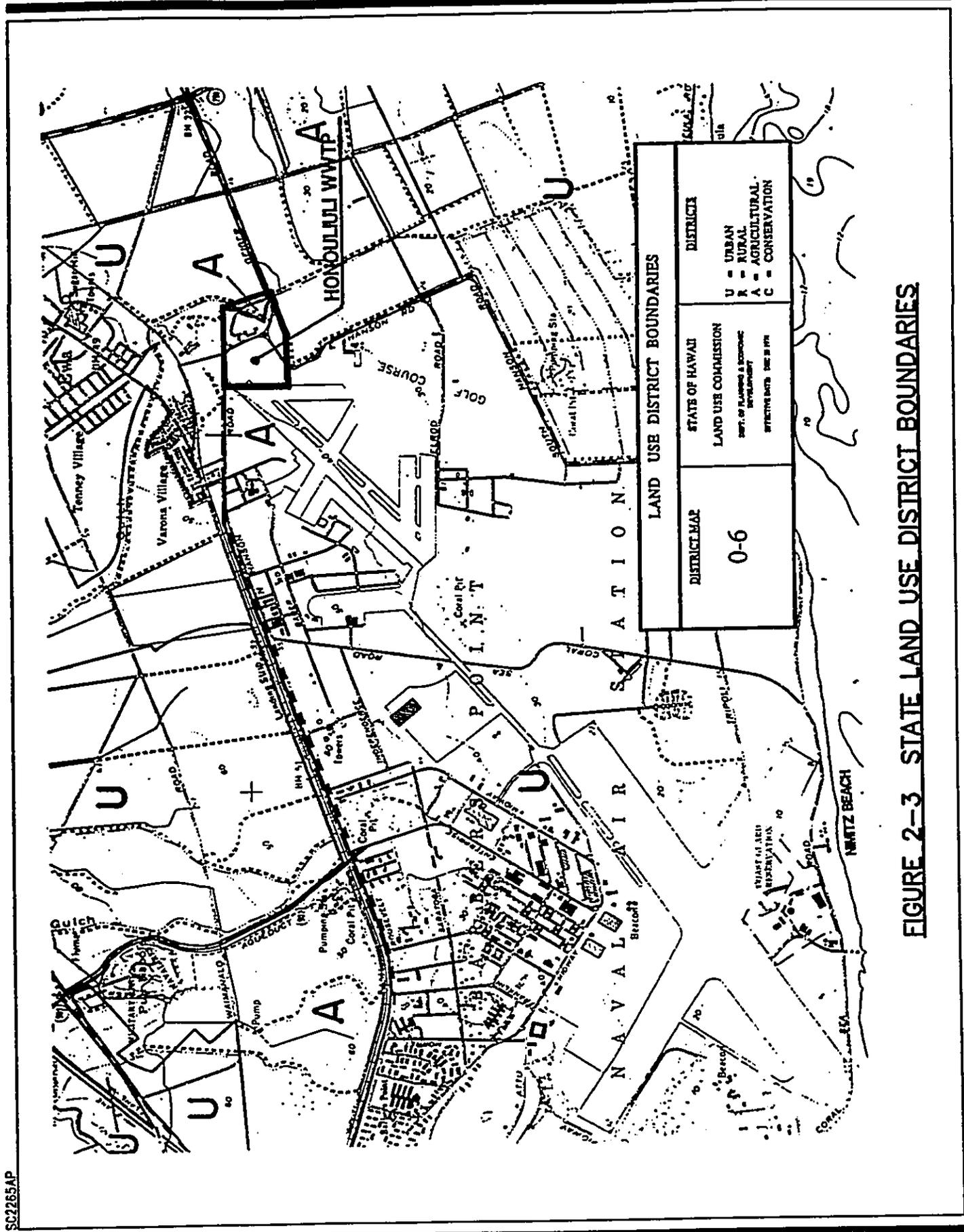


FIGURE 2-3 STATE LAND USE DISTRICT BOUNDARIES

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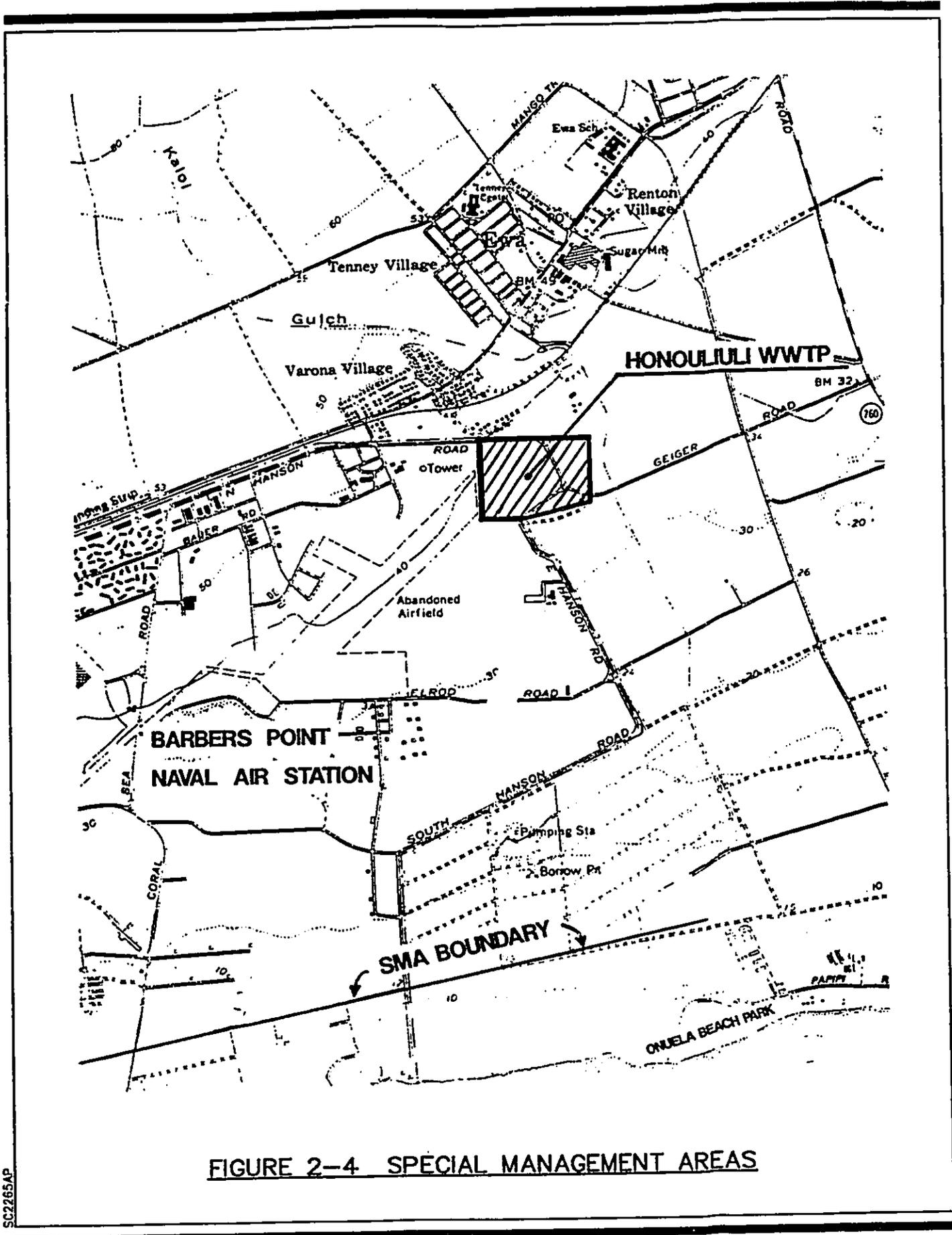


FIGURE 2-4 SPECIAL MANAGEMENT AREAS

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acidic groundwater. The acidic nature of the groundwater created large, open cavities throughout the natural reef.

Soil borings taken in 1974 showed that groundwater levels are roughly 35 feet below surface ground elevations throughout the plant site. The caprock aquifer is 100 to 200 feet thick in most places and consists of brackish, slightly acidic water.

The site is underlain by at least 45 feet of soft to moderately hard coral reef formation and some stiff clay. Materials near the surface are relatively hard due to the solution and redeposition of calcium. Underlying portions of the ancient reef vary from soft to hard corals with lattices and voids, some of which are filled with reef debris, sand, and/or clay.

Soils found at the plant site consist of Lualualei - Fill land - Ewa soil associations. Most overlying soils are made up of Mamala Stony, silty, clay loam coral rocks and consolidated coral sands. Soils along the eastern boundary are Ewa silty loams and Waialua silty clays. Soil associations related to the project site are shown in Figure 2-5.

2.5 DRAINAGE

Stormwater runoff in the Ewa area collects in Kaloi Gulch. This Gulch transverses between Tenny and Varona Village and along the eastern boundary of the Honouliuli WWTP to the ocean. Since the gulch is not capable of containing the entire

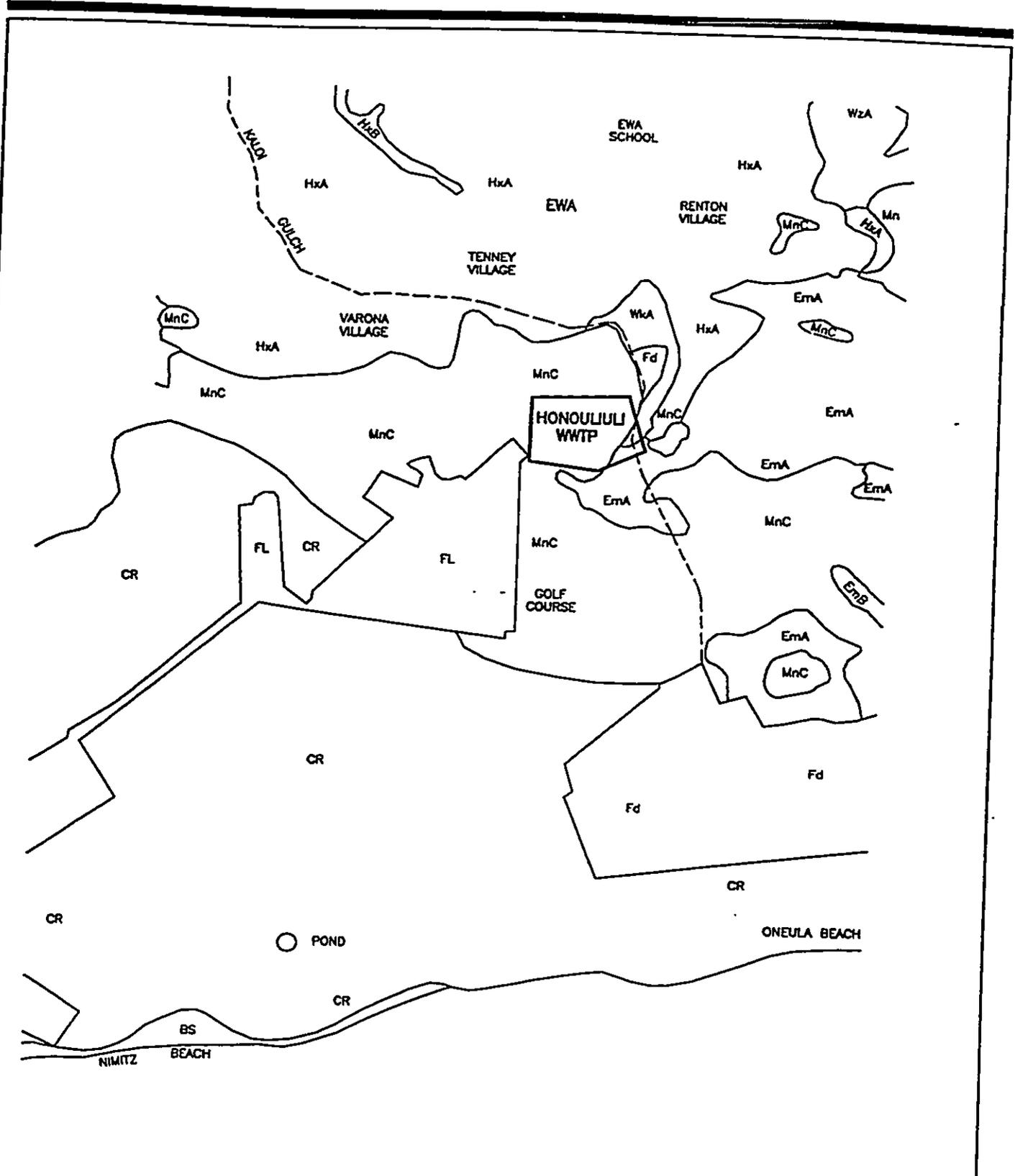


FIGURE 2-5 USDA SOIL CONSERVATION SERVICE, SOIL SURVEY MAP

SC2265DN

runoff in its unimproved state, sheet flow is assumed to cross the northwest corner of the plant site. A 200-foot wide grassed swale was provided to direct flow around the plant facilities to cane field mauka of the site. Sheet flow also crosses the eastern portion of the property, conveyed through a 50-60 wide grassed swale to a makai cane field. Improvements to Kaloi Gulch and the eastern swale are planned along with off-site improvements in the Ewa marina and Oahu West Developments. These improvements will consist of silting basins and concrete lined channels and will drastically reduce or eliminate flow and erosion on the site.

Barbers Point NAS and the Honouliuli WWTP site are classified as Zone D lands in the Federal Flood Insurance Rate Map shown in Figure 2-6. A Zone D designation indicates that the potentials for flood hazards have not yet been determined for that area. Portions of Ewa Village and Varona Village are classified as Zone A special flood hazard areas susceptible to 100-year flood inundation.

2.6 ARCHAEOLOGICAL AND HISTORIC RESOURCES

The Honouliuli WWTP site was formerly part of the Barbers Point NAS. In the late 1930s, the station was an auxiliary airfield for Ford Island. After the Pearl Harbor attack in 1942, the area was established as the Ewa Marine Corps Air Station. Later the Station was expanded to its present boundary and designated a naval air station.

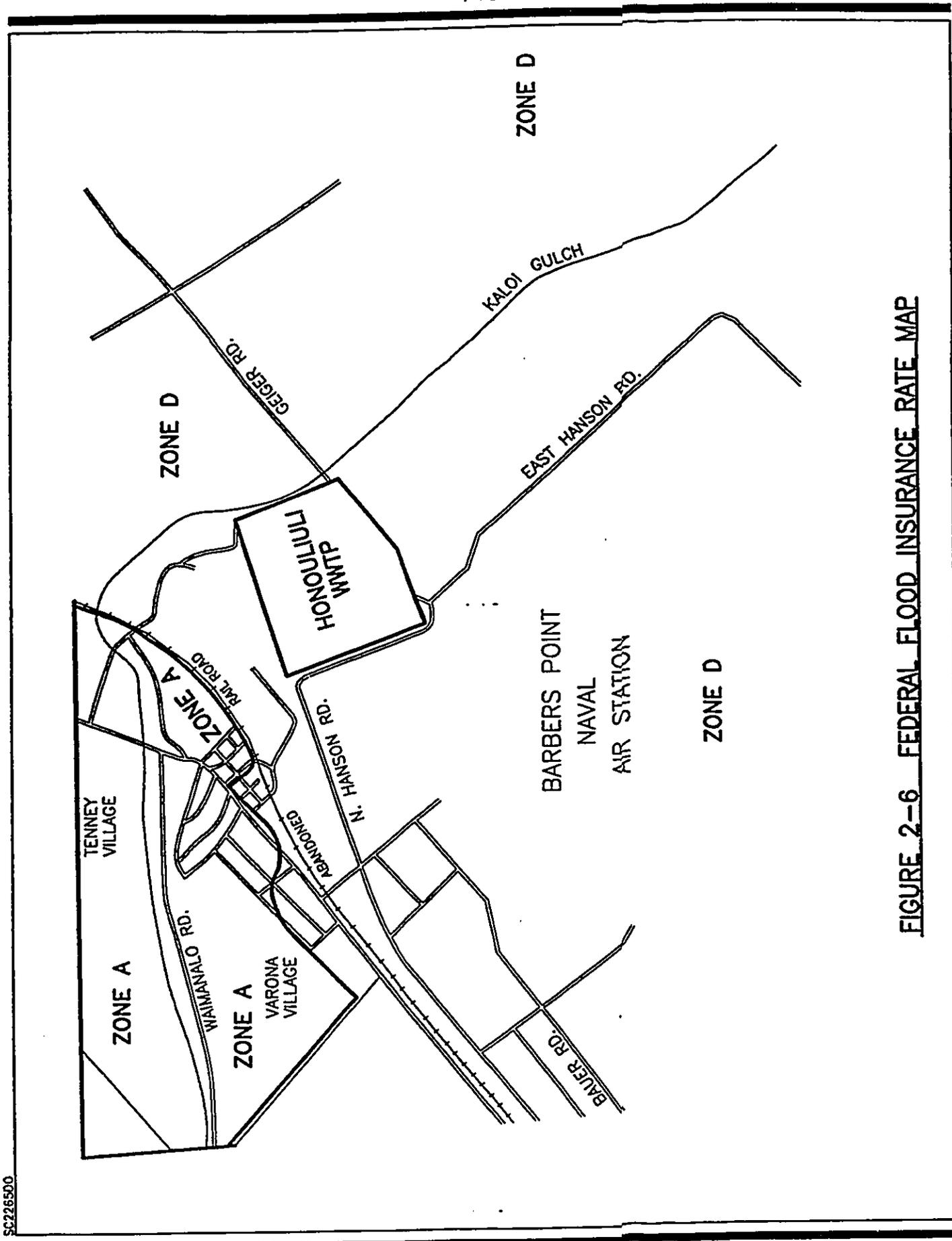


FIGURE 2-6 FEDERAL FLOOD INSURANCE RATE MAP

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The City and County of Honolulu acquired the WWTP site from the Federal Government in 1974. At this time, the area had already been improved and was occupied by a small day care center and remnant of an abandoned runway. Subsequently the area was graded and landscaped during the construction of the WWTP in 1979. It is assumed that anything of historic or archeological value was destroyed over the various periods of development of the site. No sink holes have been identified at the site.

2.7 FAUNA

An ecological survey was conducted by Conoco-Dillingham (1971) with reference to the Conoco Refinery at Barbers Point. Their study area included surveys at the Honouliuli WWTP site. The predominant fauna inhabiting the area included the mongoose, Hawaiian rat, house mice, brown rat, black rat, and feral cats and dogs. Rats were common amongst cane fields. The following bird species are those most commonly observed in the Ewa Beach area, in order of abundance: 1) Barred Dove, 2) Spotted Dove, 3) Japanese White-Eye, 4) Brazilian Cardinal, 5) American Cardinal, 6) Golden Plover, and 7) Rice Bird.

Table 2.1 lists birds found in the general region as compiled from surveys conducted in conjunction with the Barbers Point deep-draft harbor and the proposed Ewa Beach Marina

TABLE 2.1

BIRDS OBSERVED IN THE BARBERS POINT AREA

<u>Common Name</u>	<u>Scientific Name</u>
American golden Plover	<u>Pluvialis dominica fulva</u>
Brazilian Cardinal	<u>Paroaria coronata</u>
Barred Dove	<u>Geopelia Striata</u>
Barn Owl	<u>Tyto alba</u>
Black-crowned night Heron	<u>Nycticorax nycticorax hoactli</u>
Black-headed Munia	<u>Lonchura malacca</u>
Black-headed mannikin	<u>Lonchura malacca atricapilla</u>
Cardinal	<u>Cardinalis cardianlis</u>
Cattle Egret	<u>Bulbucus ibis</u>
English Sparrow	<u>Passer domesticus</u>
Feral Pigeon	<u>Columba livia</u>
House Finch	<u>Carpodocus mexicanus</u>
Indian Mynay	<u>Acridotheres tristis</u>
Japanese white-eye	<u>Zosterops japonicus</u>
Lace-necked Dove	<u>Streptopelia chinensis</u>
Mockingbird	<u>Mimus polyglottos</u>
Orange-cheeked Waxbill	<u>Estrilda melpoda</u>
Pacific Golden Plover	<u>Pluvialis dominica fulva</u>
Peafowl	<u>Pavo cristatus</u>
Red-eared Waxbill	<u>Estrilda melpoda</u>
Red-vented Bulbul	<u>Pycnonotus cafer</u>
Ricebird	<u>Lonchura punctulata</u>
Ring-necked Pheasant	<u>Phasianus colchicus torquatus</u>
Ruddy Turnstone	<u>Arenaria interpres</u>
Rock Dove	<u>Columba liva</u>
Short-eared owl	<u>Asio flammeus sandwichensis</u>
Spotted Dove	<u>Zencida chinensis</u>
Spotted Munia	<u>Lonchura punctulata</u>
Sanderling (Huna-kai)	<u>Calidris alba</u>
Shama Thrust	<u>Copsychus malabaricus</u>
Wandering Tattler	<u>Heteroscelus incanus</u>

Source: Table S-11, EIS for Ewa Marina (1985)

U.S. Fish and Wildlife Service (1975)
 Department of Land and Natural Resources (1975)

developments. These species are assumed to be present at the Honouliuli WWTp site. There are no animal populations of economic importance or threatened or endangered status in the project area.

2.8 FLORA

The plant site was completely landscaped during the construction of plant. A double tier of trees were planted around the boundary of the property, while the interior areas were grassed or laid with gravel. Crotons were planted between buildings and walkways. Most of the existing monkey ponds were retained. The flora species found on the site are listed in Table 2.2. There are no threatened or endangered plants found on or adjacent to the property.

TABLE 2.2

FLORA FOUND AT THE HONOULIULI WWTp SITE

<u>Common Name</u>	<u>Scientific Name</u>
Bombax	<u>Bombax malabarica</u>
Buffalo grass	<u>Stenotaphrum secundatum</u>
Cannon Ball	<u>Couroupita quianensis</u>
Crotons	<u>Codiaeum variegatum</u>
Earpod	<u>Enterolobium cyclocarpum</u>
Kapok	<u>Ceiba pentandra</u>
Monkey pod	<u>Samanea saman</u>
Pak-lan	<u>Michelia alba</u>

2.9 UTILITIES

Water, electric, and telephone utility facilities were installed at the site during the initial construction of the plant. Recent improvements have been implemented or recommended to reduce utility use.

Potable water is supplied to the plant through a single 12-inch water line that runs along Geiger Road and connects to a city force main on Fort Weaver Road. A dual water system utilizing potable water and reclaimed secondary treated effluent was planned for the plant but was never implemented since secondary treatment units were never constructed. Because secondary effluent reuse was not implemented, initial plant consumption of potable water averages 17 million gallons per month, which is much higher than originally estimated.

Because of the need to conserve potable water, primary effluent is used for the incinerator wet scrubber. The reclaimed effluent is passed through a rotary filter to remove suspended solids. The wet scrubber uses an average of 6 million gal per month of reclaimed effluent. This practice has reduced potable water consumption to roughly 10.4 mgm.

Potable water requirements for the Second Incremental Expansion of the plant will depend on the continued reuse of effluent for the wet scrubber and potential usage of groundwater at the plant site. Potable water usage is expected to increase 50 to 100 over the present use once the plant is expanded to treat 51 MGD.

There are presently two sources for primary power to the plant. The preferred 46 kV source is from the Campbell Estate Industrial Park (CEIP) Substation, located approximately 4 miles west of the Honouliuli WWTP, as shown on Figure 2-7. The alternate 46 kV source is from the Waiiau Substation located approximately 6 miles northeast of the plant. These two lines tie together outside of the plant and are separated by Switch No. 5261, which is normally open and is located 1-1/2 miles northeast of the plant. A single feeder spur is brought into the existing main transformer at the plant, where it is stepped-down to 12.47 kV and distributed throughout the plant. The Waiiau source is energized by HECO closing Switch No. 5261, when the CEIP Substation is out of service.

Both the preferred CEIP and the alternate Waiiau sources have sufficient capacity to operate the plant independently for both present and future loads. The present peak demand is under 1,000 kVA. The Second Incremental Expansion will require less than 2,000 kVA at full capacity. The existing main transformer for the plant is rated at 5,000 kVA, and the existing power line can deliver this full quantity of power.

A 12.47 kV back-up source is provided from the Ewa-West Loch Substation, located approximately 2 miles north of the plant. The 12.47 kV feeder is energized by HECO closing Switch No. 3630, located approximately 800 feet north of the plant. The last portion of the 12.47 kV feeder comes into the plant on the same power poles as the primary 46 kV feeders. HECO indicates a limit on the back-up line of 500 kVA maximum

LEGEND

- · · — PROPOSED NEW TRANSMISSION LINE
- - - EXISTING TRANSMISSION LINE TO REMAIN
- - - EXISTING TRANSMISSION LINE TO BE REMOVED
- · · · · EXISTING 46KV AND 12.47KV LINES ON SAME POLES TO REMAIN

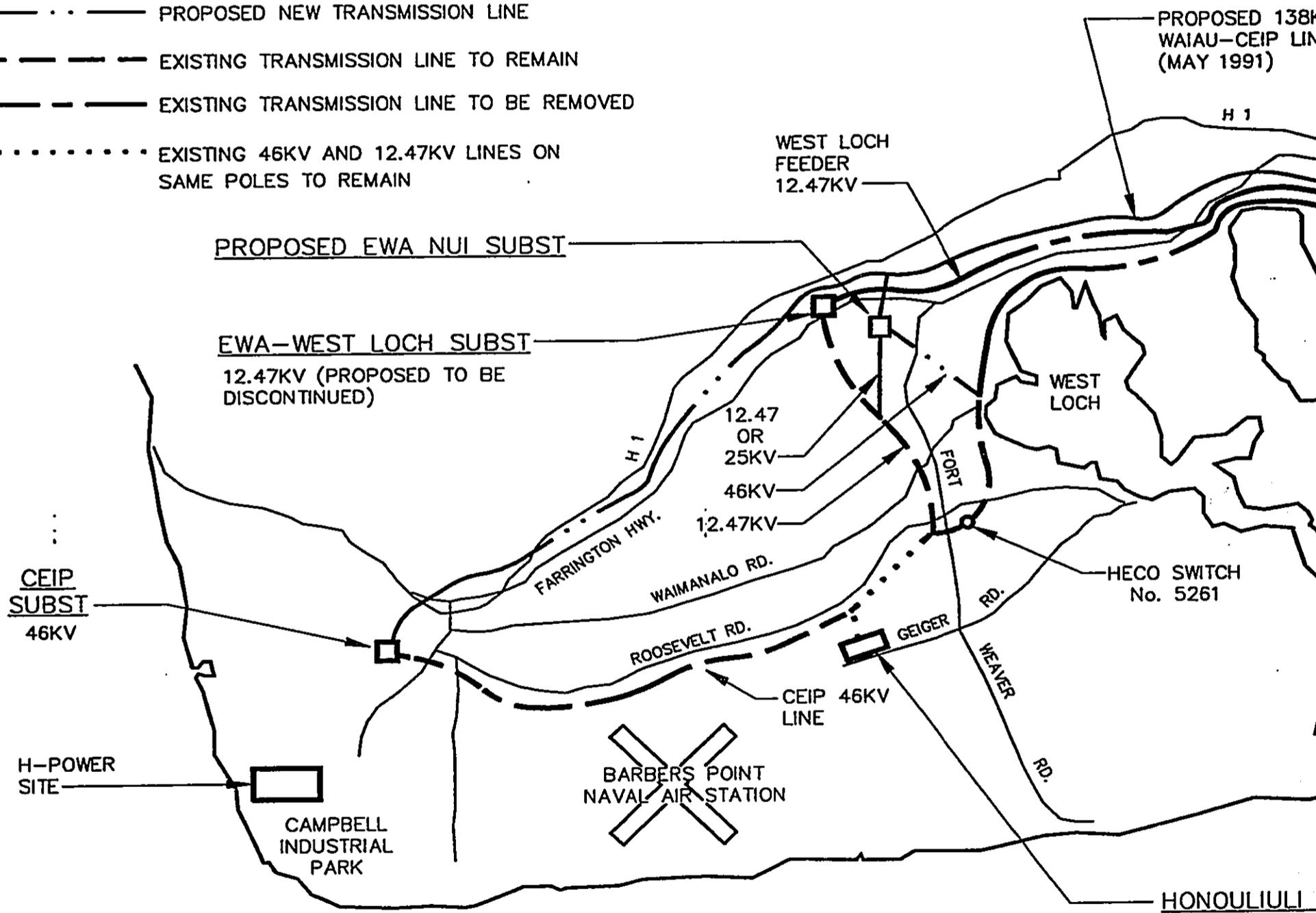
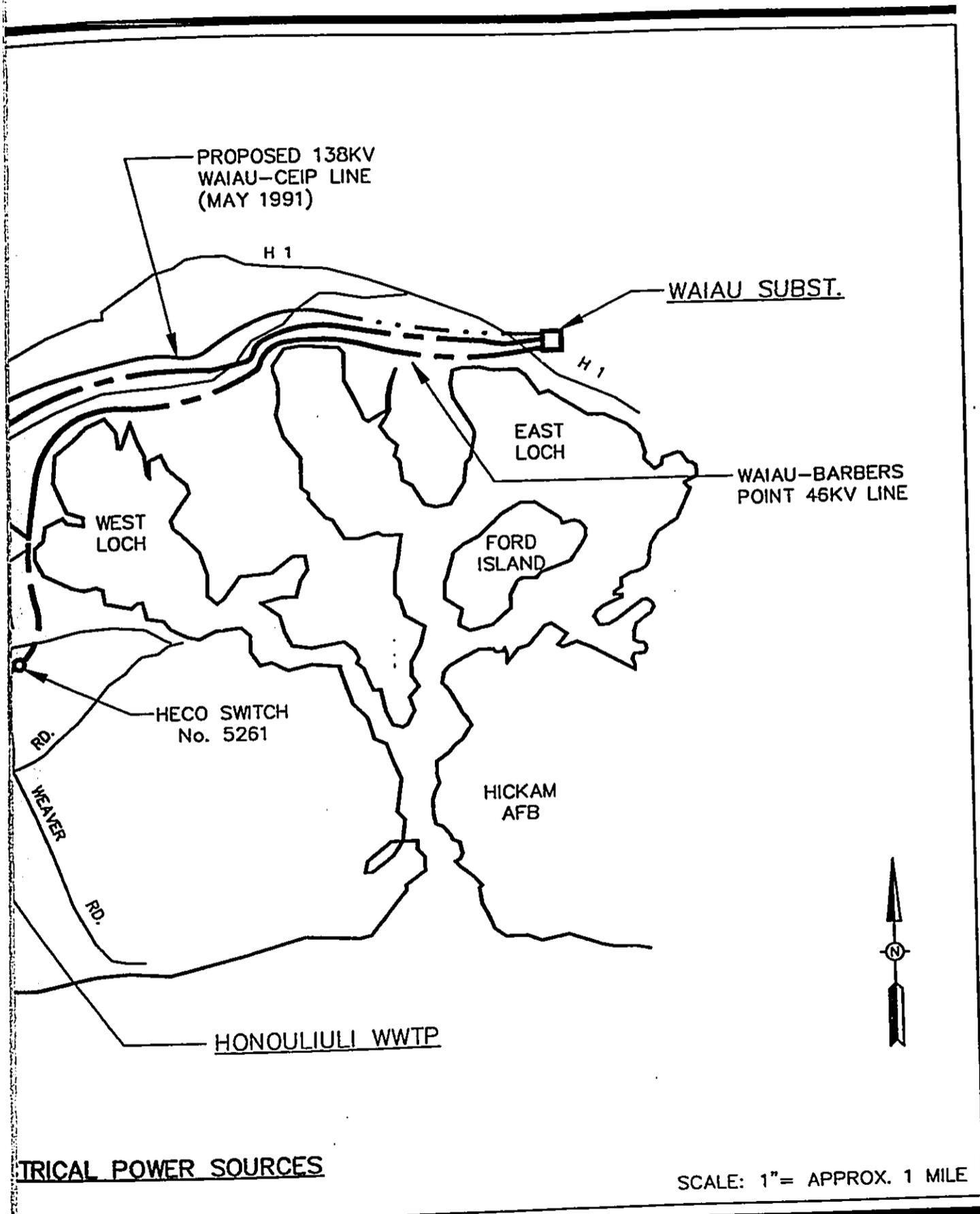


FIGURE 2-7 PLANT ELECTRICAL POWER SOURCES

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standby load. This may be adequate to operate most of the present plant loads, but could not handle present peak loads or future loads.

Rapid growth in the Ewa area is requiring HECO to undertake a formal project study involving a 20-year plan for possible higher transmission voltage and distribution voltages. A new substation, named Ewa Nui and located approximately one-third of a mile east of the existing Ewa-West Loch Substation, is being planned, with a 138-25 kV transformer and a 138-46 kV transformer to maintain the existing 46 kV for the Ewa area. This project has not yet been completed.

2.10 SOCIOECONOMICS

The Honouliuli WWTP is located within the Ewa District shown in Figure 2-8. Based on Department of Business, Economic Development census data, the districts resident population was 230,189 in year 1990. Ewa experienced a 44.4 percent growth rate from 1970 to 1980 and 20.5 percent between 1980 to 1990.

Ewa Village is the residential community most likely to be impacted by the Honouliuli WWTP. The village encompasses 627 acres and had a reported population of 2,637 in 1980, a decline of 10 percent from the 1970 population of 2,986. Socioeconomic data taken in 1980 for census tract number, 86.02 of which Ewa Village is a part, indicates the average household size is 4.07 persons, the median age is 28.5 years, the percent of foreign born is 32.5, the percent of high school graduates is 44.8, the unemployment rate is 6.4, and the median family income

is \$20,280.

2.11 AIR QUALITY

The Barbers Point area is located within the Greater Honolulu Air Basin, which extends from the coastline to the inland divide across the Schofield Saddle and from the Waianae Range to Diamond Head as shown in Figure 2-9. The existing air quality at the project area is generally good due to the predominate northeasterly tradewinds that blow air pollutants out to sea. Air quality may be degraded during periods of Kona weather conditions which occur about 15 percent of the year. Air quality throughout the State meets or exceeds National Ambient Air Quality Standards set forth by the EPA.

Prior to February 1971, ambient air quality monitoring was performed at only one site in Hawaii. By year 1988, the air quality monitoring program had expanded to include a total of ten active sampling stations throughout the State. The monitoring program consists of regular sampling of the five potential air pollutants including carbon monoxide, ozone, sulfur dioxide, lead, and particulates, although not all of these pollutants are monitored at every sampling site. The Honouliuli WWTP is located roughly 5 miles northeast of the Barbers Point Air Sampling Station and about 6-1/2 miles southwest of the Pearl City Station.

The Barbers Point Station is located at the Standard Oil Refinery Complex in Campbell Industrial Park, Ewa Beach.

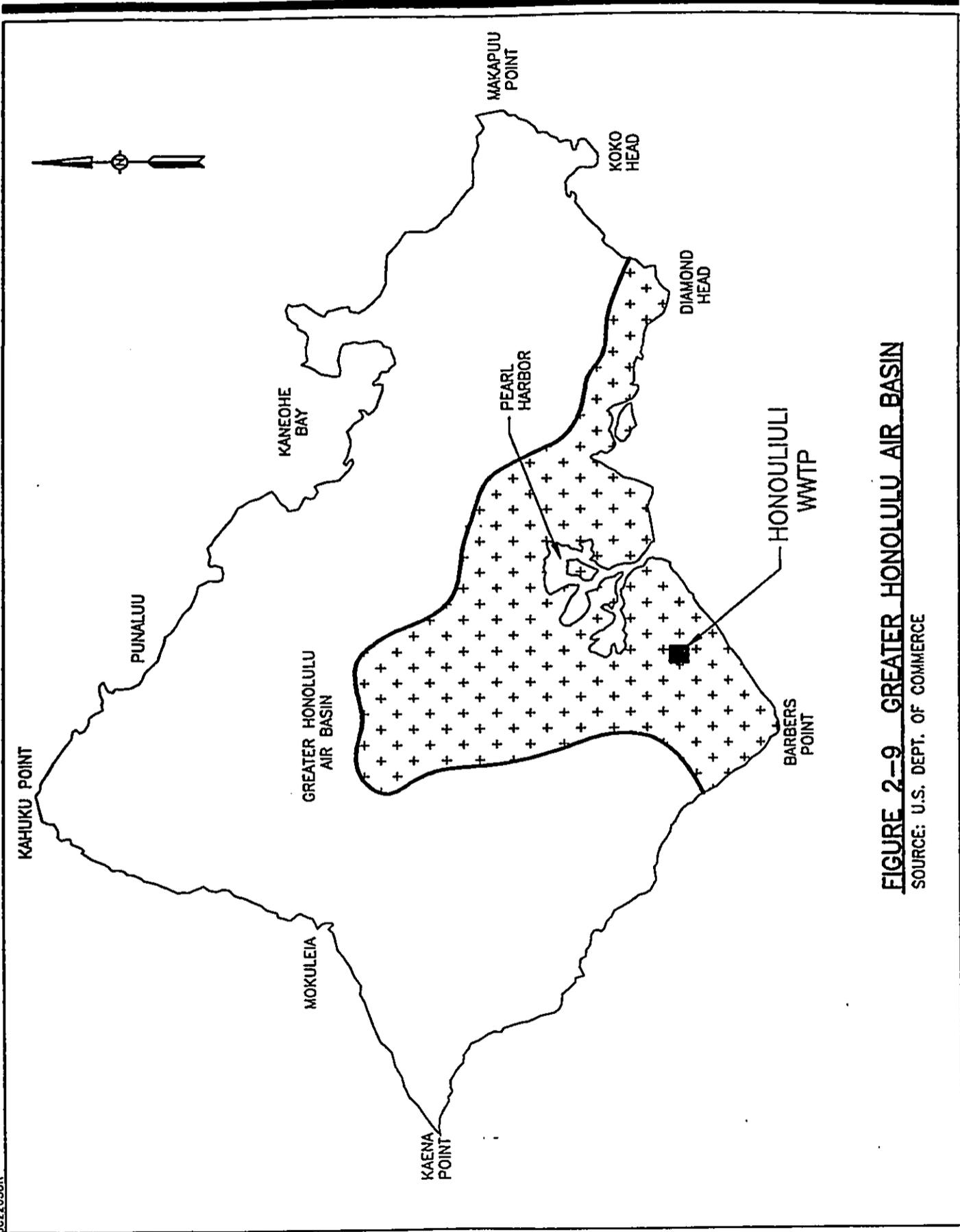


FIGURE 2-9 GREATER HONOLULU AIR BASIN
 SOURCE: U.S. DEPT. OF COMMERCE

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The site is removed from any commercial or residential area. Sources of air pollution in this area include vehicle emissions, two oil refineries, a cement plant, and other industrial operators.

The Pearl City Station is located at Leeward Medical Center. This area is a combination of commercial and residential units. Air pollution in this area stems mostly from vehicular emissions.

These sampling stations are located in Figure 2-10. Both sampling stations monitor particulate matter levels. The Barbers Point Station also monitors sulfur dioxide levels.

The results of weekly particulate matter monitoring at the Barbers Point and Pearl City Stations for the years 1982 through 1987 are summarized in Table 2.3. In 1986, the State began to monitor particulate matter equal to or less than 10 microns in diameter (PM-10) to test for compliance with new EPA Standards. During this period particulate levels at the Barbers Point Station were below Federal Standards. State Standards were exceeded on only three occasions in 1985. Sulfur dioxide levels at Barbers Point were below Federal and State Standards. Similarly, particulate and sulfur dioxide levels at the Pearl City Sampling Station were well below Federal and State Standards.

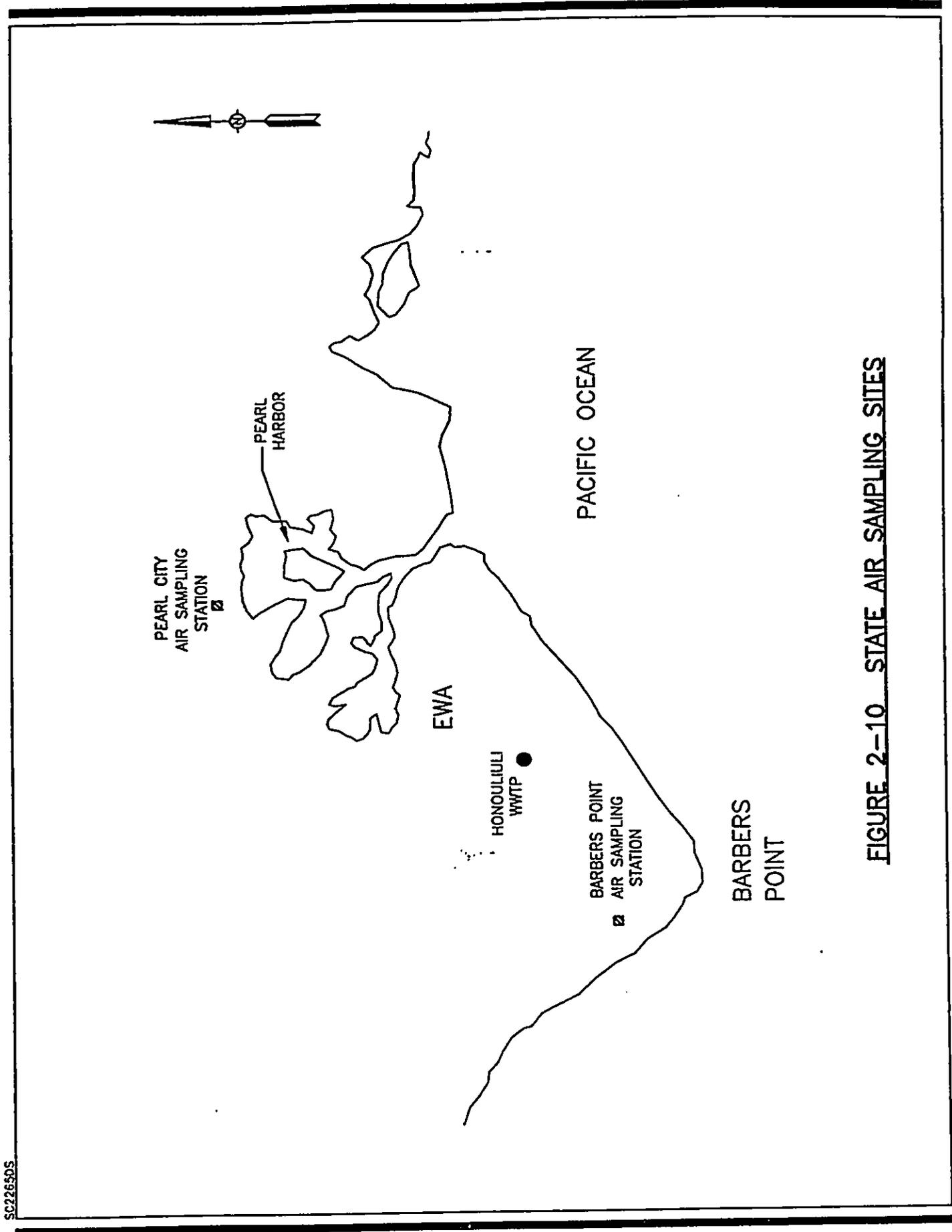


FIGURE 2-10 STATE AIR SAMPLING SITES

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TABLE 2.3

ANNUAL SUMMARY OF AIR
MONITORING AT BARBERS POINT
AND PEARL CITY AIR SAMPLING STATIONS

Barbers Point, Oahu Pearl City, Oahu
1982 1983 1984 1985 1986 1987 1982 1983 1984 1985 1986 1987

ARTICULATE MATTER (ug/m³)

Parameters

	1982	1983	1984	1985	1986	1987	1982	1983	1984	1985	1986	1987
a. Period of sampling (mos.)	12	12	12	9	12	-	12	12	12	11	12	12
b. Number of samples	52	40	42	44	52	-	52	55	56	47	60	31
c. Range of values	15-63	28-193	17-112	24-138	7-66	-	19-54	17-57	16-45	16-62	17-65	20-61
d. Arith. average of values	41	55	50	57	26	-	31	30	28	35	29	34
e. No. of Days State AQS exceeded (100 ug/m ³)	0	2	1	3	0	-	0	0	0	0	0	0

N
N
S

PM-10 (ug/m³)

Parameters

	1982	1983	1984	1985	1986	1987	1982	1983	1984	1985	1986	1987
a. Period of sampling (mos.)	-	-	-	2	12	12	-	-	-	6	12	12
b. Number of samples	-	-	-	9	52	46	-	-	-	27	61	63
c. Range of values	-	-	-	10-26	7-66	10-40	-	-	-	8-24	9-30	8-32
d. Arith. average of values	-	-	-	20	26	21	-	-	-	15	16	15
e. No. of Days State AQS exceeded (100 ug/m ³)	-	-	-	NA	NA	NA	-	-	-	NA	NA	NA

TABLE 3.3, Continued

ANNUAL SUMMARY OF AIR
MONITORING AT BARBERS POINT
AND PEARL CITY AIR SAMPLING STATIONS

Parameters	Barbers Point, Oahu					Pearl City, Oahu						
	1982	1983	1984	1985	1986	1987	1982	1983	1984	1985	1986	1987
a. Period of sampling (mos.)	12	11	12	11	12	12	12	12	10	-	-	-
b. Number of samples	55	44	42	50	57	53	43	50	42	-	-	-
c. Range of values	5-12	5-95	5-5	5-25	5-10	5-13	5-10	5-5	5-5	-	-	-
d. Arith. average of values	5	7	5	5	5	5	5	5	5	-	-	-
e. No. of Days State AQS exceeded (100 ug/m ³)	0	1	0	0	0	0	0	0	0	-	-	-

**PROJECT IMPACTS AND
MITIGATIVE MEASURES**

SECTION 3

PROJECT IMPACTS AND MITIGATIVE MEASURES

3.1 SHORT-TERM IMPACTS AND MITIGATION MEASURES

Short-term impacts of the proposed project which may affect the project site and adjacent areas are discussed in this section. Short-term impacts are generally associated with construction activities such as clearing, grading, excavating, building and landscaping. These impacts shall be limited to an estimated construction period of twelve months. All construction activities will be contained within the plant property.

Anticipated impacts on noise levels, traffic, air quality, water quality, soils, public health and safety, flora/fauna, economic and archaeological/historical resources as a result of the project are as follows:

3.1.1 Construction Noise

Noise levels at the site and adjacent areas will increase during construction activities. Major sources of noise will originate from excavation and transport equipment.

The project site is located well away from any residential areas. Agricultural lands bordering the property act as noise buffers mitigating potential noise impacts.

To further mitigate noise impacts, construction activities will be restricted to normal day-light working hours.

All equipment will be properly maintained by the Contractor and shall be outfitted with noise muffling devices. Heavy vehicles utilized for construction must be in compliance with Title 11, Administrative Rules, Department of Health, Chapter 42, Vehicular Noise Control for Hawaii. The Contractor will be required to obtain a noise permit if noise levels commonly exceed standards specified under Title 11, Administrative Rules, Department of Health, Chapter 43.

3.1.2 Air Quality

Adverse air impacts may result from clearing/grading operations and exhaust emissions from equipment and vehicles during the construction phase. A rough estimate of uncontrolled dust emissions from construction activity has been estimated by the U.S. Environmental Protection Agency (1987). It establishes a benchmark of 1.2 tons of dust per acre per month under conditions of "medium" activity and moderate climatic conditions.

The Contractor will be responsible for minimizing dust generated in compliance with the State Department of Health's Public Health Regulations, Chapter 60 on Air Pollution Control. To help prevent particulate matter from becoming airborne and travelling off-site, the Contractor should; surround down-wind portions of the site with dust screens; frequently spray bare, exposed soils with water; pave, landscape and/or seed areas immediately after grading; and cover or mix exposed soils with

mulch. Burning of cleared vegetation should be limited or prohibited. All motorized construction equipment shall be in good mechanical conditions and equipped with emissions controls that meet Department of Environmental Quality Standards. Open-bed trucks shall be covered when transporting materials likely to give rise to airborne particulates.

Prevailing northeasterly trade winds will blow most dust and exhaust emissions generated at the site towards open sugarcane fields and away from residential areas. In general, the construction phase of the project is expected to have minimal effect on air quality.

3.1.3 Flora and Fauna

There are no known threatened or endangered species of flora or fauna inhabited the project site. Flora and fauna have previously been displaced due to past construction and operation activities at the plant. Noise produced by the proposed project may temporarily displace some of the birds and rodents found at the plant. These animals will most likely re-establish themselves on the property once construction is complete. Adverse impacts to flora and fauna are expected to be minimal.

3.1.4 Surface Water/Groundwater Quality

Construction of the proposed maintenance building and parking facilities should not adversely affect water quality in

the Ewa area. The project site is not contiguous to any potable groundwater resources, streams or the ocean. Hazardous wastes, drainage and erosion control plans are required as part of the permit process. The plans shall verify that construction operations and runoff water generated by the project shall not have adverse impacts on local water quality. Erosion control measures used to minimize runoff impacts may include: constructing berms around the construction site to contain runoff; covering or mixing soils with mulch to reduce runoff; perform clearing and grading operations during dry weather periods; and pave, landscape and/or seed area immediately after grading.

3.1.5 Archaeological/Historical

The project site has a history of past development. It is assumed that any site features of historic or archaeological value have been recovered or destroyed during these periods of development. Presently, no archaeological or historical resources are known to exist at the plant site. An archaeological inventory survey will not be required by the State Historic Preservation Division prior to the construction of the proposed maintenance building and parking facilities.

Workers will be trained to recognize artifacts uncovered during construction. Should artifacts be discovered at the project site, they shall be clearly marked and preserved. The Developer and/or Contractor shall immediately contact the State Historic Preservation Division to negotiate the appropriate

course of action to be taken, such as preservation, protection, restoration and/or relocation.

3.1.6 Traffic

The Honouliuli WWTP is located on Geiger Road off of Fort Weaver Road (Route 760). Geiger Road also provides access to Kaahupahau, a small residential development area. Traffic along both roads is light.

The proposed project should have little impact on local traffic. To reduce any adverse traffic impacts associated with the project, construction-related traffic shall be required to access the site by alternative less-travelled routes if available. Mobilization of construction equipment and materials shall be conducted during light traffic periods. Work shifts may also be scheduled to coincide with light traffic periods.

3.1.7 Public Health and Safety

The Contractor shall be responsible for implementing appropriate measures to ensure public safety and health during the construction period. Construction areas will be delineated with no-trespassing and safety signs.

3.1.8 Construction Waste

The Contractor shall be required to submit a solid/liquid waste management plan to the Department of Public Works for its approval. The site shall be equipped with portable self-contained latrine facilities. Suitable vegetable shall be chipped and used a mulch. Unusable waste will be disposed of in an approved off-site landfill.

3.1.9 Economic

Construction of the maintenance buildings will provide related jobs for local workers. Local material suppliers and retail businesses will realize revenues generated by the project.

3.1.10 Operation of the Plant

In general, the proposed project will not affect the operation or performance of the plant. During construction, traffic within the property may be temporarily rerouted to avoid the work site. Access to the plant may shift from the main gates located at the west side of property to an alternate entrance located at the east end of the property abutting Geiger Road. Likewise, parking will be located away from construction activity.

Once construction is complete, spare parts stored in the plant's maintenance building will be relocated to the new regional maintenance facility. Offices and facilities designated for plant truck drivers and groundskeepers will also be moved to the new facility. During the relocation process, maintenance, hauling and groundskeeping operations may be intermittently hindered.

It should be noted that construction of the new maintenance and parking facilities will occur concurrently with expansion at the plant. The combined impacts of the two construction projects should be minimal.

3.2 OPERATIONAL IMPACTS (LONG-TERM)

The anticipated long-term impacts associated with the operation of the maintenance and parking facilities are expected to be confined to the immediate site and to the area's infrastructure.

The following sections describe the project's long-term impacts on flora/fauna, socioeconomic, public health and safety, displacement, infrastructure and traffic.

3.2.1 Flora/Fauna

There are no known existing native, rare or endangered plant species at any of the candidate sites. Existing vegetation at the sites will be replaced by landscaping and grass.

Native and/or rare plant species might be introduced to the site as a result of landscaping.

No threatened or endangered species of fauna are known to inhabit any of the candidate sites. Animals displaced by construction of maintenance facilities will probably return to site once construction is completed. Trees and shrubs included in the landscaping of the site will provide new habits for small rodents and birds.

3.2.2 Drainage

Runoff at the project site may be generated by rainfall or washing activities at the truck/equipment wash station and/or maintenance facilities. Since this runoff may contain contaminants such as oil, grease, degreaser and/or fuel an oil/water separator will be provided at the project site. The clarified runoff will then be conveyed to the headworks of the plant for further treatment. Rainfall runoff will be discharged into the nearest stormwater drainage system.

3.2.3 Infrastructure

The proposed maintenance facilities will increase demands on local water, sewer and power utilities. These demands are expected to be minimal when compared to the overall plant and local residential demand on utilities. The existing utility infrastructure is adequate to accommodate proposed facilities.

3.2.4 Traffic

As additional jobs are created with the development of the regional maintenance building and expansion of the plant, traffic along Geiger Road and Fort Weaver Road (Route 760) will increase slightly. On-going residential development along Geiger Road will also increase local traffic. The impacts of this increased traffic is expected to be minimal, as local access roads are currently under capacity.

3.2.5 Socioeconomic

The proposed project will provide additional storage and maintenance facilities needed to support the operation and expansion of the Leeward wastewater system. By being centrally located in the Leeward area, the new maintenance building will increase the efficiency of maintenance operations. This, in turn, will help maintain the reliability of local wastewater facilities.

About 25 permanent jobs will be created for local residents as a result of the new maintenance building. These jobs will include maintenance and office support positions.

The new maintenance building will not block scenic views from residences or roads. The overall architectural design of the building is compatible with other plant buildings.

3.2.6 Public Health and Safety

The development of maintenance and parking facilities at the plant will not create additional demands for public health and safety services, such as police and fire protection and emergency medical services. The proposed facilities will be located within the range of acceptable response times for these services. The site is not located within any designated flood, tsunami, landslide, or erosion hazard areas.

All maintenance operations are conducted following safety guidelines. The proposed maintenance building will be equipped with fire protection, guardrails, eyewash stations, and adequate ventilation. Storage within the new building is primarily designated for dry spare parts. Small volumes of liquids and potentially hazardous materials (e.g. batteries, fuel, grease, degreasers, paints, solvents) may also be stored. All major accidents or spills will be immediately reported to the appropriate government agencies.

Safety signs and overhead lighting will be installed to help facilitate traffic within the plants access roads and parking areas.

3.2.7 Land Use and Planned Development

The proposed project will be funded through the City and County of Honolulu, Capital Improvement Program. The City Charter requires that public facility improvements be consistent

and supportive of City land use policies and local development plans. The availability of reliable wastewater facilities is crucial for industrial, commercial and urban development in the Honouliuli wastewater tributary area. The proposed maintenance building, truck/equipment wash station and parking facilities are important amenities of the Leeward wastewater system. Without these support facilities, maintenance operations may be impaired adversely affecting public safety and system performance and reliability.

ALTERNATIVES TO THE
PROPOSED ACTION

SECTION 4

ALTERNATIVES TO THE PROPOSED ACTION

4.1 NO ACTION

The no action alternative means that maintenance activities for the Honolulu and Leeward Maintenance Districts will continue to operate out of the Sand Island Regional Maintenance Building. As wastewater facilities expand island-wide, increasing demand for adequate spare parts storage and maintenance facilities will not be realized. Maintenance personnel will continue to commute from the Leeward side of the island to Sand Island to transport equipment and retrieve spare parts. This mode of operation will remain inefficient and incur unnecessary cost.

Currently, floor space needed for maintenance operations at the Honouliuli and Mililani maintenance buildings is used for storage of spare parts. Without developing new storage, these areas cannot be converted into additional repair shops. Ultimately, this may impair the reliability and performance of the Leeward wastewater facilities. Lack of storage space at the existing Honouliuli and Mililani maintenance buildings may also result in unsafe storage practices or in equipment and supplies being stored outside of buildings. Supplies stored outside will be subject to potential deterioration, theft and/or vandalism.

Parking facilities at Honouliuli WWTP are currently inadequate to provide for plant personnel and equipment suppliers, and visitors. As the plant is expanded to provide secondary treatment and greater capacity, additional jobs will be created, increasing the demand for parking. The current situation may result in off-site parking along Geiger Road or some other designated area. In addition, there will be no covered parking for sludge hauling trucks or other heavy equipment.

Lastly, truck/equipment wash operations will continue to be conducted at the screenings loading area of the plant.

The drainage system at the screenings loading area is not capable of handling diluted sludge runoff generated by washing sludge hauling trucks. This operation will continue to be subject to periodic interruptions due to clogged drainage lines. In addition, the location of the screenings loading area is inconvenient for maintenance operations that require equipment to be cleaned prior to, and following, repair. The proposed wash station is conveniently located adjacent to the new maintenance building and covered parking structure where equipment will be worked on and stored. This new station will be equipped with adequate drainage facilities.

4.2 ALTERNATE LOCATION FOR THE PROPOSED REGIONAL MAINTENANCE BUILDING

The proposed Honouliuli WWTP site was chosen for the project for several reasons. First, the site is the only wastewater treatment facility site that is centrally located and can accommodate the land requirements of the project. Secondly, although the regional maintenance facility will serve all of the Leeward wastewater facilities, the Honouliuli WWTP has the greatest need for additional spare parts storage. The new maintenance building will be ideally located to support this plant. Lastly, parking facilities and the truck/equipment wash station are proposed as amenities of the project to meet needs specific to Honouliuli WWTP. These facilities may not be realized if the project is sited at a new location.

4.3 EXPANSION OF EXISTING MAINTENANCE BUILDING

This alternative involves expanding the existing Honouliuli maintenance building in the makai direction and developing additional parking onsite. Due to constraints in available vacant land adjacent to the existing maintenance building, parking would be located in the area where the proposed maintenance building is to be constructed.

The expansion alternative offers no additional advantages as compared to the proposed project. Based on communications with maintenance operators, the plant would be better

served by having a maintenance building solely dedicated to maintenance of the plant. This would assure that urgent repairs needed for proper plant operation are given priority and immediate attention. The proposed regional maintenance building will serve as a spare parts storage facility for the plant and to provide technical assistance to the plant.

THE RELATIONSHIP BETWEEN LOCAL
SHORT-TERM USES OF MANS ENVIRONMENTAL
AND THE MAINTENANCE AND ENHANCEMENT
OF LONG-TERM PRODUCTIVITY

SECTION 5

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

5.1 SHORT-TERM USES

The proposed maintenance building and parking project will involve short-term uses of local resources during its construction phase. The beneficial and adverse impacts of the project were discussed in Section 3. In summary, the adverse impacts include temporarily increased dust and exhaust emissions, noise and traffic in the vicinity of the treatment plant. The short-term benefits include increased job opportunities and economic activity due to construction expenditures related to the project.

5.2 LONG-TERM PRODUCTIVITY

Communities within the Leeward and Honolulu Wastewater Maintenance District area will ultimately benefit from the construction of the proposed maintenance and parking facilities. The construction of the Leeward Regional Maintenance Facility will allow the Sand Island Regional Maintenance Facility to better serve the Honolulu area. These facilities will help support the expansion of wastewater facilities and ensure that treatment plant operations and performance continue to meet

government standards. Potential for equipment failure and noncompliance fines may be reduced.

The new regional building will serve as a storage center for the Leeward area. Such a center does not currently exist. This will increase the reliability of inventory records and availability of parts. In addition, the project will create additional permanent job opportunities for local residents, including some maintenance positions. In addition, the proposed records and reference library in the new maintenance building will consolidate resources currently housed at various locations for convenient government and public review.

IRREVERSIBLE AND IRRETRIEVABLE
COMMITMENTS OR RESOURCES

SECTION 6

IRREVERSIBLE AND
IRRETRIEVABLE COMMITMENT OF RESOURCES

The proposed project requires the commitment of 1.7 acres of land that would otherwise be available for other purposes. The construction of the facilities involves irreversible and irretrievable uses of energy, labor, materials and capital. Operation of the maintenance facilities will increase demands on local infrastructure and will also require irreversible and irretrievable resources of labor, materials and City and County funds provided by tax payers.

STATEMENT OF NO SIGNIFICANT
ADVERSE IMPACTS

SECTION 7

STATEMENT OF NO SIGNIFICANT ADVERSE IMPACT

Due to the nature and location of the proposed project, the cumulative adverse impact associated with the project shall be minimal. Therefore, it is recommended that a Negative Declaration be prepared for the project.

**LIST OF NECESSARY
PERMITS AND APPROVALS**

SECTION 8

LIST OF NECESSARY PERMITS AND APPROVALS

The following permits and approvals are requested for the development of the proposed maintenance facility:

- Plan Approval
- Grading Permit
- Building Permit
- Sewer Connection

AGENCIES, ORGANIZATIONS AND
INDIVIDUALS CONSULTED IN
THE PREPARATION OF THE EA

SECTION 9

AGENCIES, ORGANIZATIONS AND
INDIVIDUALS CONSULTED IN THE PREPARATION OF THE EA

FEDERAL AGENCIES

- Department of the Army -- U.S. Army Engineer District,
Honolulu
- Department of the Interior -- Fish and Wildlife Services
- Department of Agriculture -- Soil Conservation Service

STATE AGENCIES

- Department of Accounting and General Services
- Department of Agriculture
- Department of Education
- Department of Health
- Department of Human Services
- Department of Land and Natural Resources
- Department of Transportation
- State House of Representatives, State Senate
- University of Hawaii, Environmental Center

CITY AGENCIES

- Department of Parks and Recreation
- Department of Public Works
- Board of Water Supply
- Planning Department
- Department of Land Utilization

INDIVIDUALS/ORGANIZATIONS

- Hawaiian Telephone Co.
- Hawaiian Electric Co.

EA PREPARATION NOTICE,
COMMENTS AND RESPONSES

SECTION 10

EA PREPARATION NOTICE, COMMENTS AND RESPONSES

The following agencies, organizations, and individuals were consulted in the review of the draft EA for the proposed maintenance facility.

<u>ADDRESSEE</u>	<u>DATE</u>	<u>Comments Received</u>
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FEDERAL AGENCIES

- U.S. Department of Agriculture Soil Conservation Service
- U.S. Army Corps of Engineers Pacific Ocean Division
- Department of the Interior Fish and Wildlife Service

STATE ADMINISTRATION/AGENCIES

- Department of Accounting and General Services
- Department of Agriculture
- Department of Business, Economic Development, and Tourism -- Land Use Commission
- Department of Education
- Department of Health
- Department of Human Services
- Department of Land and Natural Resources
- Department of Transportation
- Office of Hawaiian Affairs
- Office of State Planning

<u>ADDRESSEE</u>	<u>DATE</u>
	<u>Comments Received</u>
<ul style="list-style-type: none"> • State Historic Preservation Division • The Honorable Joseph M. Souki, Representative • University of Hawaii, Environmental Center 	

COUNTY ADMINISTRATION/AGENCIES

- Economic Development Agency
- Department of Parks and Recreation
- Department of Public Works
- Department of Water Supply
- Planning Department

UTILITIES

- Hawaiian Electric Company, Ltd.
- Hawaiian Telephone Co.
- The Gas Co.

OTHER ORGANIZATIONS/INDIVIDUALS

REFERENCES

REFERENCES

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- 5 Environmental Protection Agency, *Code of Federal Regulations*, Chapter 40.
- 6 GMP Associates, Inc., *First Incremental Expansion of the Honouliuli Wastewater Treatment Plant*, Prepared for the Division of Wastewater Management, City and County of Honolulu, May 1991.
- 7 Honolulu Area Office, U.S. Department of Housing and Urban Development, *Final Environmental Impact Statement for Village Park*, Prepared for Waitec Development Inc., February 1979.
- 8 M&E Pacific, Inc., *Revised Environmental Impact Statement for the Barbers Point Deep - Draft Harbor on Oahu*, Prepared for Water Transportation Facilities Division, Department of Transportation, State of Hawaii, June 1978.
- 9 Office of the Governor, Office of State Planning, *The Hawaii State Plan*, 1991.
- 10 Omni Environmental Services, Inc., *Compliance Source Test Report Particulate Emissions, Honouliuli Wastewater Treatment Plant, Ewa Beach, Hawaii*, Prepared for City and County of Honolulu, June 1991.
- 11 R.M. Towill Corporation, *Final Design Report Honouliuli Wastewater Treatment Plant*, Prepared for City and County of Honolulu, Department of Public Works, Division of Sewers, August 1976.

- 12 R.M. Towill Corporation, *Environmental Impact Statement for Honouliuli Wastewater Treatment Plant and Barbers Point Ocean Outfall System*, Prepared for Board of Water Supply, Division of Sewers, City and County of Honolulu, June 1975.
- 13 Robert A. Corbitt, *Standard Handbook of Environmental Engineering*, 1990, pg. 2.5-2.7, 6.241-6.247.
- 14 State of Hawaii, Department of Health, *Hawaii Air Quality Data for January 1985 - December 1987*.
- 15 State of Hawaii, Department of Land and Natural Resources, Division of Water and Land Development, *Rainfall Atlas of Hawaii*, Report R76, June 1986.