ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE

Kaloi Gulch Drainageway Improvements at Oneula Beach Park

District of Ewa, Oahu, Hawaii
TMK(1) 9-1-012: Portion of Parcel 025

May 2004

PREPARED FOR:
Haseko (Ewa), Inc.
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Suite 205
Ewa Beach, Hawaii 96706

PREPARED BY:
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Honolulu, Hawai'i 96817-4941
19944-0P

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TABLES

PROJECT SUMMARY

Project	Kaloi Gulch Drainageway Improvements at Oneula Beach Park
Proposed Action	Construction of drainageway improvements including: (1) drainage channel widening; (2) reconstruction of existing access road; and (3) accessory improvements including grassing, landscaping, fencing, and installation of signage.
Applicant or Proposing Agency	Haseko (Ewa), Inc. 91-1001 Kaimalie Street, Suite 205 Ewa Beach, Hawaii 96706 Nelson W.G. Lee, Executive Vice President
Accepting Authority	Department of Planning and Permitting City and County of Honolulu 650 South King Street, 7th Floor Honolulu, Hawaii 96813 Eric Crispin, AIA, Director
EIS PN Preparer	R. M. Towill Corporation 420 Waiakamilo Road, Suite 411 Honolulu, Hawaii 96817
Location	Oneula Beach Park, Ewa Beach, Oahu
Land Ownership	Department of Parks and Recreation City and County of Honolulu 1000 Uluohia Street, Suite 309 Kapolei, Hawaii 96707 William Balfour, Jr., Director
TMK	(1) 9-1-012: Portion of parcel 025
Project Area	3.7 acres within the approximately 28 acre Oneula Beach Park
Existing Land Use	Beach Park
County Zoning	P-2, Preservation
State Land Use	Urban
Permits (As Required)	FEDERAL: Department of the Army Permit. STATE: Conservation District Use Permit; Coastal Zone Management Federal Consistency Determination; Section 401 Water Quality Certification; National Pollutant Discharge Elimination System (NPDES), Notice of Intent (NOI), for Discharges of Storm Water Assoc. w/Construction Activity; and NPDES Municipal Separate Storm Sewer System coordination with Dept. of Parks and Recreation. CITY AND COUNTY OF HONOLULU: Special Management Area Use Permit; Shoreline Setback Variance.

CHAPTER 1
INTRODUCTION

1.1 PROJECT OVERVIEW

Introduction

The proposed project involves upgrading a portion of the existing Kaloi Gulch drainageway, located within the Oneula Beach Park, Ewa Beach, Oahu. Oneula Beach Park is owned and operated by the Department of Parks and Recreation, City and County of Honolulu. HASEKO (Ewa) Inc., proposes to coordinate with the Department of Parks and Recreation to construct the proposed project to meet a City requirement to provide drainage capacity for the region. This includes the master-planned Ocean Pointe project and developments mauka of the proposed project site at Oneula Beach Park.

Background

The topography of Ewa is comprised of a broad and relatively level plain that promotes the collection and ponding of sheet flows during periods of heavy rainfall. Historically, there were few well-defined drainageways transmitting accumulated runoff to the coastline. Starting in the early 20th century the sugar industry constructed ditches and channels within the lower part of the Kaloi watershed. Some of these improvements were intended to divert runoff around agricultural areas. More frequently, they were used to carry water diverted from streams into the fields for irrigation use. One of these was called the Kaloi Ditch. Today, Kaloi Ditch, is a major remnant of this pattern of agricultural land use which today has become transformed into Oahu's Second City.

The shift of the Ewa Plain to Oahu's Second City has resulted in an urbanized pattern of land use which places new requirements on drainage. As land use becomes intensified, the amount of impervious area is increased, resulting in stormwater runoff that is more concentrated.

The City and County of Honolulu, in part because of the absence of a well-defined drainage channel, has required upstream developments which are in the Kaloi Gulch Drainage Basin, to retain portions of their stormwater runoff on-site. While these requirements have been largely successful and have resulted in the creation of large areas of open space serving as detention/retention basins, the capacity of the ocean outlet at Oneula Beach Park, in the future, will not be sufficient to handle the City's estimated 100 year flood flow. In order to meet this requirement the ocean outlet must be modified.

Currently, man-made and natural detention/retention basins restrict flows from continuing downstream to Oneula Beach Park. An old railroad bed south of Renton Road impeded runoff from the Kaloi Drainage Basin and in the past contributed to flooding in Ewa Villages. A bridge was installed at the railroad bed to release runoff and an emergency relief channel was eventually constructed in June 2000 through the Ocean Pointe development that allowed flows to discharge at Oneula Beach Park. The proposed improvements to the ocean outlet, in combination with the bridge and emergency relief channel, will constitute a permanent fix to this prior interim solution, and ensure the provision of the City's design capacity requirement.

Previous Ewa Marina Drainage Plan

A previously approved plan by Haseko (Ewa) Inc., involved the handling of drainage through a lowering of the existing Honouliuli Wastewater Treatment Plant sewer outfall. The lowered sewer outfall was intended to allow construction of a drainage channel which would discharge into the main basin of the marina. This plan was originally conceived in the 1970s and 80s, during an earlier period of environmental regulation and awareness. Today, a number of issues and concerns require that this concept be reconsidered:

- The lowering of the sewer outfall was planned when the Ewa Region was not yet undergoing the level of development it is experiencing today. Potential for negative adverse impacts from construction include a major accident resulting in spillage of sewer effluent into the surrounding beach park and ocean waters. Odors could be released during construction and concern for public health and safety would be compromised if there is an accidental spill. The potential for these impacts would occur in the midst of the surrounding community, and beach park and coastal waters regularly used by the public.
- The sewer outfall is pressurized and handles the wastewater needs for the Ewa Region and portions of Central Oahu. The lowering of the outfall could compromise future hydraulic flows based on the placement of a bend or kink in the line. This could result in the premature need to construct a new or second outfall well before the expected capacity of the existing outfall is reached. Not only would this increase public wastewater service costs, it would increase the potential for negative environmental impacts associated with new construction.
- Future maintenance and operation of an inverted siphon (an alternative for a lowered sewer outfall) would require construction of a facility building to house mechanical equipment necessary to maintain flows through the outfall. This would add a new operating facility and requirement to the Honouliuli Wastewater Treatment Plant to maintain safe operations. There is also the potential for generation of odors and loss of capacity if the facility should experience failure.

These concerns resulted in the current proposal to meet the City's drainage requirements while maintaining the existing location of the outfall. The proposed action will impact the Ocean Pointe Master Plan which will need to be reconfigured to protect the area of the outfall and regional drainage channel which will discharge at the ocean

outlet at Oneula Beach Park. The Master Plan will reconfigure land uses, but will not involve changes to the approved zoning density of the Ocean Pointe project. No increase in zoning density will be sought.

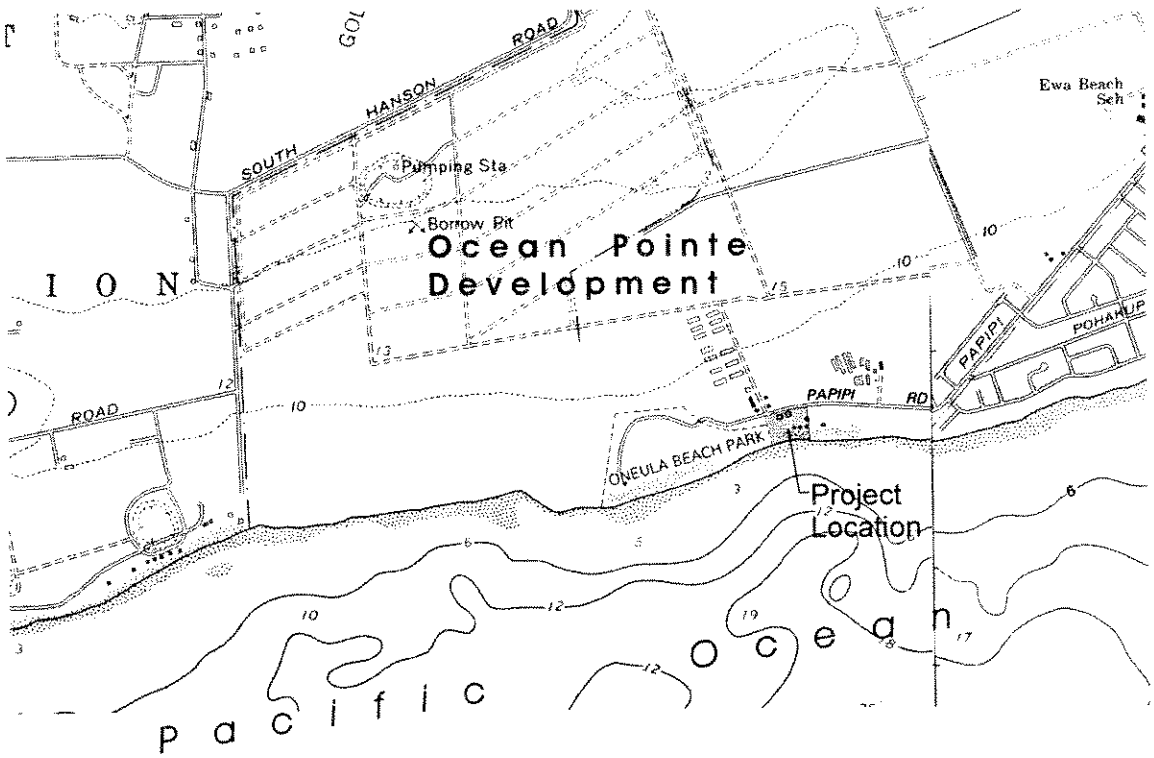
1.2 PROJECT LOCATION

The project site is identified as Kaloi Gulch, within a portion of the Oneula Beach Park (Tax Map Key: (1) 9-1-012: portion of parcel 25), located in Honouliuli, in the Ewa District of Oahu. The existing park is a 28-acre passive recreational facility situated adjacent to coastal waters of the Pacific Ocean (**Figure 1-1** and **Figure 1-2**). The area involved will be limited to approximately 3.7 acres within the Oneula Beach Park.

1.3 PURPOSE OF THE ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE (EISPN)

The purpose of this EISPN is to inform interested parties of the proposed project and to seek public comment on subject areas which should be addressed in the preparation of the Draft Environmental Impact Statement (DEIS). The DEIS will describe the existing conditions at the site and address the potential for adverse environmental impacts associated with this project.

The following triggers require the preparation of this EISPN: (1) use of state or county lands or funds; (2) use within the State Conservation District; and, (3) use within the shoreline setback, as defined by the City and County of Honolulu.



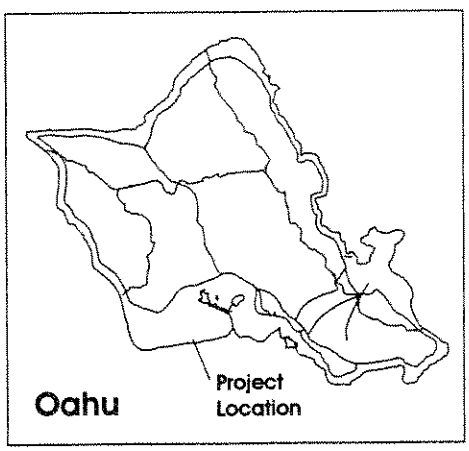


FIGURE 1-1
PROJECT LOCATION
Kaloi Gulch Drainageway
Improvements at Oneula Beach Park
HASEKO (Ewa) Inc., Ewa, Oahu, Hawaii

0 2000 Feet 4000

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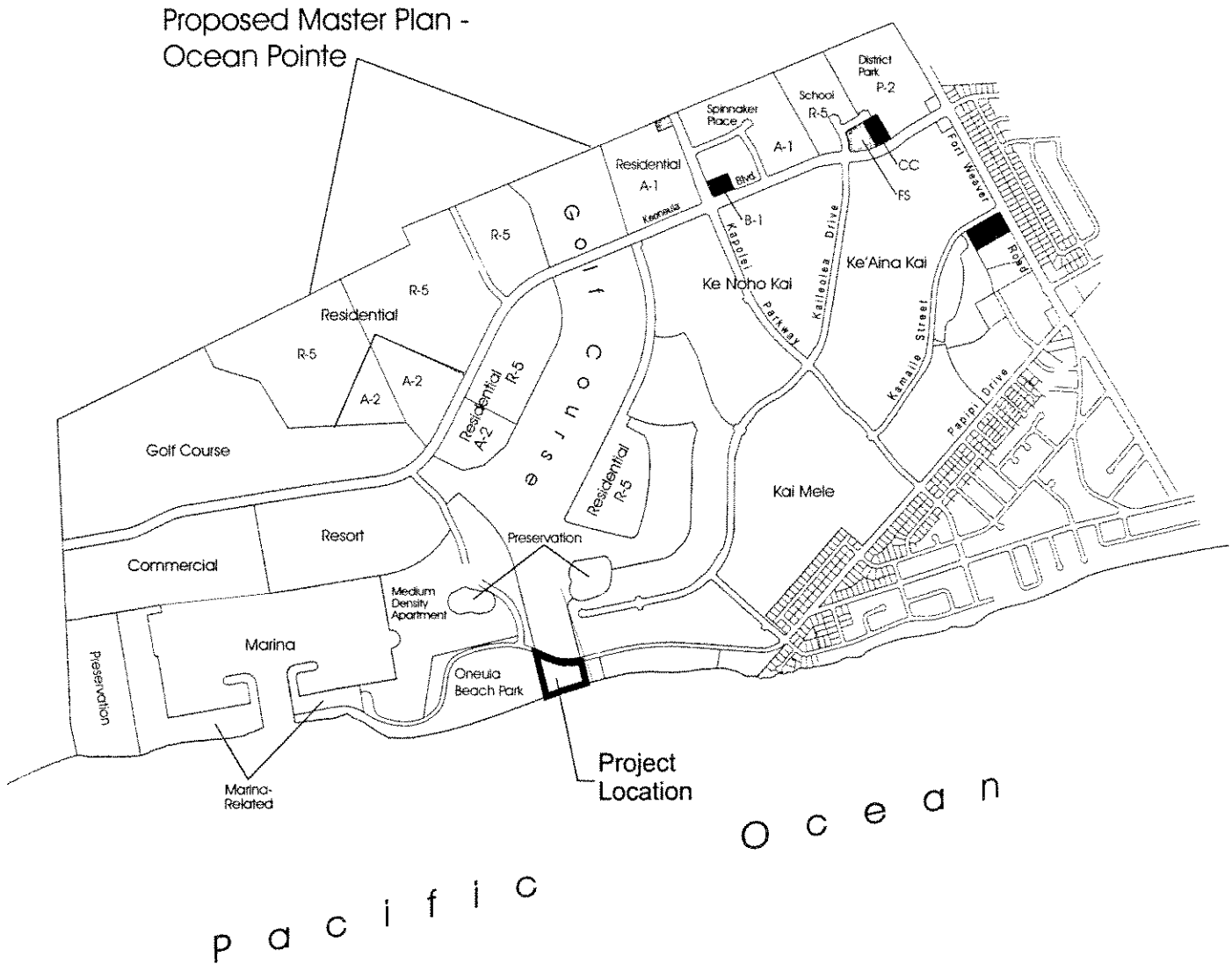

FIGURE 1-2
OCEAN POINTE MASTER PLAN
Kaloi Gulch Drainageway
Improvements at Oneula Beach Park
HASEKO (Ewa), Inc., Ewa, Oahu, Hawaii

0 1600 Feet 3200

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1.4 PURPOSE AND NEED FOR THE PROJECT

The purpose of the project is to improve the existing Kaloi Gulch ocean outlet at Oneula Beach Park to City flow standards to accommodate developments mauka or upstream of the outlet. The capacity of the existing drainage outlet is insufficient to convey stormflows according to the City and County of Honolulu drainage standard for the 100 year flood flow. Potential for adverse impacts associated with flooding include damage to property and/or persons as a result of rising floodwater. The proposed drainage improvements will meet the City and County of Honolulu drainage standard and ensure that sufficient drainage is provided for the region through use of improvements to an existing facility.

CHAPTER 2
PROJECT DESCRIPTION

2.1 EXISTING CONDITIONS AND SURROUNDING LAND USE

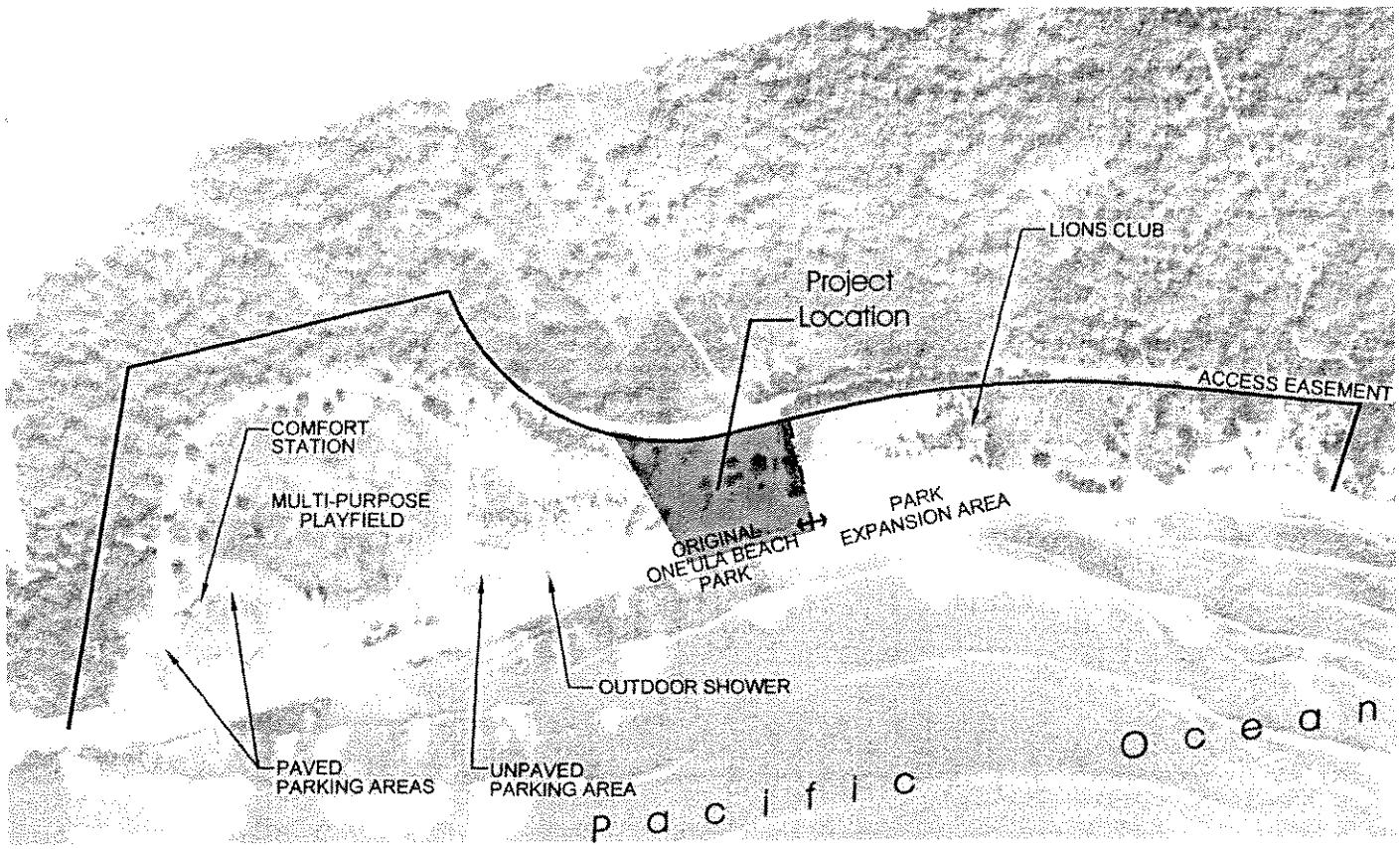
Oneula Beach Park and Land Dedication

Oneula Beach Park is a beach park situated on the Ewa coastal plain and is approximately 19 miles west of downtown Honolulu; 4 miles southeast of the City of Kapolei, and less than one-half mile west of the Ewa Beach community (Wilson Okamoto, March 2001). The existing Oneula Beach Park comprises 28.391 acres (**Figure 2-1**).

HASEKO (Ewa), Inc., as part of the Unilateral Agreement for rezoning of the Ocean Pointe project (formerly Ewa Marina), is in the process of dedicating approximately 9.365 acres to the City for park purposes. This land will increase the area of Oneula Beach Park to approximately 37.8 acres. This land is identified as Tax Map Keys (TMKs): (1) 9-1-11: parcels 3 through 7. These lands front Mamala Bay to the south, a private residence and picnic/camp area to the east, and undeveloped property to the north and west. Access to the site is from Papipi Road and a roadway easement extending into the park. (Wilson Okamoto, March 2001). See **Figure 2-2**.

East Drainage Subsystem

The proposed project will provide an outlet for drainage from the east drainage subsystem. The east drainage subsystem is one of two regional subsystems. The west drainage subsystem includes upstream flows above the area of the Ocean Pointe Marina while the east drainage subsystem includes all areas east and mauka of the Kaloi Gulch ocean outlet. Both subsystems will utilize the Ocean Pointe Golf Course to receive, treat, and convey storm runoff (See Section 4.6 – Drainage and Coastal Waters).



Source: Final Environmental Assessment, Oneula Beach Park Master Plan
City and County of Honolulu, Department of Design and Construction, 2001

FIGURE 2-1
ONEULA BEACH PARK
EXISTING LAND USES
Kaloi Gulch Drainageway
Improvements at Oneula Beach Park
HASEKO (Ewa), Inc., Ewa, Oahu, Hawaii

0 500 Feet 1000

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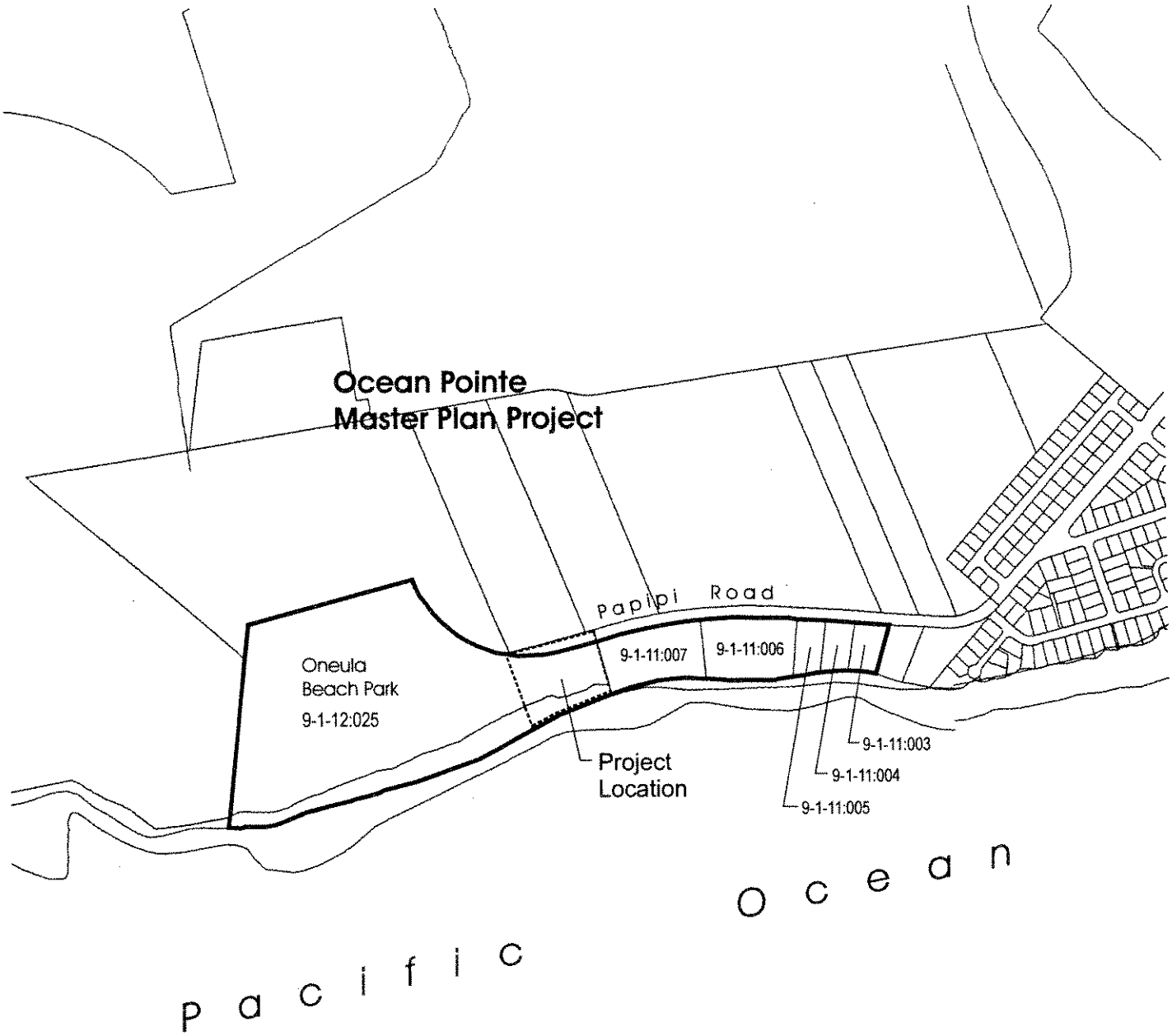


Reference:

DEPARTMENT OF TAXATION PROPERTY ASSESSMENT DIVISION TAXMAPSBRANCH STATE OF HAWAII TAX MAP		
SECOND TAXATION DIVISION		
ZONE	SEC	PLAT
9	1	11&12

FIGURE 2-2
PROJECT SITE
TAX MAP KEYS (TMKs)
Kaloi Gulch Drainageway
Improvements at Oneula Beach Park
HASEKO (Ewa), Inc., Ewa, Oahu, Hawaii

0 800 Feet 1600

R. M. TOWILL CORPORATION February 2004

Kaloi Gulch Drainage Outlet at Oneula Beach Park

The Kaloi Gulch drainage outlet is located at the easternmost portion of the existing Oneula Beach Park. Further to the east are lands designated for dedication to the City by HASEKO (Ewa), Inc. TMK: (1) 9-1-11: parcel 7, which adjoins the park, is currently used by the Lions Club for picnic, camping, and for a caretaker's residence. TMKs: (1) 9-1-11: parcels 3 through 6 are vacant. (Wilson Okamoto, March 2001).

West of the site are lands which are a part of the Oneula Beach Park. Northwest and northeast of the site is the master planned Ocean Pointe development. **Figure 1-2** identifies the project site in relation to the Ocean Pointe development.

2.2 DESCRIPTION OF THE PROPOSED ACTION

The proposed project involves upgrading the existing Kaloi Gulch outlet at Oneula Beach Park to provide sufficient capacity to pass the required flows as specified by the drainage standards of the City and County of Honolulu. HASEKO (Ewa), Inc., proposes the following to meet this standard:

A. A 3.7 acre portion of the Kaloi Gulch drainageway within Oneula Beach Park will be improved to convey storm flows according to the City standard. The improvements will consist of a wide, shallow channel approximately 500-feet wide. Ground elevation at the site varies between 3 and 8 feet above mean sea level (msl). A preliminary estimate of the amount of material requiring grading is approximately ±20,000 cubic yards (cy) of soil and sandy material including coral outcrop. Excavation of the channel will need to go down to 4 feet msl to maintain sufficient freeboard within the existing Ocean Pointe project. Excavation will not go lower than an elevation of 4 feet msl to maintain shoreline access. Both channel banks will be raised to a height of at least eight feet above msl to

confine flooding within the channel. Grading of the bank slopes will be mild to facilitate maintenance and park users will be able to walk around the makai end of the channel.

Construction of the channel improvements at the mauka end of the project will be integrated with the Ocean Pointe golf course. At this location, the golf course will connect with the Kaloi Gulch drainageway to maintain consistency of grade and design. At the shore end, work will be terminated within an area immediately seaward of the shoreline.

B. The existing park access road will be reconstructed across the drainage channel to operate as a ford to allow overflow passage of storm flows. The road will match the approximate grade of the improved channel to prevent washout and to ensure passage of stormflows. Vegetative controls such as use of grassing along either the mauka and/or makai side of the road will be used to promote filtration of runoff.

Operation of the access road as a ford is expected to occur very infrequently, and only during periods of heavy stormflows. Measures which will be considered to maintain safety of the access road during these periods will include use of warning signage, gates at each end of the access road within the approximately 500 foot wide channel, and preparation of an Emergency Action Plan (EAP). The EAP will establish persons to be notified and procedures to be followed during conditions for potential storm flow across the ford. The EAP will contribute to the safe use and operation of the road.

C. Accessory improvements will include grassing and landscaping. Grassing will be used throughout selected portions of the drainage channel as part

of the overall landscaping plan for the site. Other accessory improvements may be specified by the Department of Parks and Recreation and Department of Planning and Permitting to ensure that regulatory standards are met.

Further detailed information describing the proposed action will be provided in the Draft EIS for this project. This information will include the following:

- Preliminary construction drawings of the project site including the plan and profile of the site in relation to the Oneula Beach Park. The construction drawings will also provide further detail concerning final slopes and the volume of material requiring excavation.
- Erosion control plan measures to be used during construction to minimize or mitigate the potential for impacts due to discharges of sediments in storm water.

2.3 PROJECT SCHEDULE AND COST

Project scheduling will be based on approval of required environmental permits for the project, plan review and approval from required governmental agencies, and coordination with the affected community. Anticipated construction, therefore, is tentatively scheduled to begin within the mid to late 2006 timeframe. Duration of work is expected to be approximately 6 – 12 months.

The estimated cost of construction for the proposed improvements is $500,000.

CHAPTER 3
ALTERNATIVES TO THE PROPOSED ACTION

The consideration of alternatives to the proposed action are based on the requirement to ensure that drainage standards of the City and County of Honolulu are met while providing a plan for drainage that is feasible for construction.

The following is a summary of alternatives which will be further described in the project Draft EIS. The "No Action" alternative is provided as a requirement of Chapter 343, Hawaii Revised Statutes (HRS).

3.1 NO ACTION ALTERNATIVE

The No Action alternative would involve no further improvement of the ocean outlet to meet the City's current standard for stormflow from the project site.

The City and County of Honolulu design standard for the ocean outlet is for a 100 year flood flow, and is based on the final build-out of planned developments in the Kaloi watershed. The No Action alternative will involve no further action to improve the outlet to meet this standard. However, the acceptability of the No Action alternative may be influenced should there be a future revision to the City and County of Honolulu drainage standard. There is significant stormwater storage capacity for developments upstream of Oneula Beach Park. This stormwater retention capacity was developed over a number of years through a City and County of Honolulu requirement that developments in the region provide storage for on-site generated stormwater.

Under the current or a revised drainage standard the concern for public health and safety will continue to be the primary concern of the City and County of Honolulu and Haseko (Ewa) Inc.. This is to ensure that potential for impacts associated with flooding in the area of the existing outlet does not result in property damage and/or danger from rising floodwater during a heavy storm event.

Although it is possible that a future change to the drainage standard could result in acceptability of the No Action alternative, the current standard requires that improvements be constructed. The No Action alternative fails to meet this objective of the proposed action.

3.2 LOWER THE HONOULULI SEWER OUTFALL TO ALLOW AN UPPER MARINA BASIN AND/OR DRAINAGE CHANNEL TO CROSS OVER THE OUTFALL

This alternative involves the lowering of the Honouliuli Sewer Outfall so that regional stormwater within the Kaloi watershed can reach the ocean through the Ocean Pointe Marina. This involves use of one of two options. Both options involve major construction effort and environmental risk based on the location of the outfall, which is beneath Kaloi Gulch.

The first option involves construction of an inverted siphon. The siphon would be constructed to modify the outfall, so that a section of the outfall could be placed at a depth sufficient to allow construction of an upper marina basin and drainage channel.

This option was eliminated from further consideration because of concern that construction and operation of the inverted siphon could result in potential for adverse environmental, maintenance, and construction impacts including odor problems associated with facilities necessary to service the siphon, construction down-times, and a potential sewage spill from a construction accident.

The second option involves a lowering of the sewer outfall. This option would lower the outfall enough to allow construction of a new drainage channel. The upper marina basin, however, would not be constructed due to insufficient navigable depth.

This option was also eliminated from further consideration because of similar concern over potential environmental and construction impacts. These potential impacts include odor, possible complications involving need to maintain operations of the outfall for the duration of construction, and the possibility of a sewage spill from a construction accident.

3.3 IMPROVE THE EXISTING KALOI GULCH DRAINAGEWAY ACROSS A PORTION OF ONEULA BEACH PARK

This is the preferred alternative and involves enlarging the existing Kaloi Gulch outlet across a portion of the Oneula Beach Park. Reasons for selection of this alternative include: (1) sufficient stormwater capacity can be accommodated using the existing Kaloi Gulch drainageway with minor modifications; and, (2) the reduced risk of adverse environmental impacts associated with construction and modification to an operating sewer outfall.

The proposed improvements would involve excavation of up to 4 feet in depth down to an elevation of 4 feet above msl and widening of the Kaloi Gulch channel to 500 feet to provide the capacity required by the City and County of Honolulu. The flat gradient of the channel in combination with the Ocean Pointe golf course will also help to filter out and control re-entrainment of sediments in the event of stormwater discharges to nearshore waters.

This alternative would also modify a portion of the existing park access road to act as a ford to allow floodwaters to flow over the roadway without damaging it. Discharges to

the ocean from watershed flows across the ford are expected to be very infrequent because of existing upland storage and downward percolation losses within the Kaloi watershed.

Storm runoff Best Management Practices (BMPs) will be incorporated into the Ocean Pointe golf course and project site to help control runoff water quality prior to any ocean discharges.

The planned use of BMPs are intended to retain and achieve final settling of sediments and particulates in runoff. Permanent on-line BMPs implemented along the Kaloi Gulch channel within the golf course will include use of retention basins to serve as final settling areas. Vegetative filters will be used within the golf course as a further protective measure. On-site runoff from Ocean Pointe will be handled in separate stormwater drainage facilities prior to entering Kaloi Gulch.

CHAPTER 4
AFFECTED ENVIRONMENT
POTENTIAL IMPACTS AND MITIGATION MEASURES

The following is a summary description of the physical environment of the proposed project, and includes potential short-term and long-term impacts, and proposed mitigation measures. Further information and analysis of the affected environment including short, long-term, and cumulative potential impacts will be provided in the project Draft Environmental Impact Statement (DEIS).

4.1 CLIMATE

Ewa's climate is typical of leeward areas of Oahu, with relatively arid conditions and an average annual rainfall of 18-20 inches. Temperatures in the region range from an average daily minimum of 70 degrees Fahrenheit (F) to an average daily maximum of 84 degrees F. Persistent northeasterly trade winds range from 8 to 18 miles per hour (WorldClimate, 2004).

Impacts and Mitigation Measures

The proposed project will have no effect on the general climate of the region. The predominantly dry climatic condition is expected to minimize the generation of storm water in the project area during construction and operation of the proposed project.

4.2 TOPOGRAHY

The southern edge of the Ewa Coastal Plain slopes gently toward the Pacific Ocean at a rate of approximately 20 feet per mile. The area has a relatively regular surface

dominated by coral outcrop with some introduced fill. Kaloi Gulch follows the general topography of the Ewa Coastal Plain in its descent to the sea. The shoreline seaward of the project site consists of an eroded limestone escarpment approximately 5 feet high.

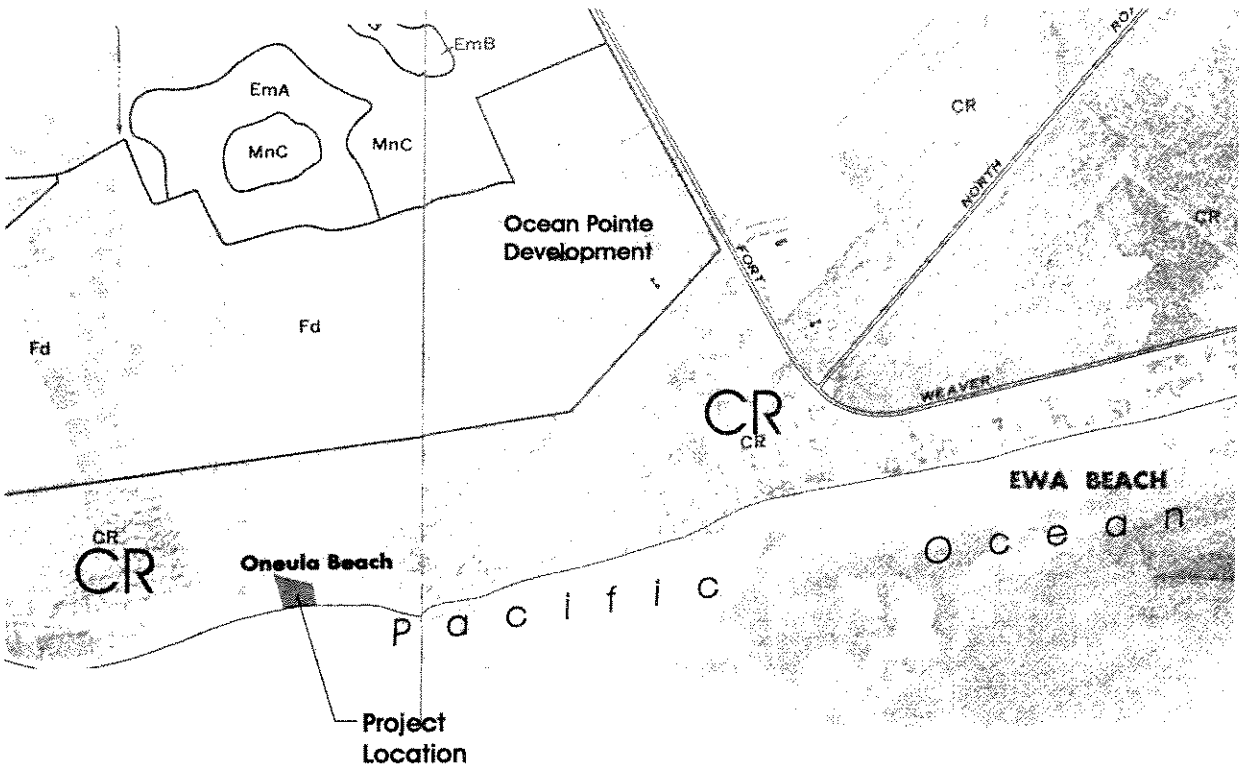
Impacts and Mitigation Measures

The proposed project will result in slight alteration of the current topography within the modified drainageway. Approximately 20,000 cubic yards of soil and sandy material, including coral outcrop, will be excavated to form the contours of the improved channel. All of the cut material will be used to reshape the channel and to allow banks with a height of approximately 8 feet relative to mean sea level (msl). No imported fill is expected to be needed. Channel bank slopes will be graded to a gradual 10-percent slope to facilitate use and maintenance of the channel area. To maintain shoreline access, the channel mouth at the ocean will be set at an elevation of 4 feet msl. The excavated area will be landscaped to be consistent with other open spaces of Oneula Beach Park.

4.3 GEOLOGY AND SOILS

The Ewa Coastal Plain is composed of a sequence of marine sediments underlain by volcanic basalts of the Koolau series at depths of 800 to 1,000 feet. The overlying sedimentary deposits are often referred to as "caprock," which is composed of fossil coral reefs layered between silt and clay of marine and terrestrial origin (City and County of Honolulu, Department of Design DDC, 2001).

According to the U.S. Department of Agriculture, Soil Conservation Service, the project site is underlain by coral outcrop (CR), which consists of coral or cemented calcareous sand (U.S. Dept. of Agriculture, 1972). See **Figure 4-1**.



Coral outcrop (CR) consists of coral or cemented calcareous sand. Elevations range from sea level to approximately 100 feet. Coral outcrop is geographically associated with Jaucas, Keaau, and Mokuleia soils (U.S. Department of Agriculture, 1972).

FIGURE 4-1
SOILS MAP
Kaloi Gulch Drainageway
Improvements at Oneula Beach Park
HASEKO (Ewa), Inc., Ewa, Oahu, Hawaii

0 2000 Feet 4000

R. M. TOWILL CORPORATION

Impacts and Mitigation Measures

The removal of approximately 20,000 cubic yards of soil and sandy material may result in the potential for impacts from generation of fugitive dust and release of sediments in stormwater runoff to coastal waters. This could occur during excavation, temporary stockpiling, and reuse of excavated materials during grading and filling to contour the site to design specifications.

Mitigation of fugitive dust will be addressed by spraying of water from a stationary source or tanker truck on an as needed basis. If possible, non-potable water for dust control may be provided from wells located at the Ocean Pointe project site, adjacent to Oneula Beach Park. Stockpiled materials which can also be a source of dust may be stabilized with a daily top cover of aggregate or crushed coral to prevent the release of windborne dust.

Potential for release of sediments in stormwater runoff from excavated areas and stockpile material sites will be addressed through the County required Erosion Control Plan (ECP) and National Pollutant Discharge Elimination System (NPDES), Construction Stormwater permit application which will be filed for this project. The ECP and NPDES permit applications will provide for use of Best Management Practices (BMPs) to prevent or mitigate the potential for impacts to state waters as a result of stormwater runoff from the construction site, stockpile material sites, and construction materials and equipment storage areas. BMP measures will include: management controls (e.g., use of a construction phasing plan to limit the amount of area subject to excavation at any one time); vegetative controls (e.g., use of hydromulching after completion of excavation in any one area); and, structural controls (e.g., use of silt fencing to filter, or berms to detain, stormwater runoff).

Although there will be some disturbance to geology and soils in the area, no other impacts to geology or soils are anticipated. The completion of the proposed project will result in the improved handling of regional flood flows through a project designed to meet City drainage standards. For further information, see Section 4.5, Drainage.

4.4 GROUNDWATER

Groundwater in the Ewa Plain occurs in two types of aquifers: the Koolau Volcanic series, at a depth of approximately 1,000 feet, and an overlying caprock aquifer. While the deeper volcanic aquifer contains fresh water further inland, it probably contains brackish or salty water at the project site. The project site overlies the nonpotable aquifer known as the Ewa Caprock, which is a designated groundwater management area and subject to regulation by the State Commission on Water Resource Management (CWRM). The CWRM has allocated water from the Ewa Caprock to several users for golf course and landscape irrigation on the east Ewa Plain (DDC, 2001).

The project site is seaward of the underground injection control (UIC) line. All areas inland or mauka of the UIC line are within potable water aquifer zones subject to regulation and protection by the State Department of Health.

Impacts and Mitigation Measures

No significant short-term or long-term impacts to groundwater resources are expected from the proposed drainage improvement project. No construction will take place that has potential to introduce or release into the soil any substance that could adversely affect groundwater. Since the project area is seaward of the underground injection control line, no impact to potable aquifers is expected.

4.5 SURFACE (INLAND) WATERS AND KALOI GULCH DRAINAGEWAY

There are no perennial streams in the vicinity of the proposed project, according to the Hawaii Stream Assessment, (State of Hawaii, 1990). Kaloi Gulch is an intermittent drainageway fed by streams in the upper reaches of the Kaloi watershed. The lower portions of the gulch in the vicinity of the project site are normally dry, providing regional drainage of stormflows during periods of heavy rainfall.

Kaloi Gulch is fed from headwaters originating in the Waianae Mountains. The principal tributary area of the basin is the Ewa Coastal Plain which was previously cultivated in sugar cane by the Oahu Sugar Company. Irrigation for most of the area of the Ewa Coastal Plain was accomplished with a series of ditches, some of which were fed by the Kaloi Gulch. The tributary area of the Kaloi Gulch watershed is approximately 10.4 square miles (**Figure 4-2**). During the period of agriculture which lasted into the mid-1980s, surface flows were primarily absorbed by infiltration and evaporation so that little remaining surface water reached the ocean.

The portion of Kaloi Gulch which now connects to the project site, is the result of the construction of an emergency relief channel constructed in June 2000.

Impacts and Mitigation Measures

The proposed action is a modification to the Ocean Pointe Drainage Master Plan and is intended to address the Drainage Standards of the City and County of Honolulu through the construction of improvements to the existing ocean outlet at Oneula Beach Park. No adverse impacts to inland waters in the project area are anticipated.

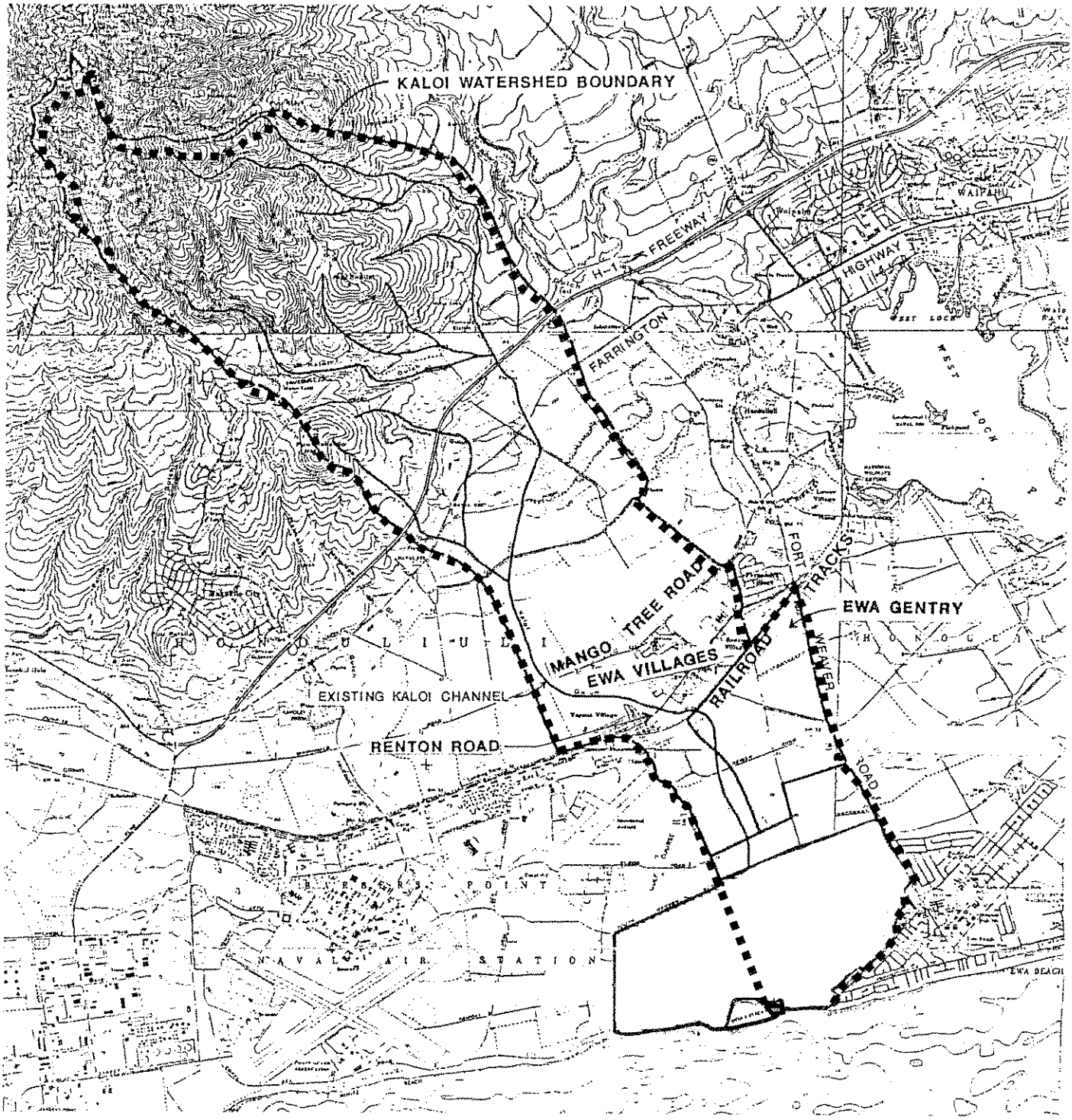


FIGURE 4-2
KALOI WATERSHED BOUNDARY
Kaloi Gulch Drainageway
Improvements at Oneula Beach Park
HASEKO (Ewa) Inc., Ewa, Oahu, Hawaii

0 5,000 Feet 10,000

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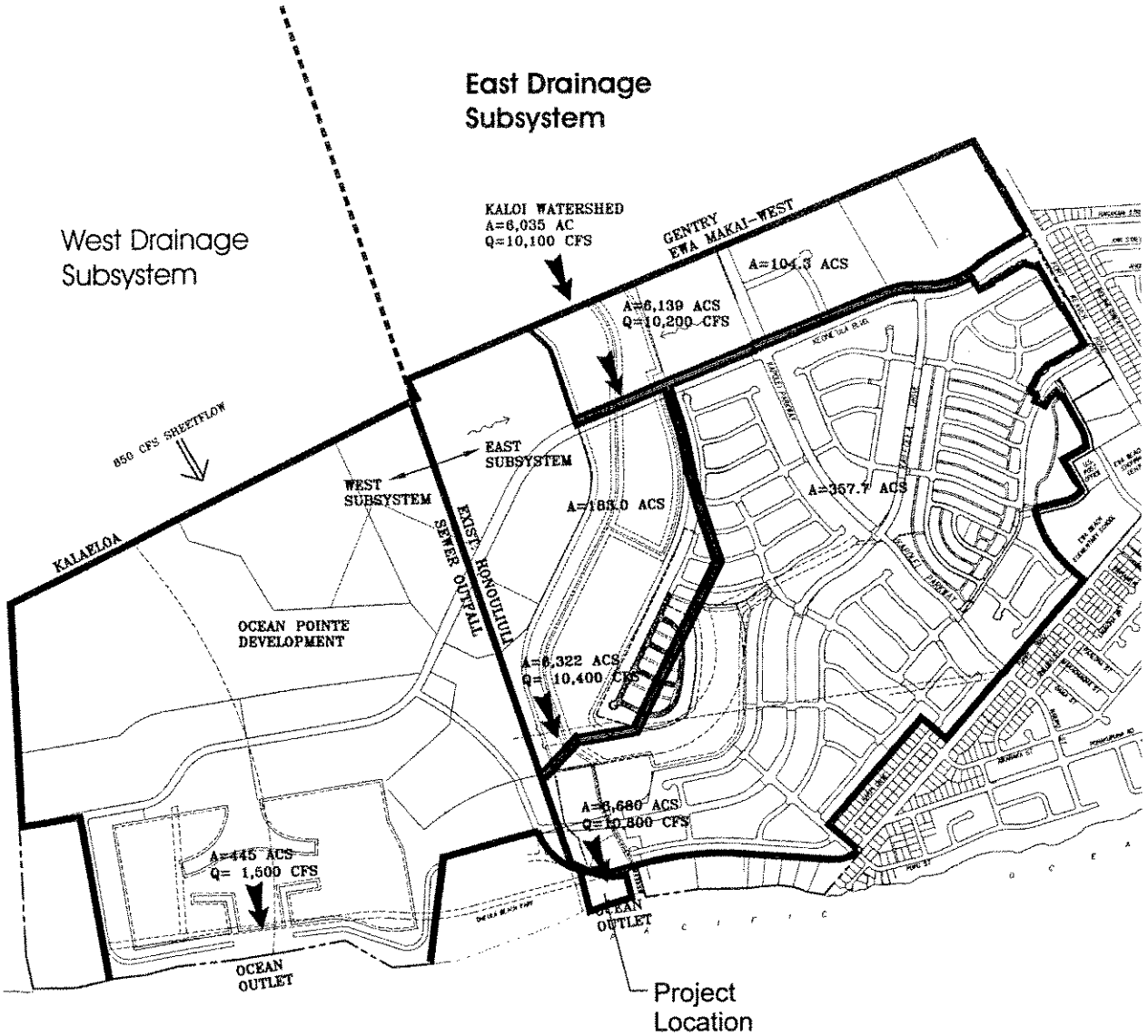
4.6 DRAINAGE AND COASTAL WATERS

The urbanization of the Ewa Coastal Plain has resulted in increased imperviousness of the ground surface throughout the area. This increase in impervious surface area created by upstream developments was considered by the City and County of Honolulu, Department of Planning and Permitting, in their requirement that storm water discharge capacity for the 100 year flood flow be provided by the proposed project.

Drainage through the ocean outlet is designed to accept regional drainage flows from one of two drainage subsystems designated in the revised Drainage Master Plan for the Ocean Pointe development. The "east" drainage subsystem will provide capacity to handle flows from the Ocean Pointe project and upstream developments within the Kaloi Gulch watershed. A second or "west" subsystem will provide the capacity to handle flows from above or mauka of the Ocean Pointe Marina. Both subsystems will utilize the Ocean Pointe Golf Course to receive, treat and convey storm runoff. See **Figure 4-3**.

Waters of the Pacific Ocean shoreward of the project site are designated Class A "Open Coastal Waters" by the State Department of Health (DOH) Water Quality Standards (Hawaii Administrative Rules, Section 11-54). Beneficial uses of Class A waters are fishing, swimming, surfing, water contact recreational activities, aesthetic enjoyment, and support and propagation of marine life. A National Pollutant Discharge Elimination (NPDES) Notice of Intent Form C will be required prior to discharges of storm water associated with construction activity into Class A State waters. Discharges of stormwater from the operation of the outlet will be determined through consultation with the Corps of Engineers.



Source: Drainage Master Plan for Ocean Pointe
R.M. Towill Corporation, February 2004

pacific Ocean

FIGURE 4-3
DRAINAGE SUBSYSTEMS
AND SEWAGE TREATMENT
OUTFALL LOCATION
Kaloi Gulch Drainageway
Improvements at Oneula Beach Park
HASEKO (Ewa) Inc., Ewa, Oahu, Hawaii

0 800 1600 Feet 3200

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Impacts and Mitigation Measures

The proposed project is designed to address the need to modify the existing ocean outlet at Oneula Beach Park to meet the City requirement for drainage capacity. Because the project will improve the outlet, no negative adverse impacts associated with drainage are expected. However, the preparation of the site will require construction which will involve the excavation and stockpiling of excavated materials.

All project actions will comply with DOH Rules Title 11, Chapter 54, Water Quality Standards, and Chapter 55, Water Pollution Control. The proposed project is a form of mitigation to reduce the potential for adverse environmental impacts associated with discharges of storm water. Measures to ensure that potential negative impacts associated with storm water discharge do not occur, will include:

- A water quality facility will be incorporated into the proposed Ocean Pointe golf course to address City and County of Honolulu storm water quality requirements for the entire Ocean Pointe development. The facility will be designed as a flow-through system to treat on-site runoff. It will be comprised of vegetated swales located downstream of subdivision drainage outfalls that discharge into the golf course. Operation and maintenance of the facility will be by the owner of the Ocean Pointe golf course (currently owned by Haseko (Ewa), Inc.). An operations and maintenance plan will be implemented when the golf course and storm water facility are developed.
- Off-site runoff from the Kaloi Gulch watershed and from Kalaeloa will be directed into the Ocean Pointe golf course and be combined with treated on-site runoff from the vegetated swales. The golf

course in the east subsystem will be the final settling area for the portion of the project within the Kaloi Gulch watershed. Due to upland storage and downward percolation losses, discharge to the ocean from Kaloi Gulch is anticipated to be infrequent. A preliminary estimate of discharge will be approximately 1 in 10 years.

Best Management Practices (BMPs) will be incorporated into the golf course to help capture and treat the combined off-site runoff before final discharge to the ocean. It is anticipated that upstream landowners will treat storm runoff from their respective lands based on the City and County of Honolulu Storm Drainage Standards.

- Best Management Practices (BMPs) to be used for the portion of Kaloi Gulch within the Ocean Pointe development will include storm water retention basins to capture and reduce sediment transport, use of vegetated filters and the use of mild gradients along drainageways to minimize re-entrainment of sediment. In addition to these BMPs, the Ocean Pointe marina basin will continue to be used as the final settling basin for runoff in the "west" subsystem.
- Further discussion of potential for adverse negative impacts to coastal water quality will be provided in the Draft EIS for this project. The Draft EIS will discuss and describe the results of on-going water quality analyses to determine the short and long-term effect to coastal water quality based on construction of the proposed project.

4.7 NATURAL HAZARDS

4.7.1 FLOOD ZONES

According to the Federal Emergency Management Agency's Flood Insurance Rate Map 1-5001 0135 C, the project area contains two flood zones, A and AE. See **Figure 4-4**. These flood zones are designated as special flood hazard areas with base flood elevations at six to eight feet (FEMA, 1990). The flood hazards in Zones A and AE are associated with rising seas during tsunami rather than from storm water runoff. Unlike other coastal areas, there is no indication of tsunami hazard associated with fast-moving water in the form of large waves and backwash. Rather, the tsunami phenomenon in this area would be attributed to rapidly rising and declining sea levels.

The existing ground elevation at the site of the proposed channel improvements is approximately at the base flood elevation.

Impacts and Mitigation Measures

No adverse impacts are anticipated with regard to the site and its related FEMA flood zones. As proposed, the project within the limits of the drainage channel will provide the capacity to handle a 100 year flood flow. No habitable structures are proposed, the completed project area will be clearly marked with signage designating that the site serves as a drainageway.

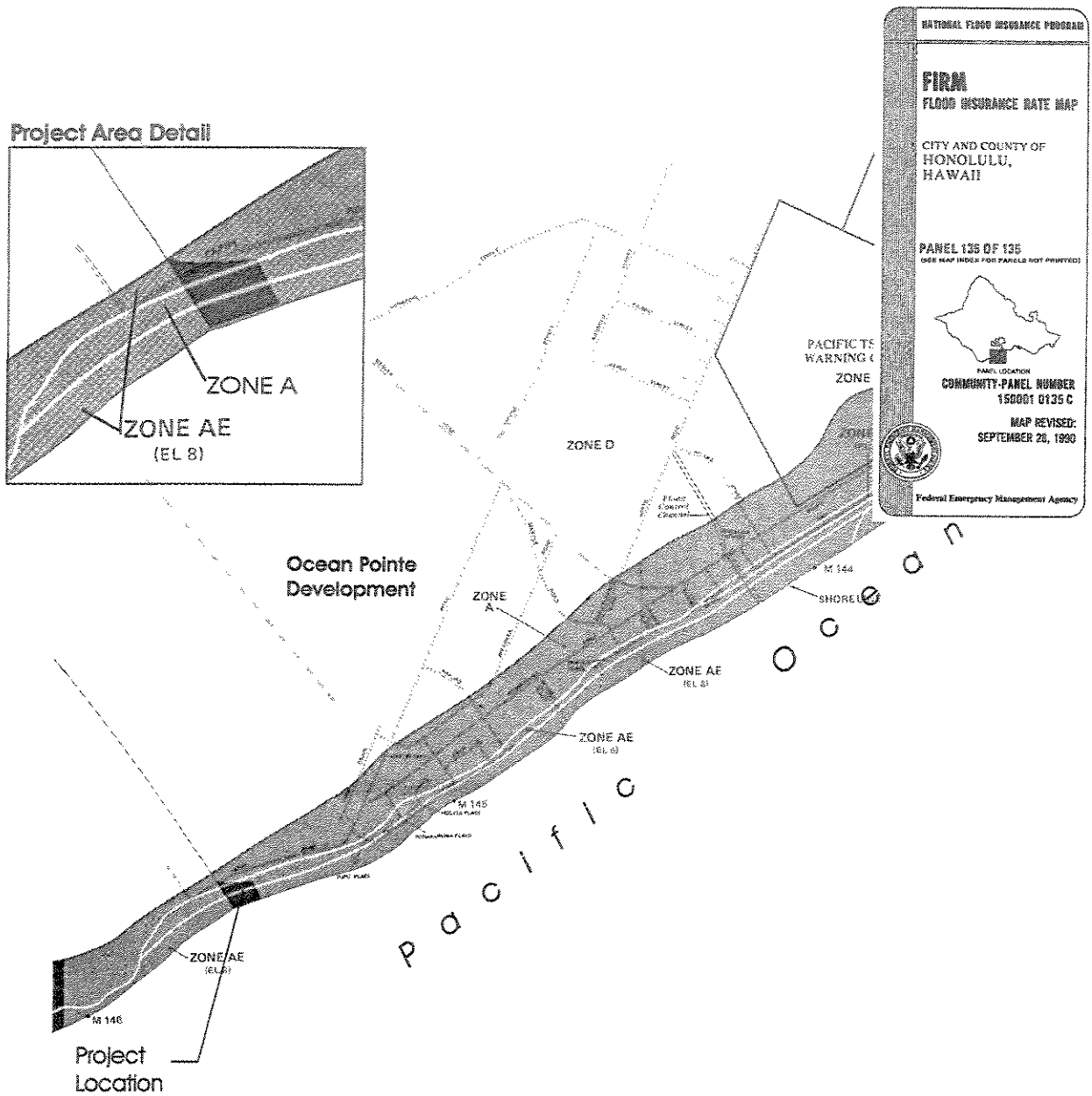

FIGURE 4-4
FLOOD ZONE MAP
Kaloi Gulch Drainageway
Improvements at Oneula Beach Park
HASEKO (Ewa), Inc., Ewa, Oahu, Hawaii

0 2000 Feet 4000

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4.7.2 SEISMIC ACTIVITY (EARTHQUAKES)

The proposed project is not likely to be significantly affected by seismic activity. The Uniform Building Code (UBC) provides minimum design criteria to address potential for damages due to seismic disturbances. The UBC scale is rated from Seismic Zone 0 through Zone 4, with 0 the lowest level for potential seismic induced ground movement. Like all of Oahu, the project area is designated in Seismic Zone 2a (United States Geological Survey, 1997).

Impacts and Mitigation Measures

The UBC establishes minimum design criteria for wind speed and exposure based on terrain and local weather history. To mitigate the potential hazard from earthquakes, all structures proposed for this project will be built, at a minimum, in compliance with standards for UBC Seismic Zone 2a.

4.7.3 HURRICANES

The Hawaiian Islands are seasonally affected by Pacific hurricanes from the late summer to early winter months. Oahu's Ewa Coastal Plain is infrequently hit by severe storm events. It is difficult to predict these natural occurrences, but it is reasonable to assume that future events will occur.

Impacts and Mitigation Measures

Hurricane hazard is not unique to the project site. However, the project site is no more or less vulnerable than the rest of Oahu to the destructive winds and torrential rains associated with hurricanes. In implementing the project, HASEKO (Ewa), Inc. will follow minimum standards as set forth in Section 60.3(a) of Title 44 of the Code of Federal Regulations.

4.8 VISUAL RESOURCES

The project vicinity is a shoreline area with views of the Pacific Ocean to the south, and views of open space with the backdrop of the distant Waianae Mountains to the north. The project area is entirely open space with the exception of Papipi Road, which transitions into an access road to Oneula Beach Park and provides vehicular entry to the project site.

Impacts and Mitigation Measures

Construction activities will result in views of machinery, equipment, and personnel within the drainageway. Some scrub and channel-associated vegetation may also be cleared to accomplish grading. A nearshore berm along the shoreline may be modified to facilitate construction of the improvements. Because the completed Kaloi Gulch drainageway improvements will not alter the current scenic resources of the park's open space area, no mitigation is planned.

4.9 AIR QUALITY

Air quality at Oneula Beach Park is excellent overall due to prevailing northeast trade winds. The nearby Kapolei Air Quality Monitoring Station, which measures pollution constituents of carbon monoxide, sulfur oxides, nitrogen oxide and particulates, provides longitudinal data indicating air quality consistently within State and Federal regulatory limits. Localized sources of air pollution at Oneula Beach Park include emissions from private vehicles and park maintenance equipment.

Impacts and Mitigation Measures

Some short-term impacts on air quality will occur either directly or indirectly as a consequence of project construction activities. The operation of vehicles, heavy equipment, and generators at the project site will generate some fugitive dust

and pollution emissions. Adjacent areas will be temporarily affected during the period of construction by dust and pollution. However, these impacts will be temporary and will cease when construction is completed.

All project actions will comply with DOH Rules Title 11, Chapter 59 and 60, regarding Air Pollution Control. For example, state air pollution control regulations require that there be no visible fugitive dust emissions at the construction site boundary. A dust control plan will be implemented by the project contractor to ensure compliance with state regulations. Fugitive dust emissions can be controlled to a large extent by watering of active work areas, using wind screens, keeping adjacent paved roads clean, and by covering open-bodied trucks. In addition, construction-related exhaust emissions will be mitigated by ensuring that project contractors properly maintain their internal combustion engines.

No long-term impacts to air quality are expected from the project.

4.10 NOISE

The project area is currently in passive park use. Oneula Beach Park is approximately 1 mile from the Kalaeloa Airport (formerly Barbers Point Naval Air Station), and is in proximity to a flight pattern for Honolulu International Airport. A Final Environmental Impact Statement for the Disposal and Reuse of Naval Air Station Barbers Point, Hawaii dated February 1999, was prepared by the Department of the Navy to evaluate the potential environmental impacts of the proposed disposal and subsequent reuse of Naval Air Station Barbers Point. The EIS considered several alternative uses, the most prominent being the reuse of Barbers Point as a State of Hawaii general aviation reliever airport (its current use) that would also accommodate the operations of the U.S. Coast Guard and Hawaii Air National Guard. In general, the closure of Barbers

Point Naval Air Station and reuse for the above-cited activities significantly reduces the number of overflights and noise from Barbers Point (HASEKO, 2001).

Work to accomplish the proposed project will involve use of construction vehicles and equipment. Most of this equipment will be powered by internal combustion engines which will be a source of short term noise.

Impacts and Mitigation Measures

All work that may be a source of noise will comply with the Hawaii Administrative Rules, State Department of Health, Title 11, Chapter 46, Community Noise Control.

The primary project impact will involve noise generated during construction activities, which may be a source of nuisance to park users who choose to remain in the immediate area of work. Earth moving equipment, including diesel-powered bulldozers, trucks, backhoes, front-end loaders, graders, etc., will probably be the noisiest equipment used during construction. The generation of noise will be temporary and will cease when construction is complete.

Adverse impacts from construction noise are not expected to pose a hazard to "public health and welfare" due to the temporary nature of the work, the absence of sensitive land uses in the immediate surrounding area, and mitigation measures that will be employed to minimize noise impacts. It is also expected that sufficient locations are available in other areas of Oneula Beach Park, where users may continue to enjoy the park.

No long-term noise impacts are expected as a result of the proposed action.

4.11 TERRESTRIAL FLORA AND FAUNA

There is little of botanical interest or concern on the property as the majority of the property has been disturbed by agricultural activities and later construction of Oneula Beach Park. As is typical of areas underlain with coral outcrop soil, naturally-occurring vegetation is sparse and consists mostly of exotic species such as kiawe, haole koa and fingergrass. In the project area, vegetation consists of a mixture of exotic grasses and weeds. A botanical study conducted for previous environmental documentation concluded that there were no threatened or endangered plant species in the area (Char & Associates, 1989).

Mammal species that may be found at the project site include mice, rats, mongoose and feral cats. Avifauna probably present at the site includes common exotic species such as the myna, doves, sparrows, finches and cardinals. The endangered Hawaiian Stilt (*Himantopus himantopus knudseni*) utilizes a wetland area approximately one-half mile west of the project site. Five other indigenous bird species, none of which are threatened or endangered, were identified in a survey conducted for the Ocean Pointe development, including the project area. These include the golden plover, wandering tattler, ruddy turnstone and sanderling. These are migratory birds that spend winter months in Hawaii and return to northern temperate regions to breed. Other species witnessed in the area include the indigenous black-crowned heron, non-native barn owl and non-native peafowl (Bruner, 1990).

Impacts and Mitigation Measures

Rare or endangered flora and faunal species, and important plant assemblages, were not previously identified in the project area. However, to ensure against potential for negative adverse impacts, governmental agencies including the State Department of Land and Natural Resources, and U.S. Fish and Wildlife

Service will be consulted. Following consultation, a botanical and faunal survey will be conducted for the Draft EIS. The area of study will include the portion of the ocean outlet and surrounding area which will be disturbed by construction activity.

During grading and construction and following construction of the Kaloi Gulch drainageway improvements, removal of existing vegetation will result in loss of habitat for common exotic species observed at the project site. It is possible that construction within the area of the shoreline setback may be required. However, no significant adverse impacts on seabirds are anticipated given the temporary and limited nature of work which will not directly affect the immediate shoreline frequented by such species.

Following construction, it is expected that vegetation will become reestablished in various locations within the drainageway. Other spaces, such as within the channel, will remain open with a landscaped and grassed surface. Some of these spaces may provide additional forage and habitat space for both exotic and rare and endangered avifauna.

4.12 MARINE BIOLOGY

The proposed project will not involve work within the shorebreak or coastal waters, or involve work that could have the potential for a negative adverse impact on marine biology. Work at the seaward end of the drainage outlet will be limited to an area mauka of the shoreline.

A species of concern which could be affected includes the Green Sea Turtle because of their ability to move unto and over beach areas. HASEKO (Ewa), Inc., conducted a long term survey of turtles in the study area in 1992 and has since updated their survey in

2003. A large aggregation of the threatened green sea turtle (*Chelonia mydas*) was found in an offshore area of substantial vertical relief in front of the former Barbers Point Naval Air station. Extensive excavation of the soft limestone substratum suggests that turtles have used the area for a considerable period of time. Most of the turtles observed were mature individuals with a few small and young individuals present.

One or two turtles have been seen on occasion east of Oneula Beach Park, where a sunken barge provides sheltered habitat in depths of approximately 30 feet (Marine Research Consultants, 1991). No turtle nesting is known or expected to occur at Oneula Beach Park or the surrounding coastline, given an increase in human activity in the area, associated with urbanization of the Ewa Coastal Plain.

Impacts and Mitigation Measures

The proposed project will not affect shoreline processes and will not require construction activities which could impact the marine biology of the area. Negative adverse impacts to the Green Sea Turtle are not anticipated.

However, an ongoing modeling study to quantify sediment transport and water quality impacts associated with construction of the proposed project will be provided in the forthcoming Draft EIS. Potential for negative adverse impacts, if applicable, will be described and mitigation measures will be proposed.

CHAPTER 5
PUBLIC SERVICES
POTENTIAL IMPACTS AND MITIGATION MEASURES

The following is a summary description of the public services that could be affected by the proposed project, potential short-term and long-term impacts, and proposed mitigation measures. Further information, including the results of ongoing consultation, will be provided in the project Draft Environmental Impact Statement (DEIS).

5.1 TRAFFIC AND ROADWAYS

Papipi Road, an east-west collector, originates at its intersection with Fort Weaver Road and becomes the Oneula Beach Park access road west of the Pupu Street intersection. Future plans for regional transportation improvements will involve the widening of Fort Weaver Road from four lanes to six lanes between Farrington Highway and Geiger Road. The Kapolei Parkway is also planned for construction in the near future to improve access and circulation within the region.

Haseko (Ewa), Inc. is in the process of conveying ownership of 9.365 acres of land to the east of the project area to the City and County of Honolulu. According to the Oneula Beach Park Master Plan, "the roadway easement [Papipi Road and the park access road, currently the sole access to the beach park] will be realigned makai or southward of its present alignment to lie completely within the park boundary. The single access road will be developed to allow better control over vehicular access [to the park] for security purposes" (DDC, 2001).

An Oneula Beach Park Master Plan has been prepared by the City Department of Parks and Recreation and a Final Environmental Assessment and Finding of No Significant

Impact was issued for the project in March 2001 (DDC, 2001). The park master plan includes improvements to the existing park area and describes the planned uses for a 9.365-acre extension immediately to the east of the project site which will be dedicated to the City by HASEKO (Ewa), Inc. (**Figure 5-1**).

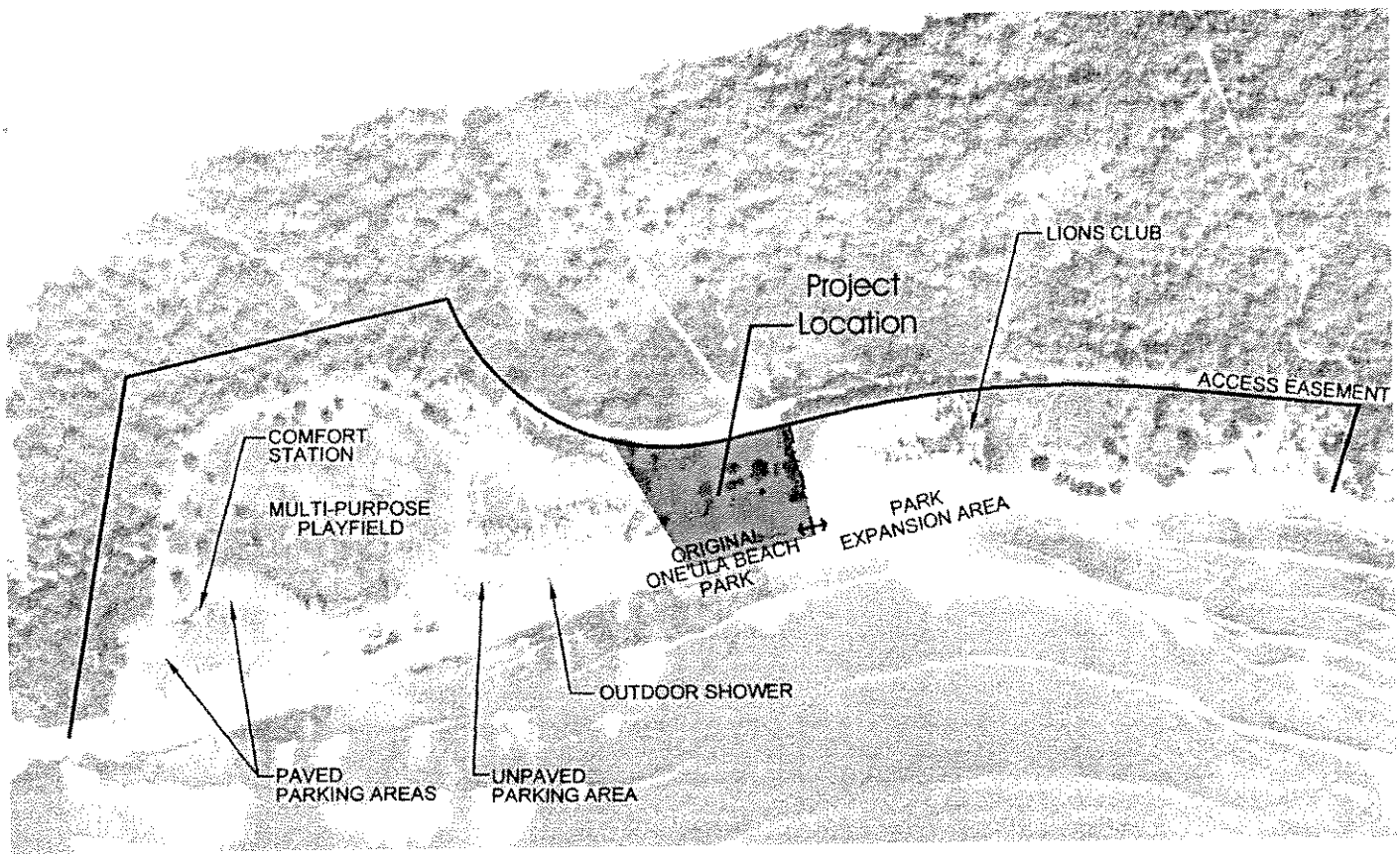
Impacts and Mitigation Measures

The existing beach park access road, as it extends through the 500-foot wide drainageway, will be realigned in accordance with the park master plan and lowered slightly to an elevation of approximately 4.5 feet msl under the proposed Ocean Pointe Drainage Master Plan. The park access road would operate as a ford to permit passage of flood waters (HASEKO (Ewa), Inc., 2004).

In the long term, Papipi Road and the proposed realigned beach park access road, will link to the larger Ocean Pointe roadway network. Since no realignment or widening of Papipi Road is proposed, this project should have no impact on the future roadway requirements of the Ewa Beach area.

5.2 WASTEWATER

The Ewa Coastal Plain is served by the Honouliuli Wastewater Treatment Plant, operated by the City and County of Honolulu, Department of Environmental Services. The Honouliuli Wastewater Treatment Plant sewer outfall extends in a north-south direction through the Ocean Pointe development in the vicinity of the golf course and Kaloi Gulch (**Figure 4-3**). The outfall line transmits treated sewage from the plant to the ocean by means of the Barbers Point Ocean Outfall System. An existing 50-foot wide easement roughly follows the path of Kaloi Gulch and passes directly to the west of the project site. The sewer outfall extends to waters of the Pacific Ocean where it terminates offshore.



Source: Final Environmental Assessment, Oneula Beach Park Master Plan
City and County of Honolulu, Department of Design and Construction, 2001

FIGURE 5-1
ONEULA BEACH PARK
MASTER PLAN
Kaloi Gulch Drainageway
Improvements at Oneula Beach Park
HASEKO (Ewa), Inc., Ewa, Oahu, Hawaii

0 500 Feet 1000

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According to the Oneula Beach Park Master Plan, no sewer facilities are available for hookup to support park development. A 24-inch sewer line is located along the existing Papipi Road easement and conveys wastewater through the Honouliuli municipal system. The design to accommodate the Oneula Beach Park Master Plan will include appropriate lines for sewer connection, sewer manholes, and clean-outs (DDC, 2001).

Impacts and Mitigation Measures

The proposed project is not expected to result in adverse impacts to wastewater resources in the area:

- The existing Honouliuli Wastewater Treatment Plant sewer outfall, located beneath Kaloi Gulch, will not need to be reconfigured to accommodate construction of the project. Thus, no impacts to the existing sewer outfall are expected.
- Demand for wastewater services as a result of the project is expected to be negligible. Construction work crews will be provided with portable sanitary toilets during the construction phase. Maintenance of the portable toilets will be handled off-site and in accordance with regulatory requirements.

Sewer requirements for completion of the Oneula Beach Park Master Plan will require coordination between the City Departments of Environmental Services and Parks and Recreation to complete installation of a sewer connection line. Specifically, the sewer line will have to be constructed to ensure that the invert depth is consistent with the proposed improvements to the Kaloi Gulch ocean outlet. The schedule will also require coordination to determine the possibility of completing the installation of the beach park sewer line during construction of the proposed drainage outlet improvements.

5.3 POTABLE WATER

The project area is served by the Honolulu Board of Water Supply (BWS). BWS Wells at Kunia and Hoaeae provide water to Oneula Beach Park via water mains located along Fort Weaver Road (USACOE, 1993).

Impacts and Mitigation Measures

The proposed action will not affect potable water supply except during the construction stage. It is expected that this use will primarily be for workcrews for drinking purposes. As feasible, non-potable water for dust control and irrigation to establish planted vegetation during the construction phase may be provided from the adjoining Ocean Pointe development.

The use of potable water for workcrews and possible use for dust control and irrigation is expected to be negligible and no long-term impacts to potable water supply are expected. This is due to the relatively small scope and scale of the project. No mitigation measures are proposed.

5.4 NON-POTABLE WATER

There are no non-potable wells located at the project site. However, according to the Oneula Beach Park Master Plan (March 2001), the park water system will be designed to facilitate future conversion to a dual water system using non-potable water for irrigation purposes when non-potable service to the park becomes available.

Impacts and Mitigation Measures

No impacts to non-potable resources are expected as none are present. However, non-potable water from the Ocean Pointe project site may be used for dust control and irrigation of planted vegetation. No mitigation measures are

proposed or required.

5.5 POWER AND COMMUNICATION

Electrical power is provided to Oneula Beach Park by Hawaiian Electric Company. Telephone facilities owned by Verizon Hawaii serve the beach park and nearby residential neighborhoods.

Impacts and Mitigation Measures

The proposed drainageway will not require electrical or communications hook-ups during the construction or implementation phases. As required, construction will be coordinated with the Department of Parks and Recreation to ensure against potential for conflicts or impacts to the Oneula Beach Park.

5.5 POLICE AND FIRE PROTECTION

The Honolulu Police Department serves the project area through its Leeward District 8 facilities located at the Kapolei Police Station, 1100 Kamokila Boulevard, Kapolei. The project site is served by the Honolulu Fire Department's Ewa Beach Station #24. This station is located about one mile east of the project site at 91-832 Pohakupuna Road. The Ewa Development Plan indicates that the current fire station will eventually be replaced by a new station on Fort Weaver Road (DDC, 2001).

Impacts and Mitigation Measures

In the short term, no impacts on police protection resources are expected from construction. In addition, no structures are involved in the project that would be susceptible to fire. No mitigation is planned.

5.6 HEALTH CARE AND EMERGENCY SERVICES

The major health care facility nearest to the project area, the St. Francis West Medical Center (SFW) on Fort Weaver Road, is an approximately 15-minute drive from the project site. SFW is a full-service hospital providing emergency care and a heliport for medivac transport. Other medical facilities located within a 30-minute drive of the project site are the Kaiser Permanente Punawai Clinic in Waipahu, and Kapiolani Medical Center at Pali Momi, in Pearl Ridge (DDC, 2001).

Impacts and Mitigation Measures

In the short term, the only possible impact on health care and emergency services would be the unlikely event of a construction-related accident requiring emergency care. The proposed project will have no long-term impact on health care and emergency services.

5.7 EDUCATION AND LIBRARY SERVICES

The immediately surrounding community is served by Ewa Beach School and Library. A proposed new elementary school will be constructed as part of the Ocean Pointe project, currently under development. The existing Ewa Beach school and library facilities are operated by the State of Hawaii, Department of Education.

Impacts and Mitigation Measures

Since the project is limited to drainageway improvements, proposed actions will have no impact on education and library services of the Ewa district or the Ewa Beach community. No mitigation measures are required or planned.

5.8 PARKS AND RECREATION

The project is located entirely within the existing Oneula Beach Park, which is owned and operated by the City and County of Honolulu, Department of Parks and Recreation. Land uses within the park include ocean recreation, picnicking and use of a multi-purpose field.

Impacts and Mitigation Measures

Oneula Beach Park operations will be disrupted during construction of the proposed improvements and modifications to the Papipi Road/Beach Park Access Road. Existing vegetation within the channel will be removed and later replaced after grading is completed. Work to modify the existing beach park access road will be coordinated with the City Department of Parks and Recreation to ensure that park access is maintained. If required, this may include construction of a temporary detour road to allow vehicular traffic into and out of the park.

The existing drainageway is subject to ponding from stormwater runoff during periods of heavy rainfall. This condition is expected to continue with completion of the proposed project which will use the drainageway for the purpose of conveying stormflows. Recreational activities at Oneula Beach Park during these periods can be expected to be curtailed because of inclement weather. In the event that the access road must operate as a ford (Section 2.2, Description of the Proposed Action), safety will be maintained through possible use of warning signage, gates at each end of the access road within the channel, and preparation of an Emergency Action Plan (EAP).

On a long-term basis, the drainage channel mouth at the ocean will be set at an elevation of 4 feet msl to maintain shoreline access adjacent to Oneula Beach Park. No structures are proposed for the project area, which is to remain in open

space with Papipi Road and the existing beach park access road in approximately the same alignment. No long-term land use conflicts are expected between park use and the proposed project.

CHAPTER 6
SOCIO-ECONOMIC ENVIRONMENT
POTENTIAL IMPACTS AND MITIGATION MEASURES

The following is a summary description of the socio-economic environment of the proposed project, potential short-term and long-term impacts, and proposed mitigation measures. Further information and analysis of the socio-economic environment including short-term, long-term, and cumulative potential impacts will be provided in the project Draft Environmental Impact Statement (DEIS).

6.1 SOCIO-ECONOMIC CONTEXT OF THE PROJECT

The Ewa District encompasses the communities of Makakilo, Kapolei, developments and subdivisions such as Ko Olina and Honokai Hale, and portions of Nanakuli, which is a part of the Waianae Coastline. The proposed project also is located within the Ewa Development Plan (DP) Area, a region which is a major focus of new development on the island of Oahu. Kapolei and its surroundings include residential, commercial, resort and industrial areas. An average of approximately 975 new homes has been built each year (from 1990 through 2001) in the Ewa DP area. About half are in the Kapolei area. Development of Ko Olina, at the western end of the Ewa DP area, slowed during the 1990s, but is now increasing. While population growth has been slowing islandwide over the last two decades, it has increased in Ewa (SMS, 2002).

Ewa communities are characterized by young families with above-average incomes. New development could accelerate in the next few years as the State Department of Hawaiian Home Lands and a private developer, taking over remnant lands at Barbers Point from the US Navy, may both seek to produce new housing inventory quickly to provide local housing for low-income families.

Ocean Pointe is expected to eventually be home to 4,850 residential units. At a household size of 2.5, approximately 12,125 new residents would be accommodated.

Impacts and Mitigation Measures

The Kaloi Gulch Drainageway Improvements project is not anticipated to adversely impact the population or economy of the Ewa region. The project is intended to comply with the current drainage standard of the City and County of Honolulu, which requires the construction of drainage improvements at the project site. Over the long-term if the proposed project is not constructed it is possible that future development constraints may be placed on upland landowners because of insufficient capacity to relieve stormwater discharges through the Oneula Beach Park ocean outlet.

6.2 POPULATION AND ECONOMY

According to **Table 6-1**, Oahu's population growth has been slowing over recent decades. As a major site for housing development, the Ewa area saw higher growth in the 1970s and the 1990s (SMS, December 2002).

The regional median household income for Ewa is 115% of the island median. Ko Olina/ Honokai Hale have a median household income level much higher than other communities in the Ewa region. Fewer households have social security, retirement or public assistance income than elsewhere on Oahu. Workers living in the Ewa DP area are diverse in occupation, but even fewer are in agriculture than islandwide. Commuting times are long, and a third of the workforce normally drives over 45 minutes to work (SMS, 2002).

Table 6-1

Population Growth: Oahu and Ewa Development Plan Area

Population	1960	1970	1980	1990	2000
City & County of Honolulu	500,409	630,528	762,565	936,255	876,156
Ewa DP Area	NA	24,235	35,585	42,983	68,728

Average Annual Rate of Growth	1960-70	1970-80	1980-90	1990-2000
City & County of Honolulu	2.3%	1.9%	0.9%	0.5%
Ewa DP Area		3.9%	1.9%	4.8%

Source: SMS, 2002

Population growth projections prepared by the City and County of Honolulu, Department of Planning and Permitting, for the Ewa Development Plan Area forecast a population increase of 190 percent by 2020. This represents an increase from approximately 43,000 residents in 1990 to 125,000 in 2020 (DDC, 2001).

Impacts and Mitigation Measures

No direct adverse impacts on the population or economy of the Ewa region are anticipated as a result of the project. In the short term, use of Oneula Beach Park will be temporarily impacted during construction. Also, construction jobs will represent a temporary increase in employment, though not necessarily for the adjacent area or Ewa region. Over the long-term if the proposed project is not constructed it is possible that future development constraints may be placed on upland landowners because of insufficient capacity to relieve stormwater discharges through the Oneula Beach Park ocean outlet.

6.3 LAND USE AND OWNERSHIP

The project site involves use of land owned by the City and County of Honolulu, Department of Parks and Recreation, for use as Oneula Beach Park. Land uses within the park include ocean recreation, picnicking and use of a multi-purpose field. On May 12, 2004, the Department of Parks and Recreation provided authorization to Haseko (Ewa) Inc., to process and obtain the environmental permits necessary for the proposed project.

Impacts and Mitigation Measures

The applicant, HASEKO (Ewa), Inc., will coordinate all work with the owner, the City and County of Honolulu, to modify open space within the existing beach park for construction of the planned improvements. This arrangement will be reviewed and approved by the Department of Parks and Recreation before construction can commence.

6.4 PROPERTIES WITHIN PROXIMITY TO THE PROPOSED PROJECT

The majority of privately-held land in the subject area is owned by the applicant, HASEKO (Ewa), Inc., and is planned for development as part of the Ocean Pointe master planned community (**Figure 1-2**). An established single-family residential neighborhood is located to the east between the subject property and Fort Weaver Road. Lots comprising an area of 9.365 acres are planned for transfer from HASEKO (Ewa), Inc., to the City and County of Honolulu for use as an extension to the Oneula Beach Park. See **Figure 5-1**.

Impacts and Mitigation Measures

The Ocean Pointe development will be affected by the proposed project because of land use changes that will be required for previously zoned land which will need to be reconfigured to accommodate the drainage improvements. However, the reconfiguration will not require major changes to the existing zoning density of the site. No mitigation measures are proposed.

The single-family residential neighborhood may be affected by construction generated dust and noise. All work activities will be in accordance with requirements of the State and City and County of Honolulu. As required, use of water and cover material including aggregate will be applied to areas subject to generation of dust. Construction vehicles and equipment will be equipped with mufflers to reduce the generation of noise. All work will be conducted within prescribed work hours as established by the Department of Health. As required, other mitigation measures will be employed to ensure against negative impacts to the nearby Ewa residential neighborhood.

6.5 HISTORIC AND ARCHAEOLOGICAL RESOURCES

The proposed project site is located within the Oneula Archaeological District (site no. 80-13-2873), **Figure 6-1**, and has been determined to be eligible for inclusion in the National Register of Historic Places. Archaeologists have conducted extensive archaeological inventory and data recovery work in the project area immediately above the project site (PHRI, 1991a), and there is also an accepted preservation plan covering the entirety of the Ocean Pointe property (PHRI, 1991b). In response to the Draft Environmental Assessment for the Oneula Beach Park Master Plan, the State Historic Preservation Division has indicated that park improvements will have "no effect" on significant historic sites (DDC, 2001).

The State Historic Preservation Division (SHPD) was consulted concerning the scope of work for additional archaeological exploration of the coastal sand deposit at the makai end of the Kaloi Gulch outlet. The archaeological field work has been completed with no significant discoveries. The results of this study will be included in the Draft EIS for the proposed project. The archaeological investigation included the use of back-hoe transects and manual excavation and examination of the site.

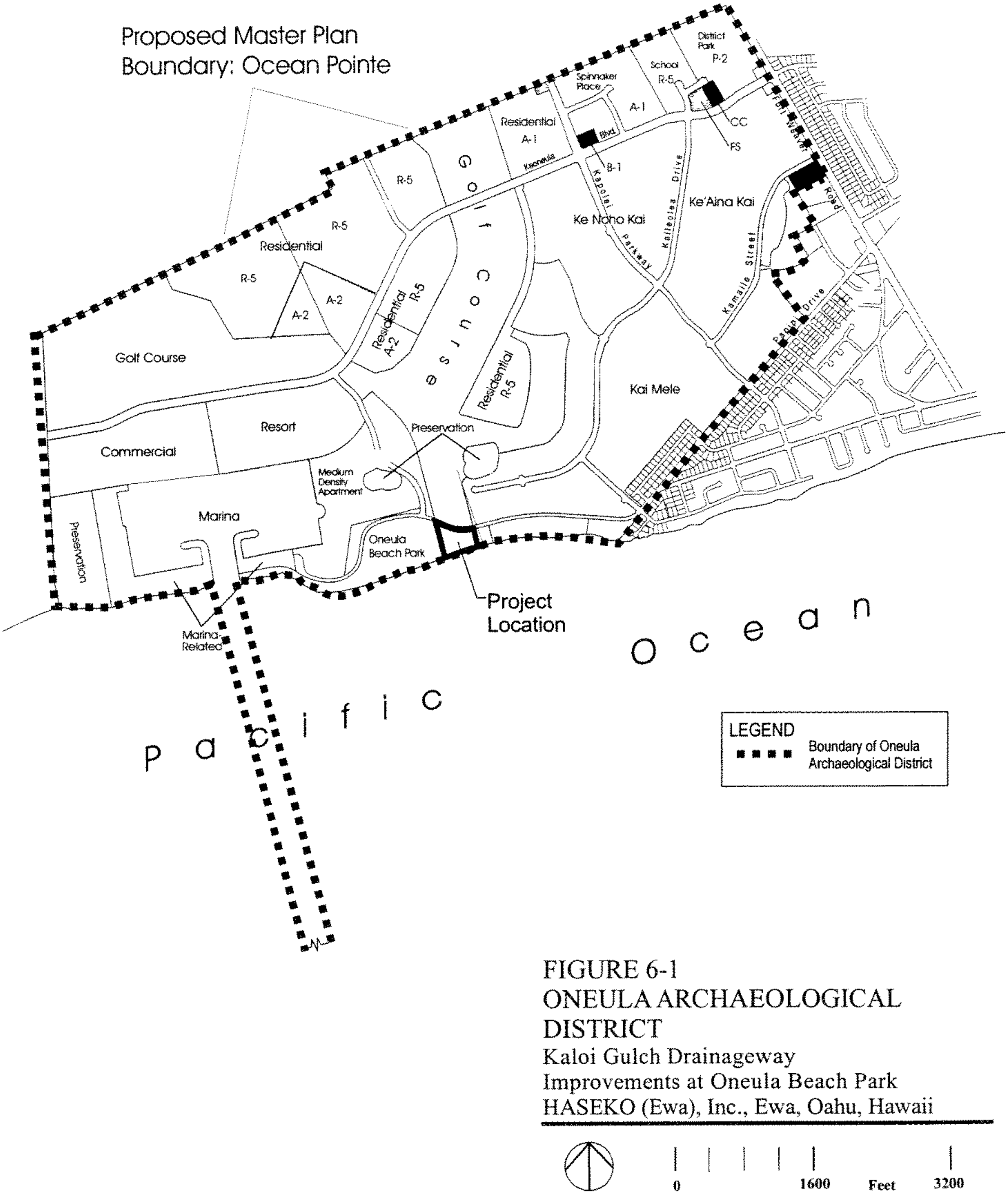

FIGURE 6-1
ONEULA ARCHAEOLOGICAL DISTRICT
Kaloi Gulch Drainageway
Improvements at Oneula Beach Park
HASEKO (Ewa), Inc., Ewa, Oahu, Hawaii

R. M. TOWILL CORPORATION

Impacts and Mitigation Measures

No impact to archaeological resources is expected. The Draft EIS will provide a report of the archaeological investigation of sand deposits at the makai end of the Kaloi Gulch drainage outlet. However, because it is always possible that subsurface human remains may be encountered during construction, work crews will be instructed to cease work in the event of a find and to notify SHPD immediately. The applicant, HASEKO (Ewa), Inc., as required, will ensure that archaeological and historic preservation actions are carried out as approved by SHPD.

6.6 TRADITIONAL CULTURAL PRACTICES

According to the Final EA for the Ocean Pointe Master Plan (Revised), Native Hawaiians, as well as others, utilize the shoreline and nearshore areas for the gathering of marine resources, including limu, fish, lobster, and other shellfish (June 2001). The proposed project will involve the construction of improvements to an existing ocean outlet located above and mauka of the shoreline. The project will not require alteration of the immediate shoreline or nearshore waters.

Impacts and Mitigation Measures

The potential for impacts to traditional cultural practices within the area of the project site will be assessed in the Draft EIS. If traditional cultural practices or resources are discovered, they will be assessed to determine the potential for a negative adverse impact. As required, mitigation measures or other appropriate treatment will be proposed.

Restricted public access and use of portions of the project site, however, will be unavoidable. Work within the project site will involve the use of heavy construction equipment and vehicles. The public will be temporarily restricted

from entry during these periods to maintain safety. Upon termination of work, access to the area will be restored.

CHAPTER 7
ANTICIPATED IMPACTS AND OTHER SUBJECTS TO BE COVERED IN THE DRAFT EIS

7.1 AFFECTED ENVIRONMENT, PUBLIC SERVICES, AND SOCIO-ECONOMIC ENVIRONMENT

Additional public comments provided for this EIS Preparation Notice will be reviewed and as appropriate, further information will be prepared for the Draft EIS on existing conditions, potential impacts, and proposed mitigation measures.

7.2 LAND USE PLANS, POLICIES AND CONTROLS

The relationship of the project to state, federal, and City and County of Honolulu land use plans, policies, and controls will be described. A summary of plans, policies, and controls which will be examined include:

FEDERAL LAWS AND REGULATIONS
Clean Water Act
Endangered Species Act
National Historic Preservation Act
Federal Emergency Management Agency, Flood Insurance Rate Maps

STATE LAND USE POLICIES AND CONTROLS
Hawaii State Plan
State Land Use Law
Hawaii Coastal Zone Management Act

CITY AND COUNTY OF HONOLULU POLICIES AND CONTROLS

General Plan

Ewa Development Plan/Sustainable Communities Plan

Special Management Area

Additional land use plans, policies, and controls will be provided in the Draft EIS, as applicable.

7.3 UNRESOLVED ISSUES

This section will provide a discussion of issues for which resolution during the period of preparation of the EIS, has not been possible. Where feasible, recommended approaches to resolution of unresolved issues will be provided.

CHAPTER 8
NECESSARY PERMITS AND APPROVALS

The following permits and approvals may be required prior to construction of the proposed project.

8.1 FEDERAL

A U.S. Army Corps of Engineers, Department of the Army Permit (Section 404) was previously approved for the Ocean Pointe Marina and upper marina basin in the area of the proposed project. The Corps Permit has since been amended to remove the upper marina basin.

The applicability of the current project involving modifications to the ocean outlet at Oneula Beach Park has been discussed with the Corps. The proposed project will involve work that is outside of the Corps area of jurisdiction. Documentation to establish whether further coordination with the Corps is required will be provided in the Draft EIS.

8.2 STATE OF HAWAII

- Conservation District Use Permit (Dept. of Land and Natural Resources)
- Section 401 Water Quality Certification (Dept. of Health)
- National Pollutant Discharge Elimination System (NPDES), Notice of Intent Form C, Construction Stormwater (Dept. of Health)
- NPDES, Municipal Separate Storm Sewer System (MS4) Permit coordination (Dept. of Health and Dept. of Parks and Recreation)
- Coastal Zone Management Federal Consistency Determination (Dept. of Land and Natural Resources)

8.3 CITY AND COUNTY OF HONOLULU

- Special Management Area Use Permit (Dept. of Planning and Permitting)
- Shoreline Setback Variance (Dept. of Planning and Permitting)

CHAPTER 9
ORGANIZATIONS, AGENCIES, AND INDIVIDUALS CONSULTED IN THE PREPARATION OF THE EIS PREPARATION NOTICE

The following agencies, organizations, and individuals were consulted for the preliminary assessment phase of the Draft EIS. A record of correspondence including letters and related transmittals will be documented in the project Draft EIS.

9.1 GOVERNMENTAL AGENCIES

FEDERAL

The U.S. Army Corps of Engineers has been consulted on an ongoing basis since the initial filing of the Department of the Army permit for construction of the Ewa Marina (now Ocean Pointe Marina). Consultation concerning the proposed action will be documented and correspondence will be included as part of the Draft EIS for this project. Other federal agencies to be consulted will include:

Department of Housing and Urban Development (HUD)
National Marine Fisheries Service
U.S. Fish and Wildlife Service

STATE

Dept. of Land and Natural Resources (DLNR)
- Land Division
- Historic Preservation Division
- Planning Office (formerly State Planning Office)

Dept. of Health
- Clean Water Branch

CITY AND COUNTY OF HONOLULU
Dept. of Planning and Permitting
Dept. of Parks and Recreation
Dept. of Design and Construction
Dept. of Environmental Services

9.2 PUBLIC AND COMMUNITY GROUPS, ORGANIZATIONS AND INDIVIDUALS

State Senators (Willie Espero, Brian Kanno, and other Senators, as applicable)
State Representatives (Romeo Mindo, Tulsi Gabbard Tamayo,
and other Representatives, as applicable)
Honolulu City Council (Mike Gabbard, District 1,
and other City Councilmembers, as applicable)
Ewa Neighborhood Board No. 23
Outdoor Circle
Historic Hawaii Foundation
Ewa Puuloa Hawaiian Civic Club
Ewa Beach Community Association

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