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November 9, 1998

Mr. Gary Gill, Director  
Office of Environmental Quality Control  
235 South Beretania Street, Suite 702  
Honolulu, Hawaii 96813

Dear Mr. Gill:

**Subject: Finding of No Significant Impact (FONSI) for Maunalua Bay Dredging,  
TMK 3-9-02, Honolulu, Hawaii.**

The State of Hawaii, Department of Land and Natural Resources has reviewed the comments received during the 30-day public comment period which began on February 8, 1998. The agency has determined that this project will not have significant environmental effects and has issued a FONSI. Please publish this notice in the November 23, 1998 OEQC Environmental Notice. ✓

We have enclosed a completed OEQC Publication Form and four copies of the final EA. Please call Mr. Hiram Young at 587-0260 if you have any questions.

Thank you.

Very truly yours,

  
Howard Gehring  
Acting Administrator

Enclosure

c: DLNR - LD-Engr Br  
Oceanit - Warren Bucher



# Oceanit Laboratories, Inc.

environmental & coastal engineering services • research & development

## **FINAL ENVIRONMENTAL ASSESSMENT MAUNALUA BAY DREDGING, OAHU**

**Prepared for:**

**DEPARTMENT OF LAND AND NATURAL RESOURCES**

**Prepared by:**

**OCEANIT LABORATORIES, INC.**

**October 1998**

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## I. GENERAL INFORMATION

Applicant: Department of Land and Natural Resources, Division of Boating and Ocean Recreation

Landowner: State of Hawaii Department of Land and Natural Resources

Accepting Agency: State of Hawaii Department of Land and Natural Resources

Project Location: Hawaii Kai, Oahu, Hawaii

Tax Map Key: A portion of 3-9-02

Project Area: Dredging: 200 X 400 feet; Beach Nourishment: 40 X 900 feet

State Land Use District: Conservation

Conservation Subzone: General/Resource

County General Plan: No designation

Zoning: P-1 & P-2

Existing Use: Entrance channel for the Hawaii Kai Marina

Proposed Use: Maintenance dredging of the entrance channel to Hawaii Kai Marina and renourishment of Portlock Beach with dredged sand

Consulted Agencies

- U.S. Army Corps of Engineers
- Department of Land and Natural Resources
  - Division of Boating & Ocean Recreation
  - Land Division
    - Engineering Branch
    - Planning and Technical Services Branch
- Department of Health
  - Environmental Protection Office
  - Clean Water Branch
- Department of Parks & Recreation

Consulted Groups/  
Individuals

Hawaii Kai Community Association  
Hawaii Kai Marina Association  
Paiko Community Association  
Portlock Community Association  
Representative David Stegmaier  
Senator Sam Slom

## II. GENERAL DESCRIPTION OF PROPOSED ACTION

### A. BACKGROUND

The State of Hawaii, Department of Land and Natural Resources (DLNR) plans to perform maintenance dredging of the entrance channel between the Hawaii Kai Marina and Maunalua Bay. The channel is spanned by a Kalaniana'ole Highway bridge. The proposed dredging site (a portion of TMK 3-9-02) is located approximately 10 miles east of downtown Honolulu in Hawaii Kai between Maunalua Beach Park to the west and Portlock Beach to the east (see Figure II-1). Aerial photographs of the area are shown in Figures II-2 and II-3.

Waters makai (seaward) of the bridge are state owned. The state also owns and is responsible for maintaining a right-of-way extending approximately 100 feet mauka (landward) of the bridge. The Hawaii Kai Marina Community Association is responsible for maintaining the remainder of Hawaii Kai Marina. Prior to 1994, the Marina Association had been responsible for maintenance dredging of the entrance channel between the bridge and the junction with the public channel leading to the boat ramp; however, in 1994, the State Legislature passed Act 231, SLH 1994, which states: "The legislature declares that keeping the entrance to the Hawaii Kai Marina in navigable condition serves a public purpose because important health, safety, and welfare considerations are involved." Act 231 appropriated up to \$240,000 for the dredging (see Appendix A).

The purpose of the proposed action is to widen and improve access through the main entrance channel to Hawaii Kai Marina. On July 15, 1977 the Army Corps of Engineers issued a maintenance dredging permit that included the marina and entrance channel and has since expired. A subsequent Corps of Engineers dredging permit for the channel only has been requested.

### B. TECHNICAL CHARACTERISTICS

The marina's main entrance channel under the bridge has been filling with sand and sediment that migrated from Maunalua Bay, primarily from Portlock Beach. Portlock Beach sand is transported to the west by wave and current action. When the sand reaches the marina channel, it is deposited under the bridge and at locations on either side of the bridge forming a large accreted area and submerged sandbars. The accreted area is partially above the waterline and overgrown with vegetation. The accretion process has apparently been on-going for many years, probably since the channel was first dredged. As a result, three of the four passages under the bridge are completely blocked, leaving only one passage open for boat traffic. Sandbars have also formed on either side of the bridge creating a navigational hazard. There are approximately 650-750 boats registered in Hawaii Kai Marina. The main channel serves as the only viable point of entry for boats into the marina.



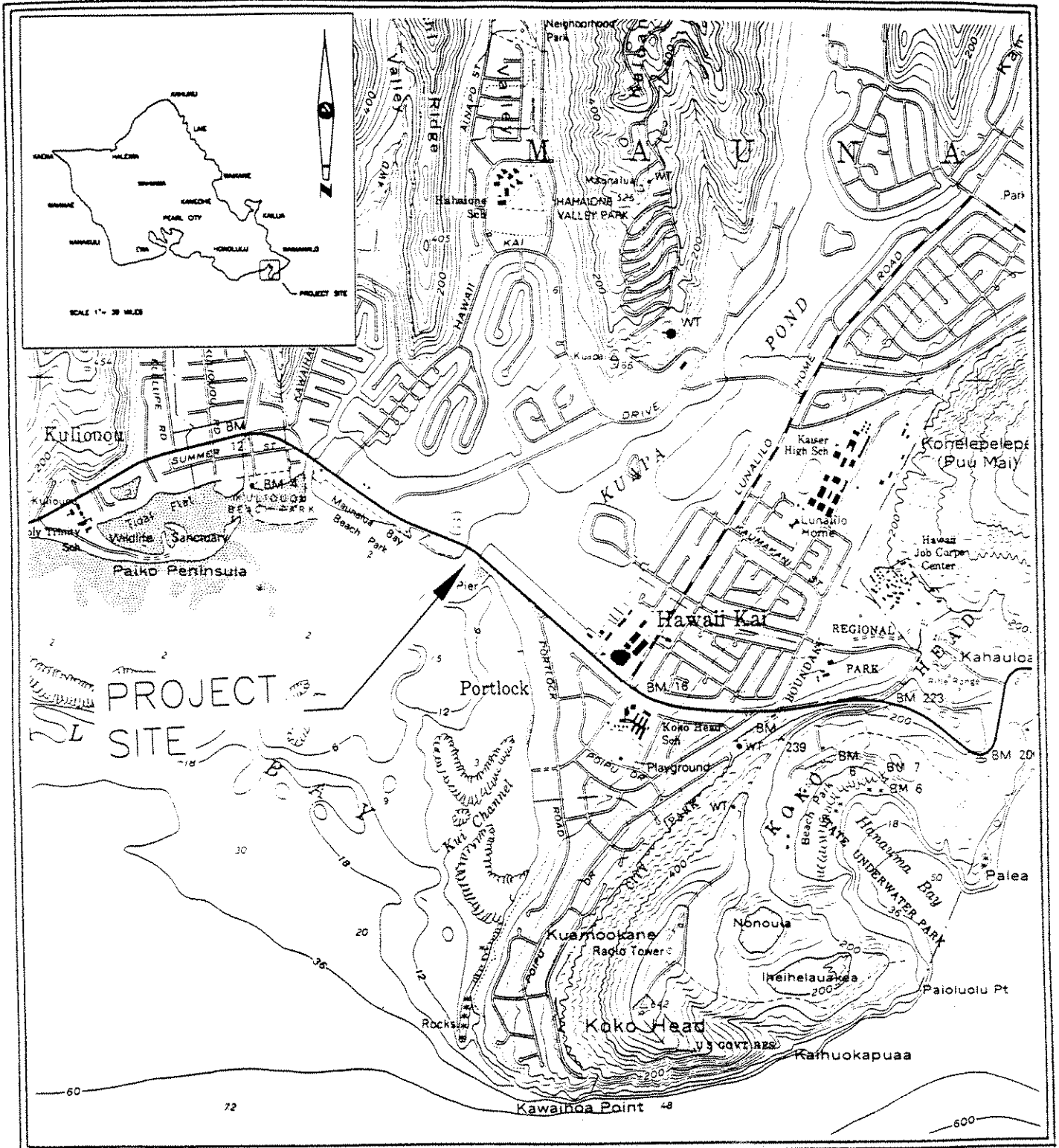
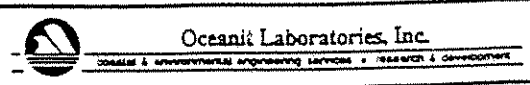


FIGURE II-1 LOCATION MAP





Aerial Photograph: Hawaii Kai Marina Entrance Channel

FIGURE II-2



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Aerial Photograph: Maunaloa Bay

FIGURE II-3



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Tide driven flow rates above 2 feet per second were measured in the open (west) passage. This flow is sufficient to keep the portion of the passage directly under the bridge free from sand deposits. However, some scouring has occurred making the passage deeper than design. The high flow rate also can make navigation of the entrance difficult.

Although sand has accreted at the channel, farther south along the shoreline Portlock Beach eroded on the average 1.1 to 1.5 feet per year between 1974 and 1988 (Sea Engineering, 1989). The beach has gone through cycles of erosion and accretion since 1950 apparently in response to various construction activities, but the shoreline remains seaward of its 1950 position (Wilson Okamoto & Associates, 1989)

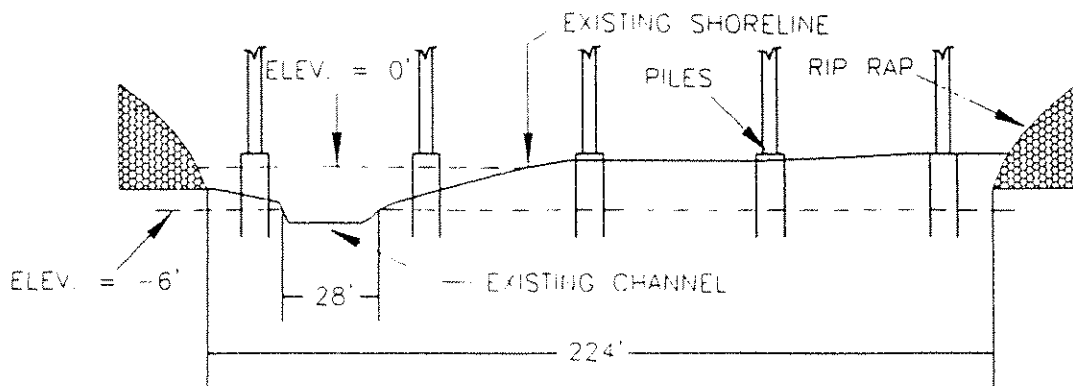
To increase access to the marina and reduce scouring in the west passage, dredging will be used to open a second passage and part of a third (Figure II-4). The larger cross section means that peak flow rates will be reduced and scouring should lessen. Navigation should be easier and simultaneous entry and/or exit of boats will be possible.

Approximately 6,500 cubic yards of material will be dredged from the channel and sandbars within the state's area of responsibility. An additional 1,000 cubic yards may be dredged (if they choose to do so) by the Marina Association mauka of the state right-of-way line. The dredging areas are shown in Figure II-5. The post dredging channel contours are shown in Figure II-6. Clean sand extracted from the dredged material will be used for beach replenishment on Portlock Beach. Sand will be placed in the approximate area shown in Figure II-7. The remainder of the dredged material (if any) will be placed in an inland disposal site. Sand sample results indicate that most, if not all, of the dredged material may be suitable for beach nourishment.

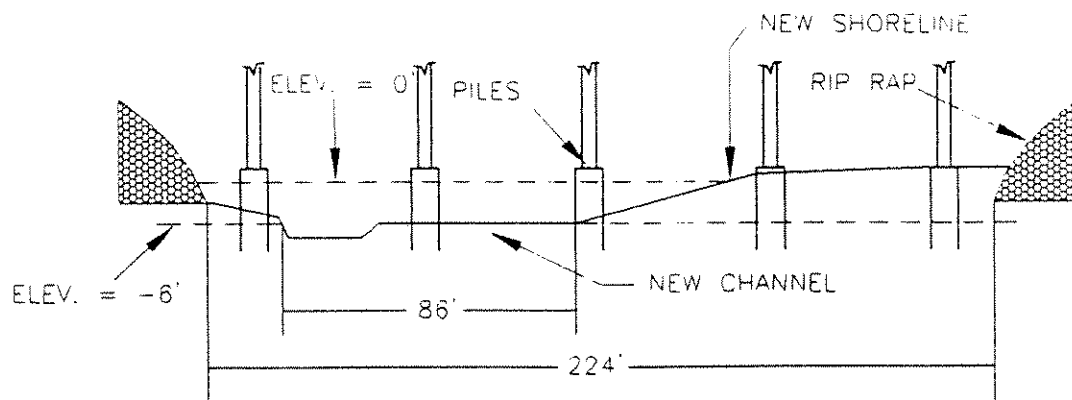
The dredging system will be determined by the selected dredging contractor. The system will likely be a crane with bucket or a backhoe on a barge. Dredged material could be placed directly into trucks for transport to the nourishment area or moved by front loader. Sand would be spread on the beach by front loader or dozer. However, the contractor may choose to propose other methods to the state.

Dredged material that is too fine or contains too much terrigenous material will be dewatered and disposed of. The selected dredging contractor will be responsible for dewatering and for identifying disposal sites for dewatered material. A possible dewatering site is an area of state land located near the boat ramp. Material would be retained such that untreated water does not return directly to the ocean. Water may optionally be filtered through the ground or allowed to evaporate.

The sand placement area, shown in Figure II-7, has been eroding in recent years after a period of accretion. The remainder of the beach to the north has been accreting, especially at the end near the bridge. The natural drift will transport sand placed in the eroding area toward the channel.



Bridge Channel Prior to Dredging



Bridge Channel After Dredging

FIGURE II-4 MARINA ENTRANCE CROSS SECTIONS



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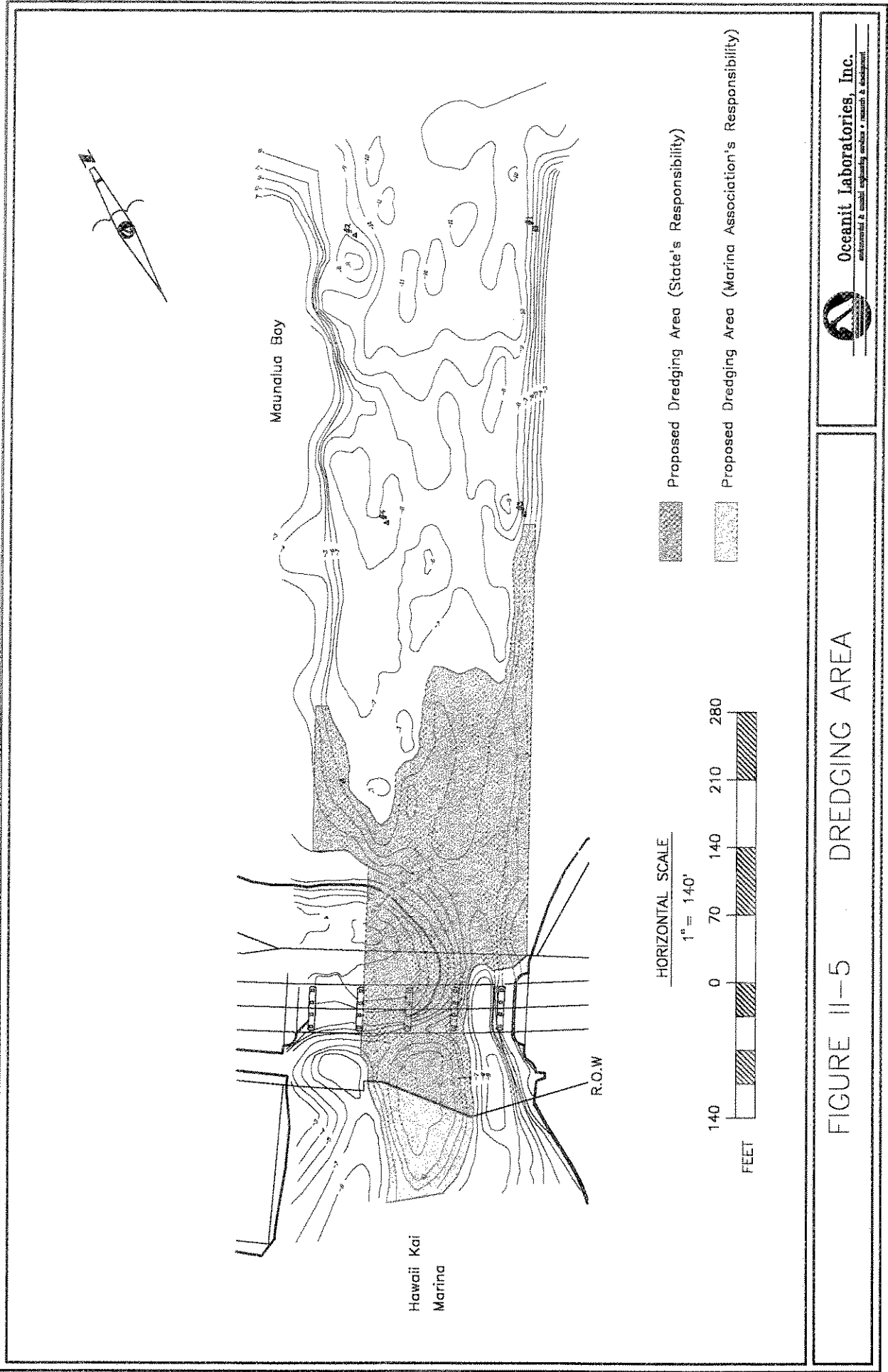
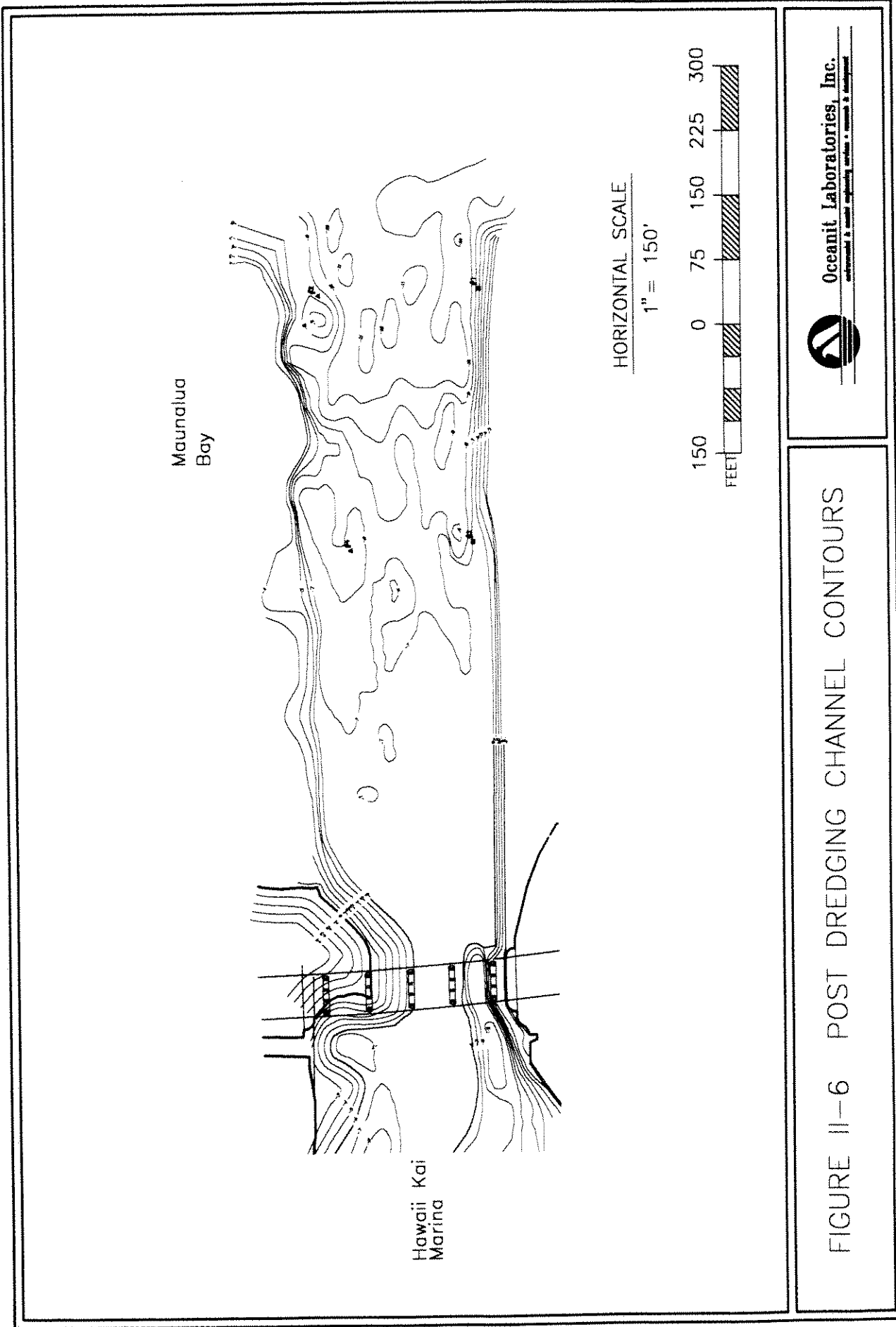


FIGURE II-5 DREDGING AREA



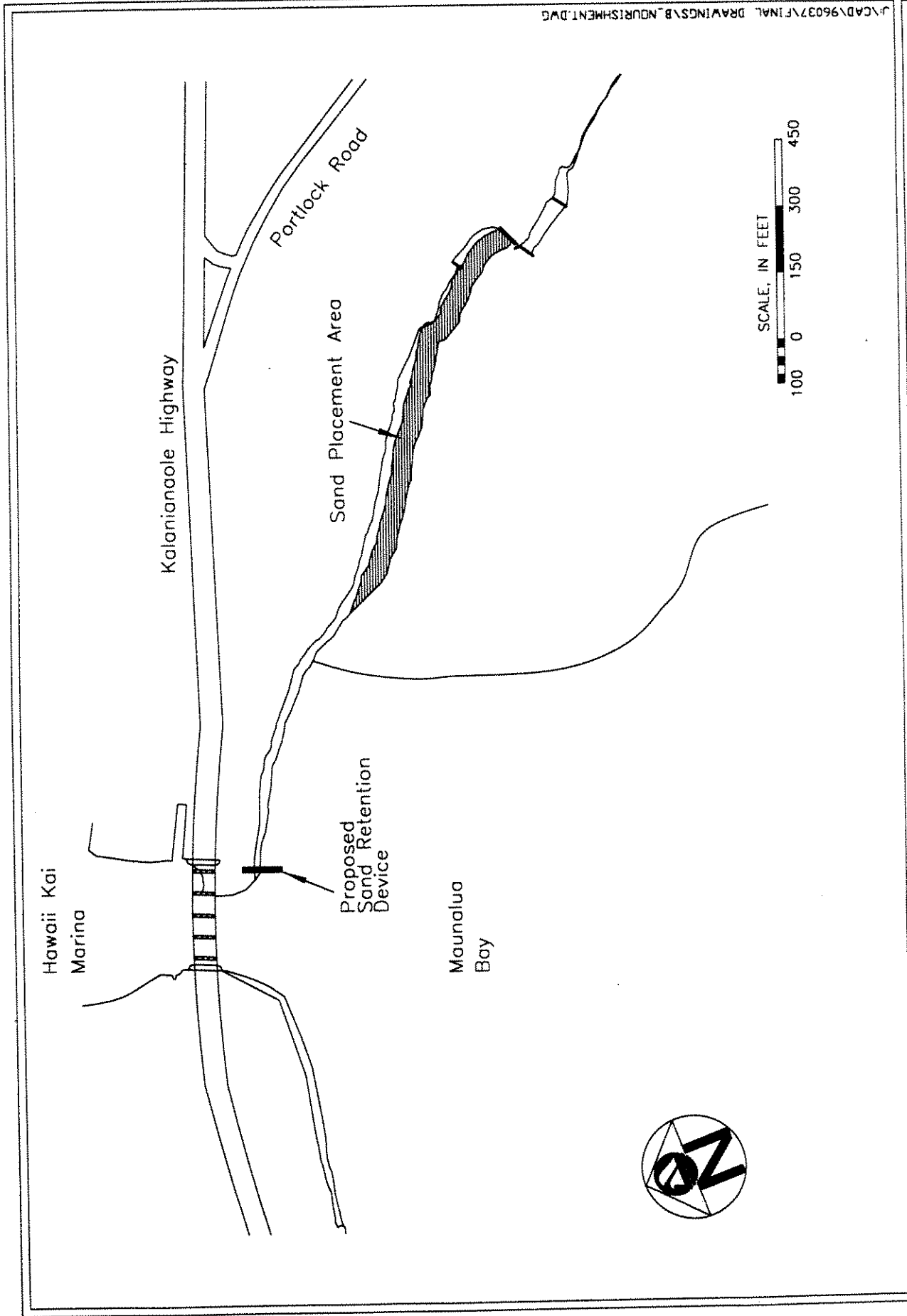


FIGURE II-7. BEACH NOURISHMENT AREA



This sand will eventually move into the channel unless intercepted and/or moved back to the south end of the beach.

Oceanit recommended that a sand retention system be used to trap sand before it moves into the channel. A demonstration system was designed that consists of sand-filled geotextile bags placed at the west end of the beach to block sand transport into the channel. An artist's concept of the sandbag system is shown in Figure II-8. The retention system is intended to be used as a demonstration project and monitored over a five-year period. A sandbag system has the advantage that the bags can be moved to a new configuration or removed based on monitoring results. The DLNR Division of Boating and Ocean Recreation (DOBOR) will be responsible for planning, funding, and executing the monitoring program.

The proposed sandbags are made of beige-colored, vinyl-coated polyester. When filled with sand they are approximately 8 feet long, 4 feet wide, and 1.5 feet thick. Each bag holds approximately 2.3 cubic yards of sand and weighs 3 tons. The bags are very durable but may need occasional maintenance such as repair of rips. The bags are filled by pumping a sand/water slurry and can be lifted into place with an excavator. Lifetime of the bags depends on environmental and use conditions, but reportedly they have survived more than 10 years at one location.

### C. SOCIAL AND ECONOMIC CHARACTERISTICS

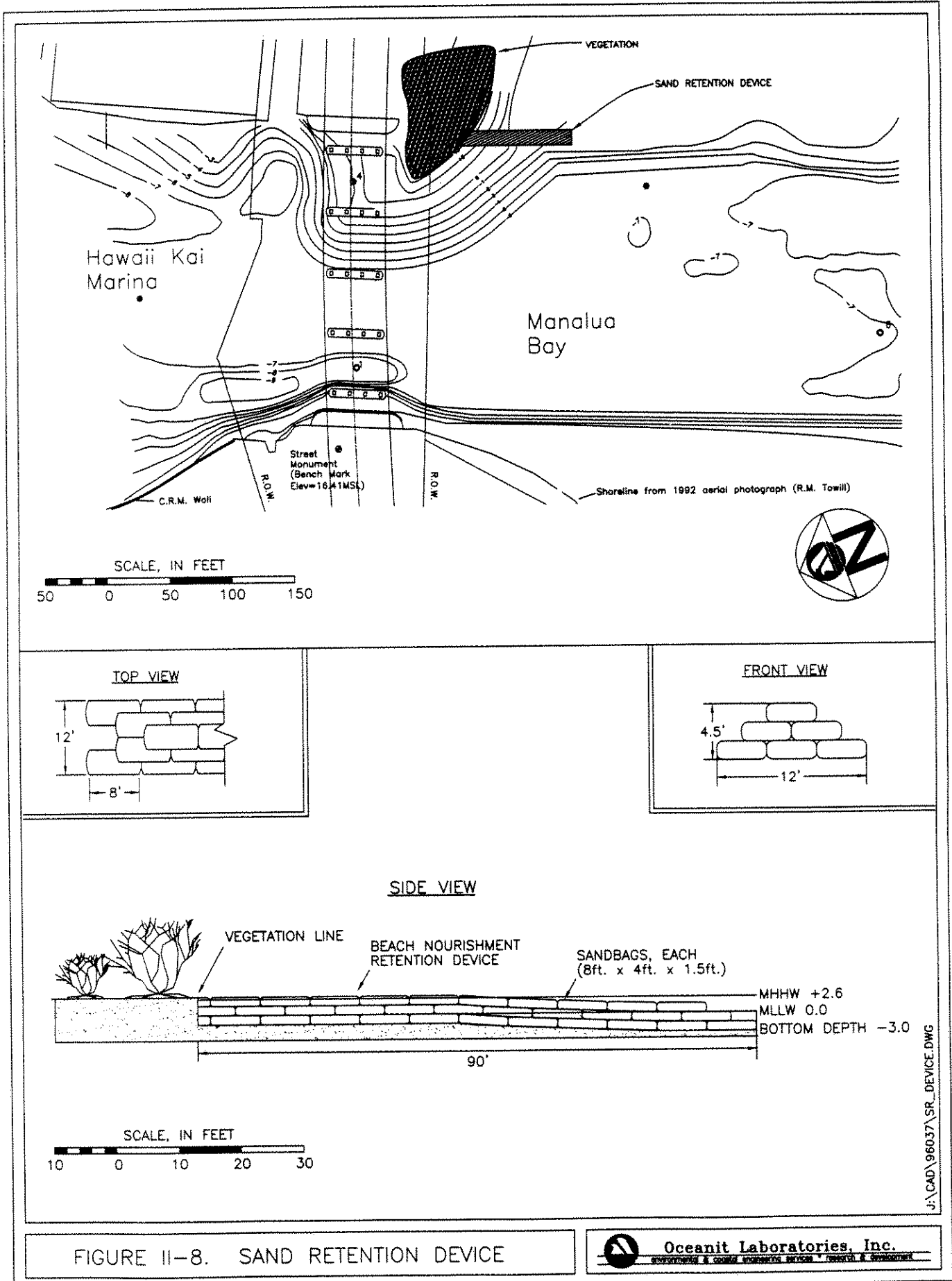
With a population of over 27,000 (1990), Hawaii Kai is one of the larger and more affluent communities of Oahu. The community is centered around the Hawaii Kai Marina, which is home port to over 700 recreational and commercial boats. In addition to mooring facilities at Koko Marina, many homes have private docks.

Water-related recreation in the vicinity of Hawaii Kai includes canoeing, kayaking, fishing, swimming, diving, parasailing and jet skiing. There are several community and beach parks in the area including Oahu's most used beach at Hanauma Bay.

The project will not significantly change the social or economic characteristics of the area. After dredging, boat access to the marina will be easier and safer. With two passages open, boats will be able to enter and exit simultaneously with lower probability of hitting the bottom. Installation of the sand retention system will reduce the loss of sand from Portlock Beach and also reduce the frequency and expense of future maintenance dredging.

The increased beach width will not change property lines regardless of changes in the certified shoreline. All of the new beach area will belong to the State of Hawaii and not to shoreline property owners.

Dredging is planned to start in late 1998 and is expected to last approximately 2 months. The cost of the dredging is approximately \$175,000.



D. ENVIRONMENTAL CHARACTERISTICS

Included in this section are the environmental characteristics of the project. A more detailed description of the environment is given in Chapter III.

Dredging will probably cause increased turbidity in a localized area. The contractor will be required to deploy silt curtains around the dredging system to minimize dispersion of suspended silt. Portions of the dredging area are overgrown with vegetation, which will be removed from the site. Dredging and sand placement will require earth moving equipment to operate on the beach.

Sand placement on Portlock beach may also increase turbidity temporarily. The nourished beach will cover part of the nearshore bottom and bottom dwelling species. A Best Management Practices (BMP) Plan has been written for submission to the Department of Health. A copy of this plan is included as Appendix B.

The sandbags for the sand retention device will be filled with dredged sand. Placement of the bags will require equipment to operate in the nearshore area out to a distance of 40-50 feet offshore.

Environmental damage caused by dredging, sand placement, and construction of the sandbag retention system is not expected to be significant, that is, there is no reason to believe that the nearshore environment will not recover from short-term environmental stress of the project.

### III. AFFECTED ENVIRONMENT

#### A. REGIONAL OVERVIEW

Kuapa Pond was historically a fishpond that may have been the largest in Hawaii. The seaward side of the pond was constructed as a rock and sand berm. Two openings or makaha led to Maunalua Bay. Parts of the pond area were shallow or dry; other areas were marshy.

Kalaniana'ole Highway was built in the 1930s along the rock/sand wall with culverts to allow water exchange. Before the development of Hawaii Kai, the land area was used for agriculture and parts of the area became a dumping ground. An opening to Kuapa Pond existed at the approximate location of the present main channel. The channel through the reef was dredged during World War II for military use.

Kaiser-Aetna Company began modifying Kuapa Pond after 1959. The entrance channel to the marina was widened from 40 feet to 250 feet, and the existing bridge was constructed over the channel during 1969. The opening was designed to allow passage for vessels not exceeding 13 feet in height. The channel width was designed to accommodate runoff from 100-year storms. An access channel, paralleling the shore, was dredged from the main channel to the mouth of Kuliouou Stream. An additional channel was dredged into the west end of the marina. The dredged material was used to construct the present beach park and boat launching area at Maunalua Bay. In earlier years, a sand beach had existed along the fishpond wall.

Maunalua Bay is approximately eight miles long, extending from Kupikipikio Point at Diamond Head to Koko Head. The waters of Maunalua Bay communicate with the Hawaii Kai Marina through two channels. One is the marina entrance that is to be dredged. The other connects Kuapa Pond to the west of the boat launching ramp. Runoff water from the area surrounding the marina flows out through both channels. Tides flow both into and out of the marina.

To the southeast (Koko Head) of the main entrance channel, Portlock Beach extends for approximately 1,800 feet. To the west is Maunalua Bay Beach Park and the state boat launching ramp. A fringing reef and wide reef flat front the dredging area. Sand transport from south to north along Portlock Beach is primarily responsible for the deposits that block the marina entrance channel. Erosion and accretion have varied with time and location along Portlock Beach. The beach near the channel has been accreting for many years while farther to the east the beach has eroded. A stormwater canal and protecting groin are located approximately 1,600 feet south of the entrance channel. The shoreline between this groin and Portlock Point is mostly protected by seawalls and has little or no beach.

## B. CLIMATE

The Hawaii Kai climate is usually sunny with moderate rainfall. Northeast tradewinds follow the valley between mountain ridges and can be strong and gusty. Wind at the shoreline is offshore. Winter is the wettest and coldest period of the year.

## C. LANDWARD ENVIRONMENT

### 1. Geology & Hydrology

The area that is now Hawaii Kai was formed over 35,000 years ago by a series of volcanic eruptions leaving the features we now know as Koko Head, Hanauma Bay, and Koko Crater. Kuapa Pond was a landward part of the resulting embayment that was flooded after post-glacial sea level rise. Streams have washed eroded material into the pond throughout it's life gradually filling it until it was dredged for development. The barrier reef off Hawaii Kai formed when varying sea level conditions were favorable for coral growth.

### 2. Flood Hazard

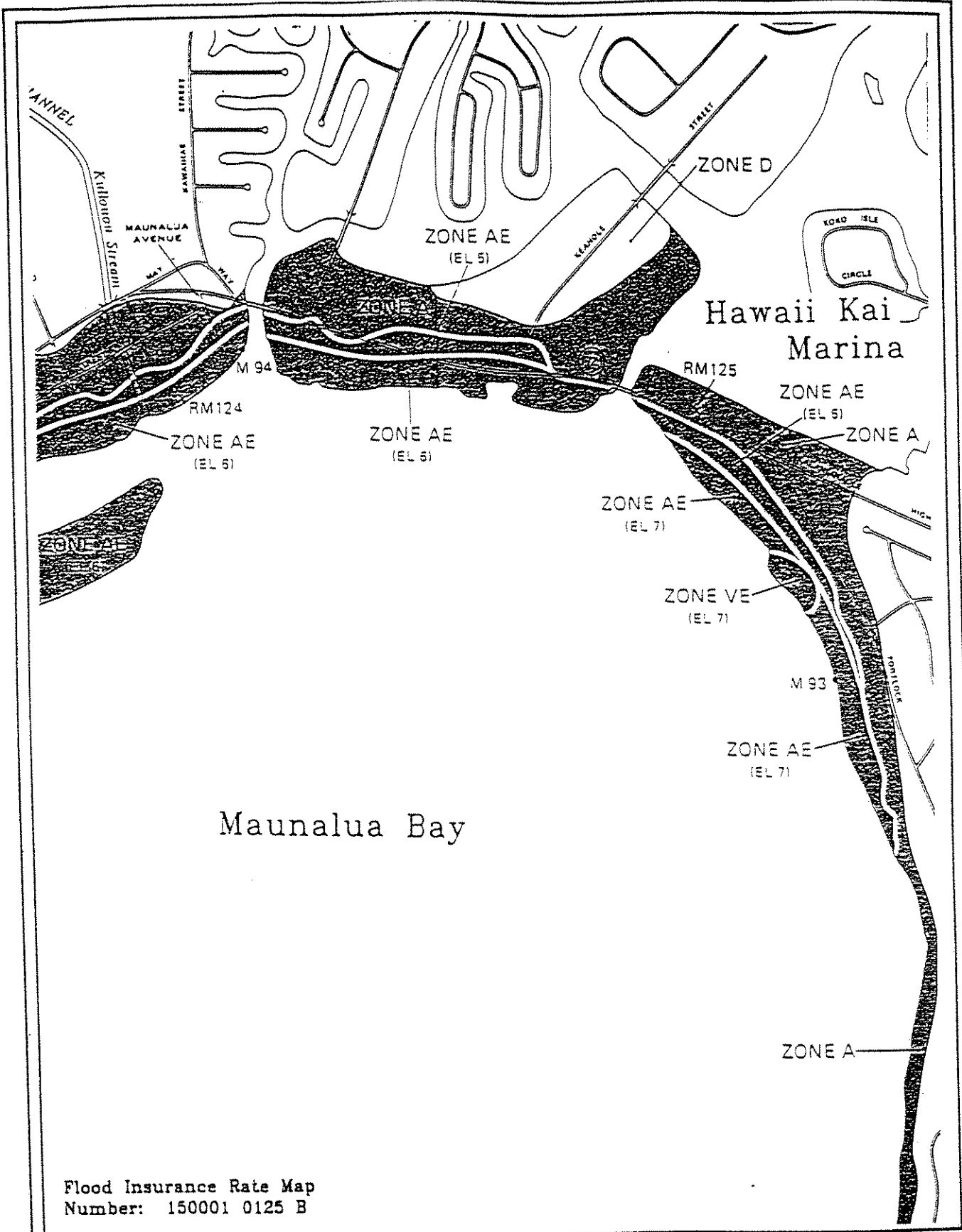
The proposed dredging site is located in a flood zone. Flood insurance rate maps indicate a base flood elevation of 6 feet for a 100-year storm (zone AE) (Figure III-1). The entire project site and adjoining land masses are in the tsunami inundation zone. Mathematical predictions indicate that tsunami runup may be over 6 feet. In 1952, a tsunami caused a runup of two feet (Kamchatka origin), in 1957 a tsunami caused a 3-foot runup, and in 1960 a tsunami caused a runup of 5.5 feet (Dept. of Army EIS, 1975).

### 3. Soils

Soil series on the Island of Oahu are delineated on maps prepared by the U.S. Department of Agriculture, Natural Resources Conservation Service. Soils in and around the Hawaii Kai Marina are a mixture of coral and terrigenous material that was dredged during construction of the marina. The material that will be dredged at the entrance is mostly coral sand transported from reefs and Portlock Beach.


### 4. Flora & Fauna

The accreted extension of Portlock Beach under the highway bridge is the primary land area affected by dredging. Kiawe and Haole Koa trees, various shrubs, weeds, and grasses grow on some of the accreted land. No native or endangered plants are known to exist in the dredging area.



**Flood Zone Map**

FIGURE III-1


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Paiko Lagoon and Paiko Peninsula, located approximately 4,000 feet to the west of the proposed dredging site, form the Paiko Lagoon Wildlife Sanctuary, a waterbird habitat. The lagoon has been used by the Hawaiian Stilt; however, not many are seen. The State of Hawaii changed the lagoon area to a wildlife habitat in 1970. The lagoon is far enough from the dredging site that it should not be affected.

There are few mammals that inhabit the parks or beach area near the dredging site. Typical urban birds such as doves, sparrows, Plovers, and Brazilian Cardinals can be found in the marina area. Ducks live in the marina.

#### 5. Noise

Existing noise levels are consistent with similar coastal locations in the surrounding area with the addition of motor boats moving through the channel. Noise levels are higher around the project site due to motor vehicle traffic on the bridge over the entrance channel.

#### 6. Traffic

The Kalaniana'ole Highway bridge is positioned over the dredging site. The state highway is a principal road, linking Kailua to Honolulu via Makapu'u Point. It is also the path to employment places for most residents. Keahole Street is a four-lane primary access way to Hawaii Kai from Kalaniana'ole Highway. Kalaniana'ole Highway is heavily used during morning and evening rush hours.

#### 7. Archaeology

There are no known archaeological or historical sites in the dredging area. The land area seaward of Kalaniana'ole Highway was formed from material dredged from Kuapa Pond. The dredging area was formed from sand deposited over the past 30 years. There are no historic sites listed in the State or National Register of Historic Sites in or within proximity to the site.

#### 8. Surrounding Land Uses

The project site is located in the residential-marina setting of Hawaii Kai, a mid-sized Oahu neighborhood characterized by a resident population 27,432 (1990 U.S. Census). Hawaii Kai is primarily known for its low density and suburban single family houses, but also contains medium density townhouse and high rise residential apartments. Other land uses in the vicinity of the project include commercial and public facilities.

The entrance channel where maintenance dredging is proposed is located near the eastern end of Maunalua Bay, between Portlock to the east and the 4-acre Maunalua Bay Beach Park to the west. North of the channel entrance, Hawaii Kai Marina encompasses approximately 265 acres. There

are approximately 100 boat slips in the marina, 8-10 boat docks at Koko Marina Shopping Center, and numerous private docks in Hawaii Kai Marina.

Maunalua Bay Beach Park, which includes a popular boat launching ramp, is located immediately west of the project site and extends approximately 2,500 feet towards Kuliouou. The park contains a paved parking lot which can accommodate approximately 150 automobiles and boat trailers. The shoreline fronting the park is primarily loose rubble, mud and sand. A 600-foot rock revetment forms a small cove protecting the boat launching ramp. East of the project site are the single family residences of Portlock, where a sand beach extends approximately 1,600 feet east of the channel. The Hawaii Kai Corporate Plaza, which contains approximately 47,000 square feet of office and retail space is located northwest of the project site mauka (land side) of Kalaniana'ole Highway.

Within the vicinity of the project site are several shoreline areas described as follows:

- Paiko Peninsula: Located 4,000 feet west of the project site is a sand spit separated from land by Paiko Lagoon. The peninsula has been described as the most unstable coastal feature on Oahu (Hwang, 1981). The peninsula has been growing to the east.
- Kuliouou Beach: Consists of a muddy shoreline between Paiko Lagoon and the west entrance to Hawaii Kai Marina. A boat channel parallels the shore between Kuliouou Stream and the main Hawaii Kai entrance channel.
- Maunalua Bay Beach Park: This 4-acre beach park is constructed of dredged material and extends from the west to the east entrance of Hawaii Kai Marina, a distance of approximately 2,500 feet. Much of the shoreline is protected by a rock revetment. The park contains a boat launching ramp.
- Portlock: A residential area between the Hawaii Kai Marina entrance channel and Portlock Point. A sand beach extends 1,800 feet east of the channel. For the next 3,000 feet the shoreline is stabilized with revetments and seawalls. Beyond that the shoreline is rocky.

The west end of Portlock Beach contains accreted land that is the result of erosion from the shoreline to the east. The accreted area consisting of a mixture of coral, sand, and rubble is approximately 180 feet long by 140 feet wide, and has completely blocked three of the four channels leading into the marina.



## D. MARINE ENVIRONMENT

To help characterize the environment, several studies were conducted in December 1996 at and near the project site including water exchange, water quality, shoreline profiling, sand grain analysis, and a marine biological survey. Additional information has been collected from earlier studies and references.

### 1. Waves

Severe wave conditions at the shoreline of Maunalua Bay are normally caused by south swells and Kona storm waves. A hurricane approaching from the south would probably produce the worst conditions. The following table gives wave characteristics for the south shore of Oahu. Significant wave height is defined as the average of the 1/3 highest waves.

Table III-1. Wave Characteristics

Wave Type	Significant Height, ft	Significant Period, sec	Source
100-yr Hurricane	27	12	predicted max <sup>1</sup>
100-yr South Swell	8	18	predicted max
100-yr Kona Storm	24	14	predicted max
1996 All Waves	7.2	10.5	Makapu'u buoy data <sup>2</sup>

<sup>1</sup> St. Denis, 1974; Gerritsen, 1978.

<sup>2</sup> Coastal Data Information Program.

Except for the channel opening, Hawaii Kai is protected by a fringing reef approximately 3,000 feet offshore. Larger waves will break on the reef; therefore, neither the marina entrance channel nor Portlock Beach receive the full force of deepwater waves.

## 2. Tides

Tides are diurnal, that is, there are two highs and two lows each day. Predicted tide levels for Honolulu Harbor are as follows:

Maximum predicted tide (1997)	2.5 feet
Mean sea level	0.8 feet
Mean Lower Low Water (MLLW)	0.0 feet
Diurnal range	2.0 feet

## 3. Currents and Circulation

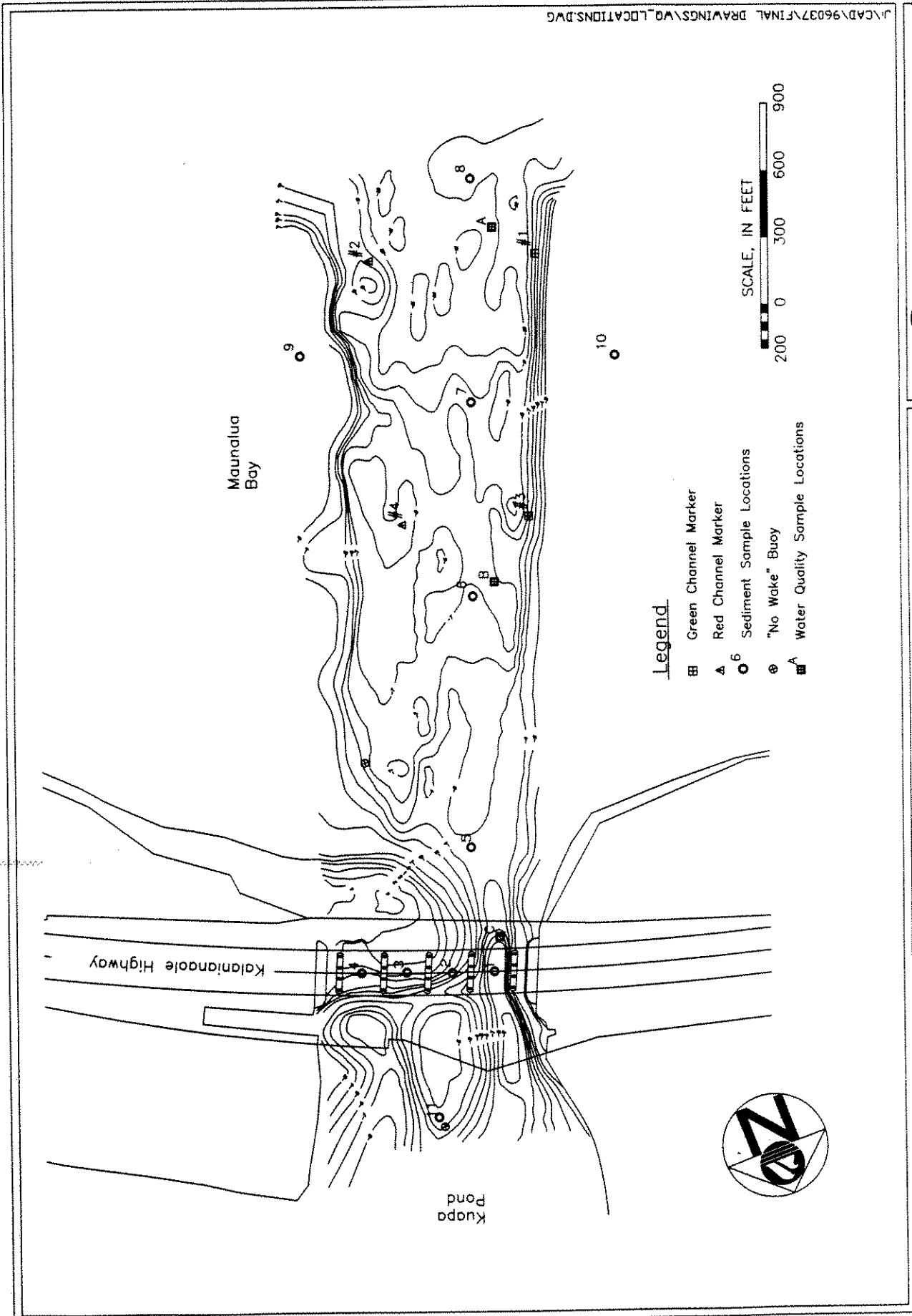
Water movement in the project area is of concern because turbidity caused by dredging must be controlled and because opening an additional passage will change the velocity of water exchange between the marina and the bay. Circulation data were obtained from a review of pertinent literature and from current measurements made at the site in December 1996.

Currents are tide and wind driven. Measurements made for the Oahu Intraisland Ferry System Final Environmental Impact Statement (1989) show flow to the southeast along Portlock Beach and seaward in the outer boat channel during ebb tide. During flood tide the flow reversed direction in the channel but shifted more to the southwest along Portlock. Surface current speeds were in the range of 0.17 to 0.51 feet per second (fps).

Oceanit measured flow rates through the open passage into the marina using a flowmeter. On an ebb tide, the average velocity was 2.1 fps. At this flow rate, the open passage is not only kept free of sand but some scouring has occurred making the passage deeper than design depth. By opening a second passage and part of a third, flow rates will decrease. However, no significant change in water volume exchanged between the marina and the bay is expected.

## 4. Channel Sediments

Sediment samples were taken at 11 locations in the channel (Figure III-2). The samples were analyzed for grain size and results are given in Figure III-3. To be used for beach nourishment, 85 percent of the sediment must have grain size larger than 0.074 mm. Samples 7-9 do not meet this criterium but are located outside the dredge area. All of the sand samples in the dredging area show sand suitable for beach nourishment. Therefore, virtually all of the dredged material can probably be used for nourishment.



Legend

- B Green Channel Marker
- A Red Channel Marker
- O Sediment Sample Locations
- ⊙ "No Wake" Buoy
- ⊗ Water Quality Sample Locations

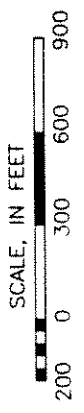


FIGURE III-2. SEDIMENT AND WATER QUALITY SAMPLE LOCATIONS

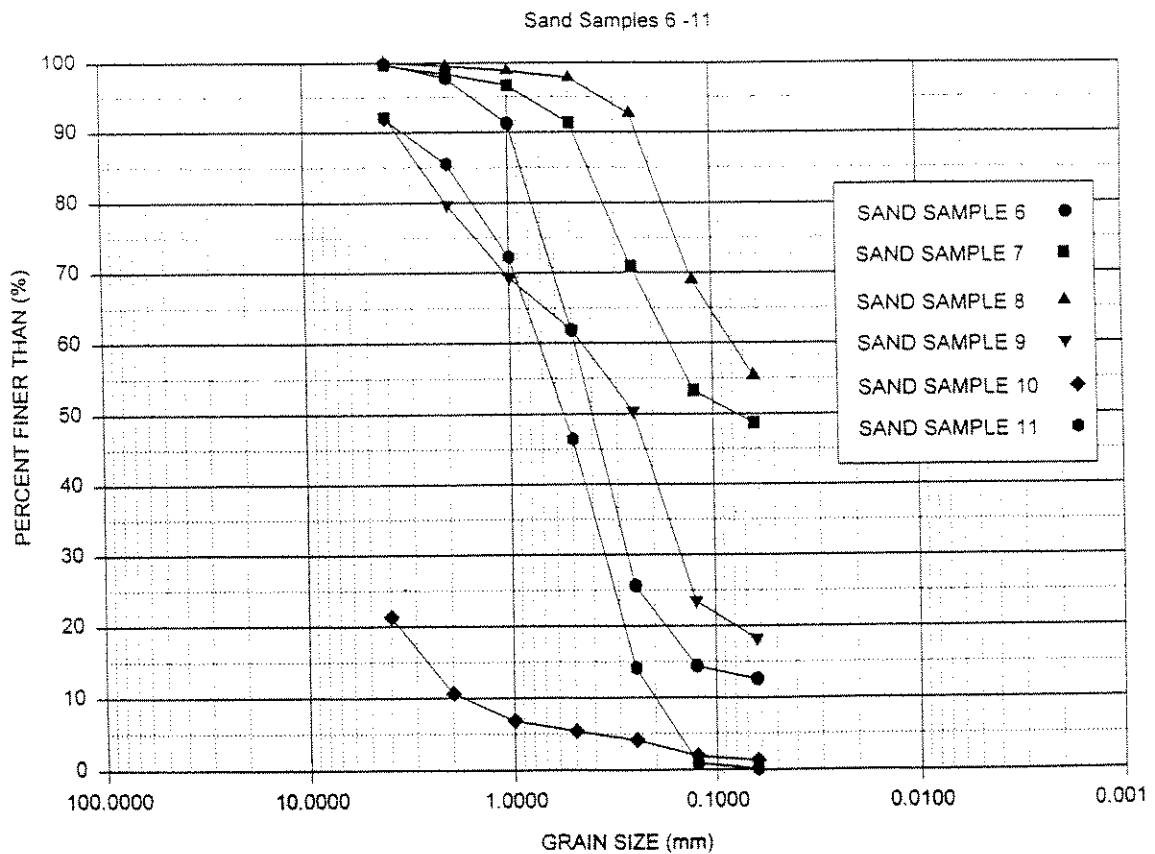
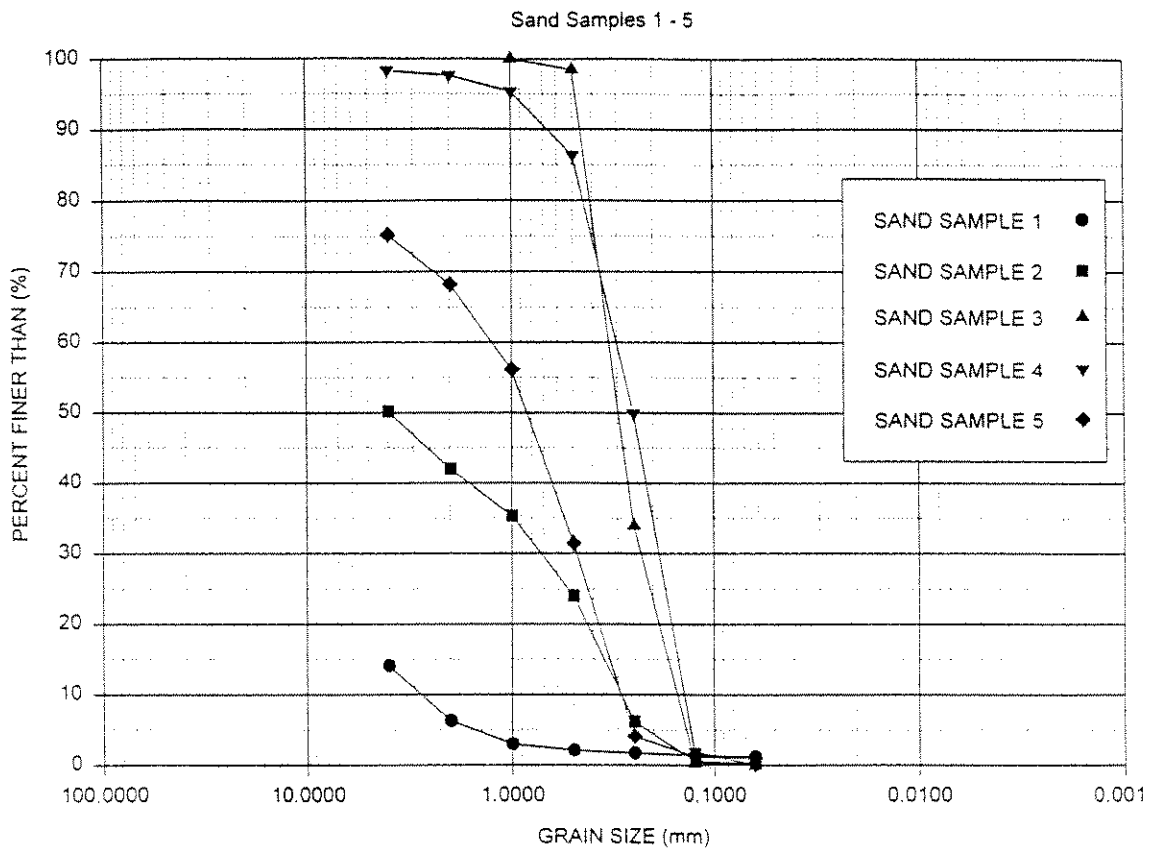


Figure III-3. Grain Size Analyses of Entrance Channel Sediments

## 5. Portlock Beach

The sand-covered portion of Portlock Beach extends approximately 1,800 feet to the southeast from the marina entrance channel. As discussed above, the beach is the primary source of sand that blocks the marina entrance channel. To characterize the beach shoreline profiles were measured at five locations shown in Figure III-4. Sand samples were taken at each profile location. The profiles are shown in Figure III-5. The results of grain size analyses are shown in Figure III-6.

## 6. Water Quality

The State Department of Health (DOH) classifies Maunalua Bay as Class A "embayment" and as "Class II nearshore reef flat" where "existing or planned harbors may be located within nearshore reef flats showing degraded habitats and only where feasible alternatives are lacking and upon written approval by the Director of Health considering environmental impact and the public interest pursuant to HRS 342-6." Hawaii Kai Marina is considered an "artificial basin" by DOH. The marina waters are Class II and must meet basic water quality criteria, but there are no standards for the parameters in Table III-3.

Water samples were taken at the locations shown in Figure III-2 on December 6, 1996. Results are shown in Table III-3. Temperature, salinity, pH, and dissolved oxygen were measured with an in-situ meter. Turbidity and nutrients were analyzed in a qualified laboratory.

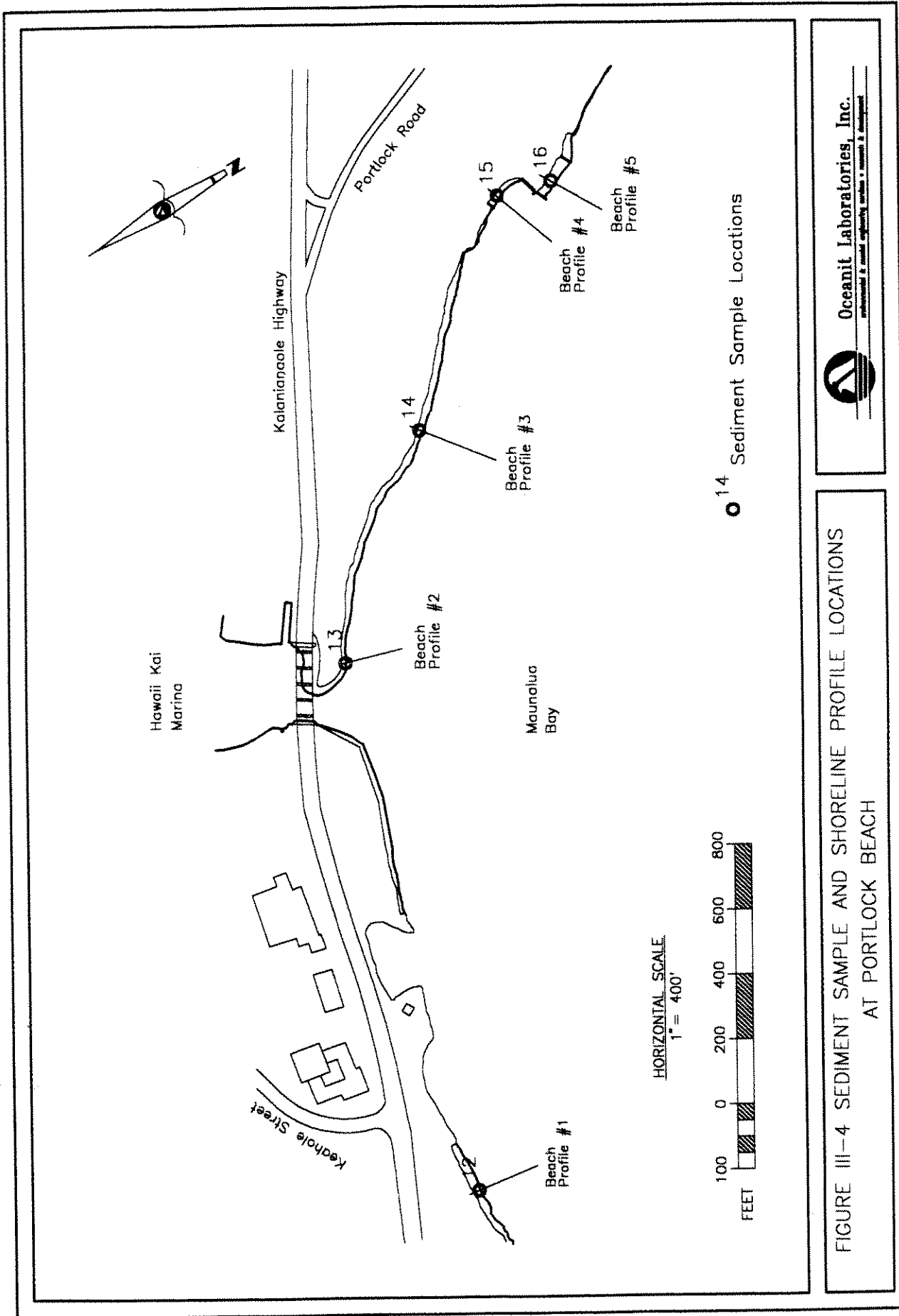
Of the measured parameters, only turbidity exceeds the standards. Samples were taken on an ebb tide, and discolored water was noted flowing from the marina. However, turbidity measurement results are similar to data taken by others in 1973 and 1988 (Oahu Intraisland Ferry System EIS, 1989). A comparison is shown in Table III-2 below. A probability distribution of this historical data and measurements from 1996 are combined in Figure III-7.

Table III-2. Comparison of Turbidity Measurements (NTU)

<u>Location</u>	<u>1973</u>	<u>1988</u>	<u>1996 (Oceanit)</u>
Seaward Reef	0.88	0.87	
Channel	5.4	2.7	4.3
Marina Entrance	8.2	3.9	4.2

TABLE III-3. Water Quality Results, Dec 96

SAMPLE SITE/ DEPTH	TEMP °C	SALIN ppt	pH	O2 mg/l	NO3+ NO2 mg/l	TN mg/l	TP mg/l	TURB NTU
A Surface	24.0	35.1	8.3	5.8	<1	162	24	4.19
-2.5 feet	24.0	35.2	8.3	5.8				
-6 feet	24.1	35.2	8.3	5.6				
B -1.5 feet	24.6	35.3	8.3	5.6	<1	142	20	4.28
-5 feet	24.3	35.3	8.3	5.5				
-9 feet	24.4	35.2	8.3	5.6				
C -1.5 feet	25.2	35.4	8.5	5.7	2	103	18	1.02
-4 feet	25.3	35.3	8.5	5.7				
-7 feet	25.3	35.3	8.5	5.7				
-12 feet	25.3	35.3	8.5	5.7				
State Water Quality Standards (wet)								
Embayment	-	-	-	-	8	200	25	1.50



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**FIGURE III-4 SEDIMENT SAMPLE AND SHORELINE PROFILE LOCATIONS AT PORTLOCK BEACH**

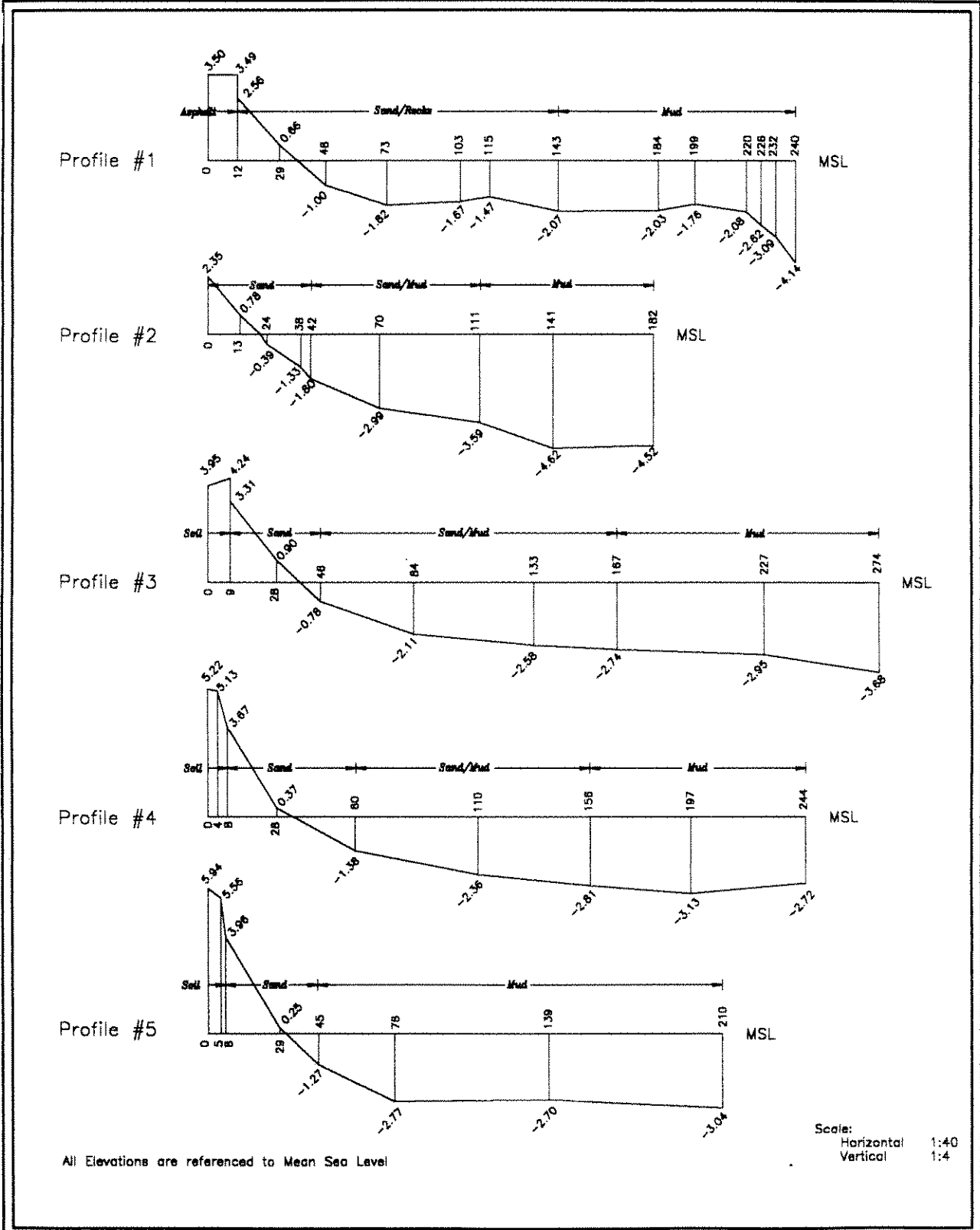


Figure III-5. Shoreline Profiles at Portlock Beach





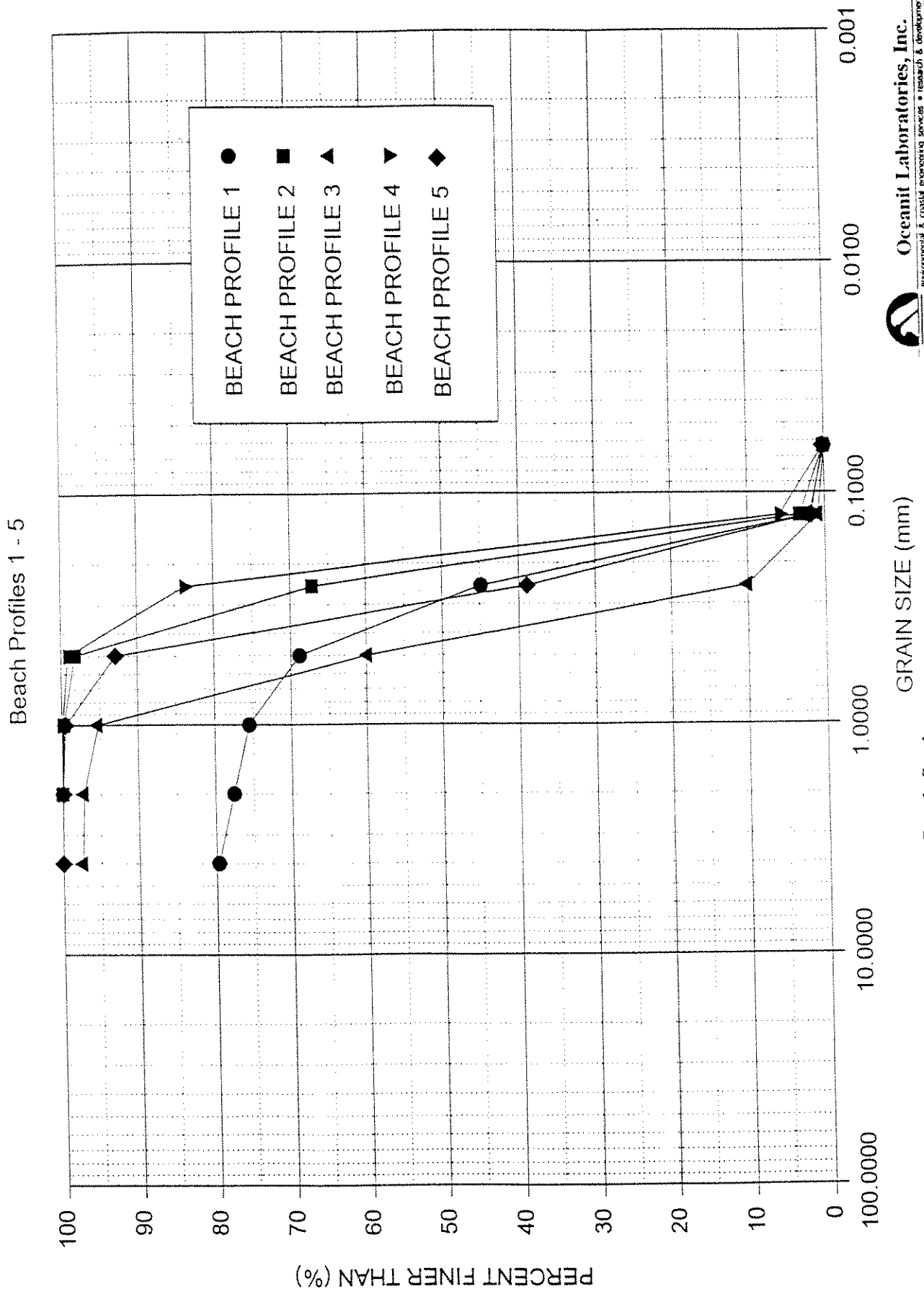
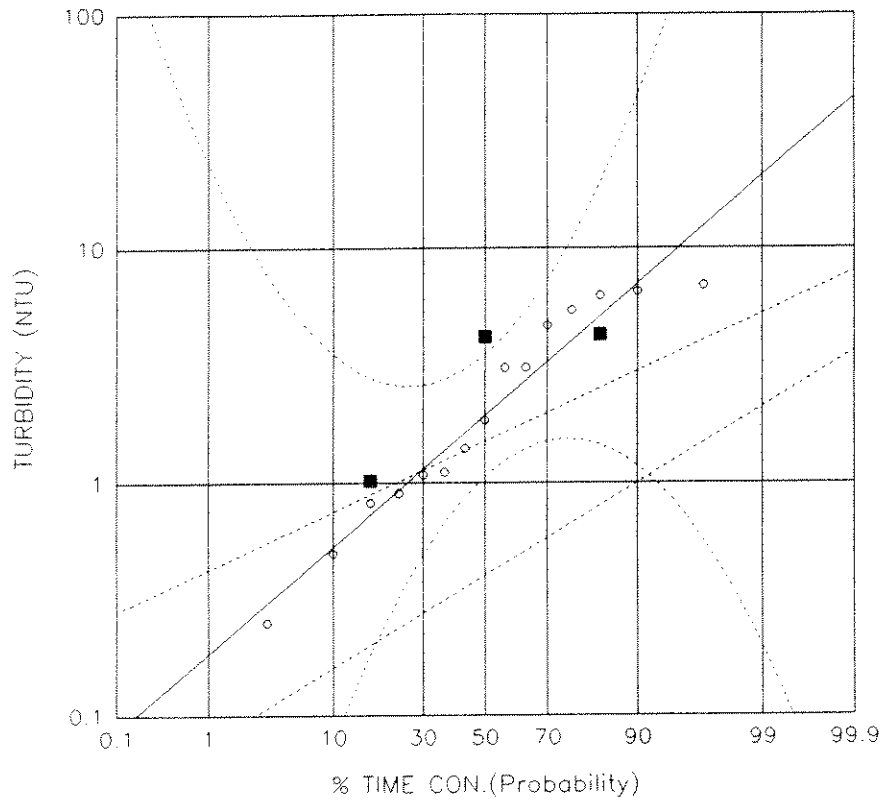


Figure III-6. Grain Size Analyses of Portlock Beach Sand



Turbidity Data  
Hawaii Kai Marina Entrance  
1973, 1988, 1996

- data from December 1996
- line fitted to current data
- 95% confidence interval for data
- ..... DOH state embayment standards, wet (top) and dry (lower)

Figure III-7. Turbidity Data, Hawaii Kai Marina Entrance

## 7. Marine Biological Survey

A marine biological survey was made on December 4, 1997. Survey areas are shown in Figure III-8. At site A, the survey diver swam along a 65-foot transect parallel to shore in water 2-3 feet deep. The survey transect at site B was out the channel bottom approximately 400 feet and back along the south edge of the channel. The transect at Site C was out along the north side of the entrance channel to the boat ramp channel, then along the boat ramp channel for about 100 feet, and finally back to shore. Photographs were taken and substrate and biota types identified at intervals along the transect.

### a. Site A

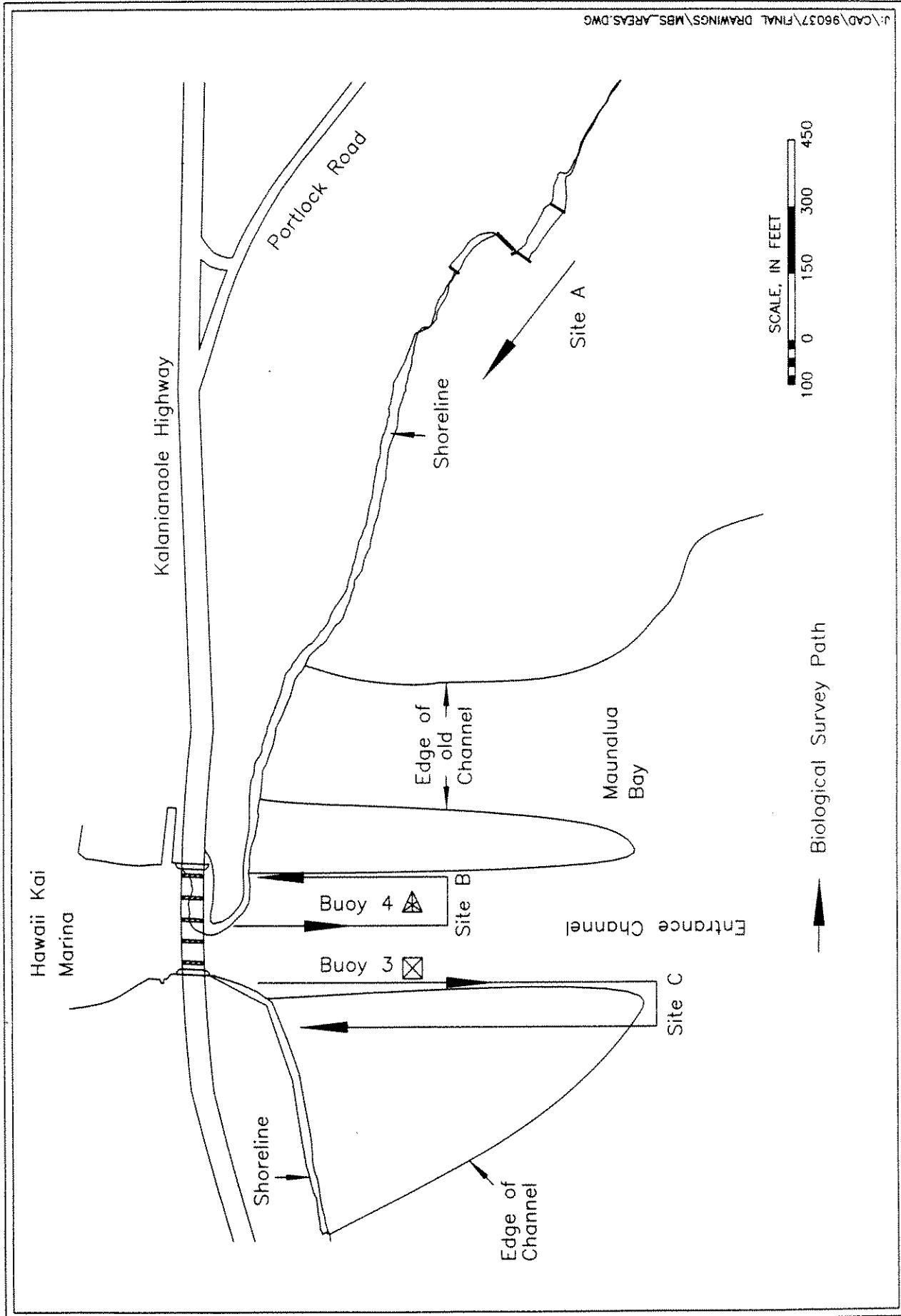
The substrate at site A consists of a uniform fine sand bottom with occasional pieces of coral rubble forming the principle solid substrate. No fish or macro invertebrate animals were encountered on the transect. Just outside the transect three sea urchins (*Tripneustes gratilla*) were noted, and undoubtedly other small or criptic invertebrates were present under rubble or buried in the sand. Holes in the sand, indicating the burrows of invertebrates, were common in areas of open sand, with an estimated density of about 5 holes per square foot.

Touch point analyses of 20 points along the transect tape yielded substrate consisting of 18 points over sand and 2 over rubble. Biota touch point analyses yielded 14 points with no plant or animal cover and 6 points with algae cover. The most prevalent algae, by visual estimate, were *Udotea* sp., *Caulerpa sertularioides*, *Acanthophora spicifera*, and *Dictyota bartayresii*. Both the *Udotea* and the *Acanthophora* are introduced species. The *Udotea* formed comparatively massive colonies completely covering the bottom in patches over one square meter in area. The abundance of *Caulerpa* is indicative of shallow reef flat areas with adequate nutrients, low wave energy, and an abundance of sunlight. Observation of the bottom from the shoreline out about 300 feet from shore indicated that the substrate was fairly consistent throughout.

### b. Site B

Substrate at the center of the boat channel from the bridge seaward a least 100 feet consists of mixed gravel with little or no light sand or silt. At about 100 feet from the bridge the bottom rapidly rises to a depth of about -6 feet, and the sediments become finer. Sediments at the bottom of the channel approximately 400 feet from the bridge at buoy #3 consist of fine mud with many (10's per square foot) invertebrate burrow holes. No fish, macroinvertebrates or macroalgae were seen along the center of the boat channel.

Substrate along the south side of the channel from 400 feet offshore to within 50 feet of the beach consisted entirely of a sand bottom with occasional thin patches of fine *Enteromorpha* algae. The edge of the channel consists primarily of a gentle sand slope up to a sand flat. About 50 to 100 feet off the apparent edge of the channel the bottom becomes more



J:\CAD\96037\FINAL DRAWINGS\MBS\_AREAS.DWG

**FIGURE III-8. MARINE BIOLOGICAL SURVEY AREAS**

consolidated with coral rubble fragments supporting a variety of algae similar to site A. However, the depth of the water on this side of the channel is significantly greater (average 5-6 feet near buoy # 4) as compared to 2-3 feet on the north side of the channel. Because the bottom within 60 feet of the channel was 100 percent sand substrate, it was not necessary to conduct a transect at this site.

c. Site C

The south side of the marina channel is much shallower (2-3 ft.) than the north side (5-6 ft.), at buoys #3 and #4. The shallow slope of the substrate from the shore line creates a large expanse of intertidal zone, and a large area of very shallow substrate much of which is littered with coral rubble. This side of the channel appears to generally be on the down-current side of the prevailing nearshore current. Typically, the low salinity, turbid, high nutrient water exiting the marina will flow across this shallow area. The shallow nutrient rich water and hard substrate formed by the coral rubble combine to provide excellent habitat for algae growth.

The substrate at site C consists of a uniform fine sand and silt bottom with abundant pieces of coral rubble forming the principle solid substrate. Water visibility was good for a shallow sand-bottom habitat and was about 20 feet during the survey. No fish, corals or macro invertebrate animals were encountered on the transect. Just outside the transect a small puffer fish *Diodon Histrix* was noted. On the edge of the channel dropoff several one-spot damsel fish (*Dascyllus albisella*) and a Moorish idol (*Zanclus cornutus*) were seen as well as a number of feather duster sabellid worms (*Sabellastarte sanctijosephi*). Undoubtedly other small or criptic invertebrates were present under rubble or buried in the sand.

Touch point analyses of 20 points along the transect tape yielded substrate consisting of 12 points over sand and 8 over rubble. Biota touch point analyses yielded 10 points with no plant or animal cover, 8 points with algae cover, one point with an encrusting sponge and one point with a hydroid. The most prevalent algae, by visual estimate, were *Spyridia sp.*, *Enteromorpha sp.*, *Udotea sp.*, *Caulerpa sertularioides*, *Acanthophora spicifera*, and *Dictyota bartayresii*. Also present were a variety of other algae including *Halimeda*, *Laurencia*, *Gracilaria*, *Coelothrix*, and *Ulva*. At one location in the lower intertidal area a thick, but isolated patch of *Hypnea musiformis* was noted. The most common plant, just below the low tide level was not an algae, but rather a species of salt water adapted vascular plant of the genus *Halophila*. In the general vicinity of the transect a number of small orange or blue encrusting sponges was noted.

There is a definite zonation of algae species from the shore out to the boat ramp channel with the greatest abundance of algae just below the low tide line. Only one solitary coral (*P. damicornis*) was seen at the farthest point from land on the dredged edge of the boat ramp channel. The prevalence of feather duster worms, sponges, and nutrient loving algae on the north side of the channel indicates that this community is adapted to the high nutrient, turbid

waters emanating from the marina. Most of these species are highly resistant to silt stress and should not show long term adverse impacts.

#### 8. Green Sea Turtles

Although no sea turtles were observed during the biological surveys, the green sea turtle (*Chelonia mydas*) is known to inhabit areas of Maunalua Bay. Turtle surveys conducted for the Oahu Intraisland Ferry System EIS (Wilson Okamoto & Associates, 1989) identified 26-29 individuals. An extensive turtle study is presented in the Ferry System EIS. Turtles are regularly seen by divers at one of the dive locations off from Hawaii Kai and appear to coexist with recreational activities. However, turtles are not regularly seen at the marina entrance. Algae identified in Oceanit's biological surveys and in the Ferry EIS surveys are among those eaten by the turtles. There are no reports of turtles nesting near the proposed dredge site.

## IV. IMPACTS, ALTERNATIVES AND MITIGATION

### A. IMPACTS

Anticipated long and short-term impacts of the proposed project have been assessed. Short-term impacts, beneficial and adverse, may result from dredging related activities. Long-term impacts may result from the dredging activity and nourishment of Portlock Beach.

**Shoreline:** The long-term impact on the shoreline will be positive. Portlock Beach will be significantly larger. Erosion at the top of the beach will be minimized. By reducing sand transport into the channel with the sand retention system, the requirement for maintenance dredging will decrease.

**Water Quality:** Turbidity near the dredging site may increase during dredging and beach nourishment operations. After completion of operations, water quality should return to preexisting conditions. No significant long-term impact on water quality is expected.

**Traffic and Parking:** There will be little impact on traffic during dredging except if dredged material is moved off site to disposal areas. A few dirt parking spaces may be used in the east section of Maunalua Beach Park near the channel.

**Recreation/Boating:** During dredging operations, boat traffic into and out of the Marina may be temporarily restricted. After dredging, boaters will have twice the channel width for access, and the channel will accommodate simultaneous passage of boats. A third passage will be partially open and can be used by canoes or kayaks. Offshore fishing opportunities are not expected to be affected. Shoreline access will not be adversely affected, except in limited areas during dredging operations. Impacts on offshore recreational areas, such as sailing areas, rough water swimming areas, and surfing sites are anticipated to be negligible. Temporary effects on recreation will be primarily related to dredging the channel. During dredging operations, boaters, canoeists, surfers, jet skiers and other water users will be required to stay clear of the dredging equipment. The quality of fishing in the area fronting Maunalua Bay Beach Park may be affected due to the increase in noise and turbidity. Following completion of dredging, turbidity levels should return to present conditions.

**Noise Impacts:** Intermittent noise associated with increased numbers of vessels passing through the channel may be perceived, but its intensity is anticipated to be less than traffic noise along Kalaniana'ole Highway. It will be the dredging contractor's responsibility to minimize noise during dredging operations. Dredging hours will be restricted to avoid early morning or evening noise.

Archaeological/historic sites: Should archaeological remnants be unearthed, work would be halted and the State Historic Preservation Office notified to assess impacts and implement mitigative measures deemed necessary.

Ciguatera: Incidence of ciguatera poisoning may be associated with eating of fish taken in newly dredged areas. The relationship between the creation of new surfaces in benthic communities, algal growth and ciguatera in resident reef fishes, however, is highly variable. The mechanisms involved with the development of ciguatera are not well known, and normally dredging does not result in a ciguatera problem. The organism responsible for the disease is *Gambierdiscus toxicus*. Environmental monitoring of *G. toxicus* can be conducted, and may provide a margin of safety for individuals consuming fish from areas following extensive man-induced disturbance.

## B. ALTERNATIVES

### NO MAINTENANCE DREDGING

If maintenance dredging is not done, sandbars will continue to build on each side of the bridge. Boat traffic will be restricted and boats will hit bottom more frequently causing damage and possible injury to occupants. This option is not viable if marina boats are to have access to the ocean. If water exchange between the marina and the ocean becomes restricted, water quality in the marina will probably degrade.

### MAINTENANCE DREDGING WITH BEACH NOURISHMENT BUT WITHOUT SAND RETENTION DEVICE

If maintenance dredging is done and dredged sand is returned to Portlock Beach but no sand retention device is used, the nourished sand will migrate back into the marina entrance channel, and dredging will have to be repeated more frequently. Accelerated erosion of Portlock Beach may also occur.

### MAINTENANCE DREDGING WITHOUT BEACH NOURISHMENT

Dredged sand could be removed from the site for possible use on other beaches. If the sand is removed and not used on Portlock Beach, beach erosion will continue. Removal of beach sand from a littoral system is not considered to be good coastal zone management.



### C. MITIGATION

The recommended maintenance dredging may produce short-term environmental impacts, such as turbidity, that will be minimized by following a best management practices plan (see Appendix B). Any impact caused by the sand retention device can be mitigated by moving or removing the sandbags. The effectiveness of the sandbags will be monitored over a period of five years by the DLNR Division of Boating and Ocean Recreation. The retention device can be considered mitigation against future beach erosion. There are no severe or long term impacts that require other mitigation measures.

## V. DETERMINATION, FINDINGS AND REASONS FOR SUPPORTING DETERMINATION

An action shall be determined to have a significant effect to the environment if it meets any of the following criteria:

### A. SIGNIFICANCE

- (1) **Involves an irrevocable commitment to loss or destruction of any natural or cultural resource;**

There are no natural or cultural resources that will be significantly impacted by the proposed project. Short-term negative impacts to water quality may result during the dredging period. These impacts will be mitigated with measures as noted in the attached BMP and Monitoring Plan (see Appendix B). There are no known archaeological or historical sites in the dredging area.

- (2) **Curtails the range of beneficial uses of the environment;**

The subject channel entrance is the only means of boat access to Hawaii Kai Marina. DLNR is responsible for maintaining the portion of the channel seaward of the highway bridge. The proposed project will maintain the intended use of the channel as a point for marine ingress and egress to the Hawaii Kai Marina.

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

The proposed dredging is consistent with the State's Environmental Policy as expressed in Chapter 344, HRS. The project is consistent with the state's environmental policy to preserve and maintain recreation and open space. The proposed project will have a positive impact on Portlock Beach. By reducing sand transport into the channel, Portlock Beach will be significantly larger and erosion at the top of the beach will be minimized.

- (4) **Substantially affects the economic or social welfare of the community or state;**

The Hawaii Kai Marina contains over 700 registered recreational and commercial boats. The marina is the economic and social focal point of the Hawaii Kai community. The proposed project will improve navigation through the channel, which will benefit the Hawaii Kai community both economically and socially.

**(5) Substantially affects public health;**

Impacts on water quality, air, and noise are anticipated to be confined to the construction period. These negative impacts are anticipated to be short-term and limited to the construction period.

**(6) Involves substantial secondary impacts, such as population changes or effects on public facilities;**

Due to the nature of the project, there are no substantial secondary or indirect impacts such as population changes or effects on public facilities that will result from the project.

**(7) Involves a substantial degradation of environmental quality;**

As previously mentioned, the impact of the proposed project on the environment will not be significant and will be limited to the construction period. Mitigation measures as noted in the attached BMP and Monitoring Plan will minimize impacts to the environment.

**(8) Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions;**

Periodic maintenance dredging of the channel is required as beach processes transport sand into the channel. The sandbag groin is intended to minimize the frequency of dredging by reducing the amount of sediment transport into the channel. Although the sandbag groin is not intended to be a permanent solution, it will act as a full-scale model for a potentially more permanent solution.

**(9) Substantially affects a rare, threatened, or endangered species, or its habitat;**

As noted in Section III the impacts on rare, threatened, or endangered species and/or habitats is not substantial.

**(10) Detrimentially affects air or water quality or ambient noise levels;**

The proposed project will not have a detrimental affect on air, water quality, or ambient noise. Short-term direct impacts on water quality will be mitigated through the BMP and monitoring plan (See Appendix B).

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

The proposed action is designed to alleviate damage from erosion at Portlock Beach. The sand retention system should cause Portlock Beach to grow as sand transport into the channel is minimized.

- (12) **Substantially affects scenic vistas and viewplanes identified in county or state plans or studies; or**

The proposed project will not substantially affect scenic vistas or viewplanes.

- (13) **Requires substantial energy consumption.**

The proposed action will not require substantial energy consumption relative to other similar maintenance dredging projects.

B. DETERMINATION

Based on the information contained in this document, the determination for the proposed action is a Finding of No Significant Impact (FONSI).

## REFERENCES

Environmental Communications, Inc. Environmental Impact Statement for Hawaii Kai Marina Zoning. Prepared for The Kaiser Development Company. September 1985.

Gerritsen, Franciscus. Beach and Surf Parameters in Hawaii. June 1978

Hwang, Dennis. Beach Changes on Oahu as Revealed by Aerial Photographs. July 1981.

Sea Engineering, Inc. Beach Erosion Control Measures for the Portlock Shoreline Maunalua Bay, Oahu, Hawaii. July 1989.

Sea Engineering, Inc. Oahu Shoreline Study. November 1989.

Sunn, Low, Tom & Hara, Inc. Final Report of the Investigation of Hawaii Kai Marina Waters. Prepared for Kaiser-Aetna. May 1974.

U.S. Army Corps of Engineers. Final Environmental Impact Statement for Department of the Army Permit Actions in the Hawaii Kai Marina. July 1975.

U.S. Department of Transportation, Federal Highway Administration. Final Environmental Impact Statement Section 4(f) Statement. February 1978.

Wanket, William E., et al. Hawaii Kai Properties Draft Environmental Impact Report, Hawaii Kai, Oahu, Hawaii. November 1996.

Wilson Okamoto & Associates. Oahu Intraisland Ferry System Final Environmental Impact Statement. Prepared for State Department of Transportation. January 1989.

**APPENDICES**

**APPENDIX A**

**ACT 231**

**A Bill for an Act Making an Appropriation  
for the Dredging of Maunalua Bay**

ACT 231

S.B. NO. 1628

A Bill for an Act Making an Appropriation for the Dredging of Maunalua Bay.

*Be It Enacted by the Legislature of the State of Hawaii:*

SECTION 1. The legislature finds that the Hawaii Kai marina main entrance channel, near the Kalaniana'ole bridge overpass, has been filling with sand. If sand keeps flowing into the channel, boats will be unable to navigate through the channel.

The marina, although private, serves several important public functions in times of emergency. The marina is the only safe harboring area for boats along the coast in case of a sudden storm or surge. If there is a hazardous waste or sewage spill, the marina may serve as an important base for clean up operations. Rescue operations and fire equipment may also be transported via the marina.

The legislature declares that keeping the entrance to the Hawaii Kai marina in navigable condition serves a public purpose because important health, safety, and welfare considerations are involved.

The purpose of this Act is to appropriate funds to dredge the Hawaii Kai marina main entrance channel and declare that this dredging will serve to fulfill a health, welfare, and safety concern.

SECTION 2. The director of finance is authorized to issue general obligation bonds in the sum of \$240,000, or so much thereof as may be necessary, and the same sum, or so much thereof as may be necessary, is appropriated for fiscal year 1994-1995, for the dredging of Maunalua Bay at the main entrance channel to the Hawaii Kai marina.

SECTION 3. The sum appropriated shall be expended by the department of land and natural resources for the purposes of this Act.

SECTION 4. This Act shall take effect on July 1, 1994.

(Approved June 22, 1994.)



**APPENDIX B**

**Best Management Practices (BMP) Plan and  
Water Quality Monitoring Plan**

## I. BACKGROUND

The project site is located in Maunaloa Bay at the entrance to Hawaii Kai Marina, with Portlock Beach to the east and Maunaloa Bay Beach Park to the west. Severe siltation has obstructed marine access through three out of the four channel passages underneath the bridge, and sandbars have formed on both sides of the bridge. Shoaling of these areas has resulted in a navigational hazard and has prevented full use of channel openings.

The project consists of dredging the main channel which serves as the only viable point of ingress and egress for marine vessels entering and exiting the Marina. Dredged material that is determined to be clean sand will be used to nourish Portlock Beach. Any dredged material unsuitable for nourishment will require dewatering. Dewatering of dredged material will be conducted at the adjacent Maunaloa Beach Park. Dewatered material will be disposed of in a designated inland disposal site. A beach nourishment retention device will be installed at the west end of Portlock Beach adjacent to the dredging site to minimize sand transport into the channel.

## BEST MANAGEMENT PRACTICES AND WATER QUALITY MONITORING PLAN FOR MAUNALUA BAY MAINTENANCE DREDGING

## II. POLLUTION CONTROL AND MITIGATION

Submitted to:

The State of Hawaii Department of Health

Pollution, primarily suspended sediments, is anticipated from dredging. The principal means of pollution control will be the employment of silt curtains during any activity that will increase water turbidity. Silt curtains or booms will also be employed during the dredging of the forested area under the Kaianaohe Highway bridge. This will help to contain any debris that may fall into the water. The use of silt curtains is shown schematically in the attached figures. Dredging debris (trees, rubbish etc.) will be hauled off site for proper disposal.

Since heavy construction equipment such as cranes will be used, the contractor will be required to have equipment to contain and clean up spills of fuel or lubricants.

Should a significant release of pollutants into the Bay or Marina occur, the contractor will be required to notify the project manager/engineer and the Department of Health (DOH) immediately.

Prepared by:

Oceamit Laboratories, Inc.

December 1997

### III. WATER QUALITY MONITORING

Maunaloa Bay is an embayment whose waters are designated as Class A by the State of Hawaii Chapter 45 Water Quality Standards. Any change in water quality caused by the dredging and dewatering operations is expected to be temporary. The purpose of this monitoring program is to assess changes to the receiving waters caused by the dredging and dewatering activities.

#### Monitoring Program

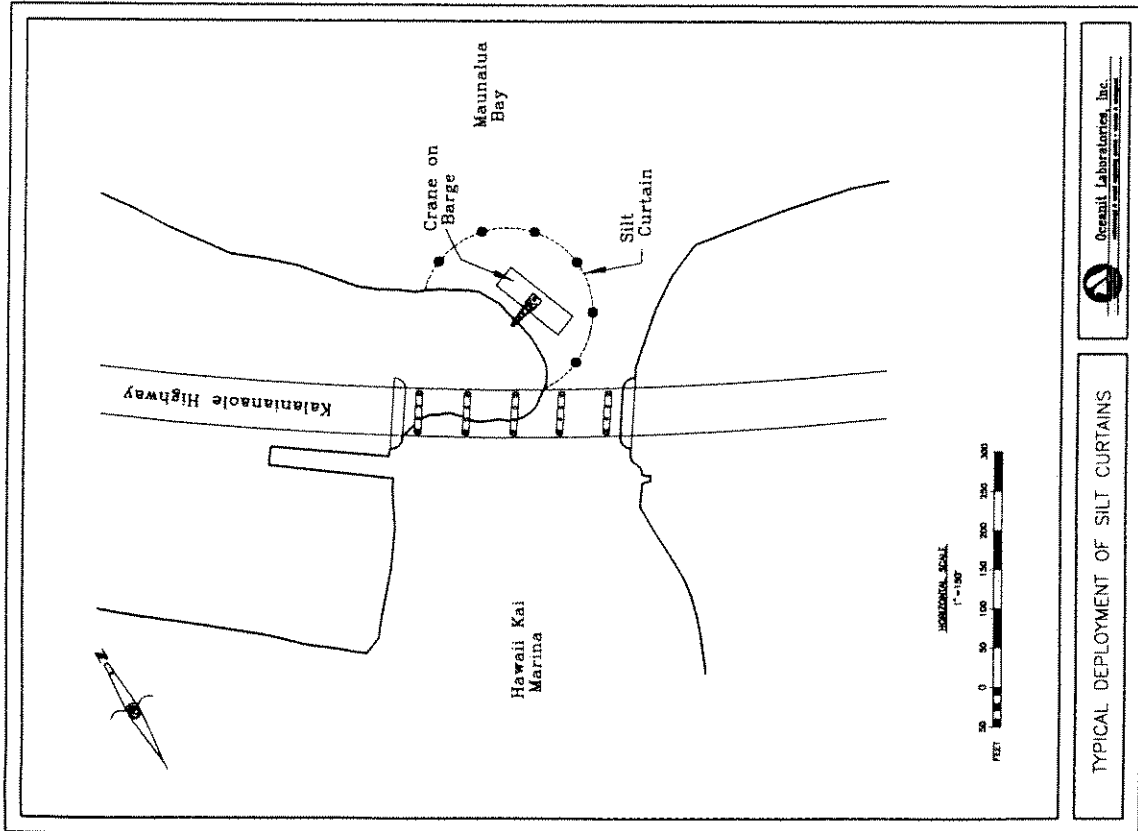
Monitoring will be conducted pre-, during, and post construction. The constituents shown in the following table will be measured.

WATER QUALITY PARAMETER	PRE-CONSTRUCTION	DURING CONSTRUCTION	POST CONSTRUCTION
Turbidity, NTU	X	X	X
Salinity, ppm	X	X	X
Temperature, °C	X	X	X
Dissolved Oxygen	X	X	X
Total Nitrogen	X	X	X
Nitrate + Nitrate	X	X	X
Total Phosphorus	X	X	X

Monitoring locations are shown on the attached map. Water quality parameters will follow guidelines outlined by the Hawaii State Department of Health, Title 11 Chapter 54 Water Quality Standards published in October 1992. Samples will be taken on the inside and outside of the silt curtain when in use. Other samples will be taken at the edge of the reef near the entrance to the channel, inside the marina, and off the nourishment area of Portlock Beach. A final sample will be taken between the marina entrance and the boat ramp. Samples will be taken at three depths: surface (0.5-1 meter below the surface), mid-depth, and bottom (0.5-1 meter off the bottom).

#### Monitoring Schedule

Pre-construction monitoring will be conducted once per week for a minimum of four weeks prior to construction. Monitoring will be conducted each week during construction. Post construction monitoring will be once per week for four weeks after construction stops.



TYPICAL DEPLOYMENT OF SILT CURTAINS

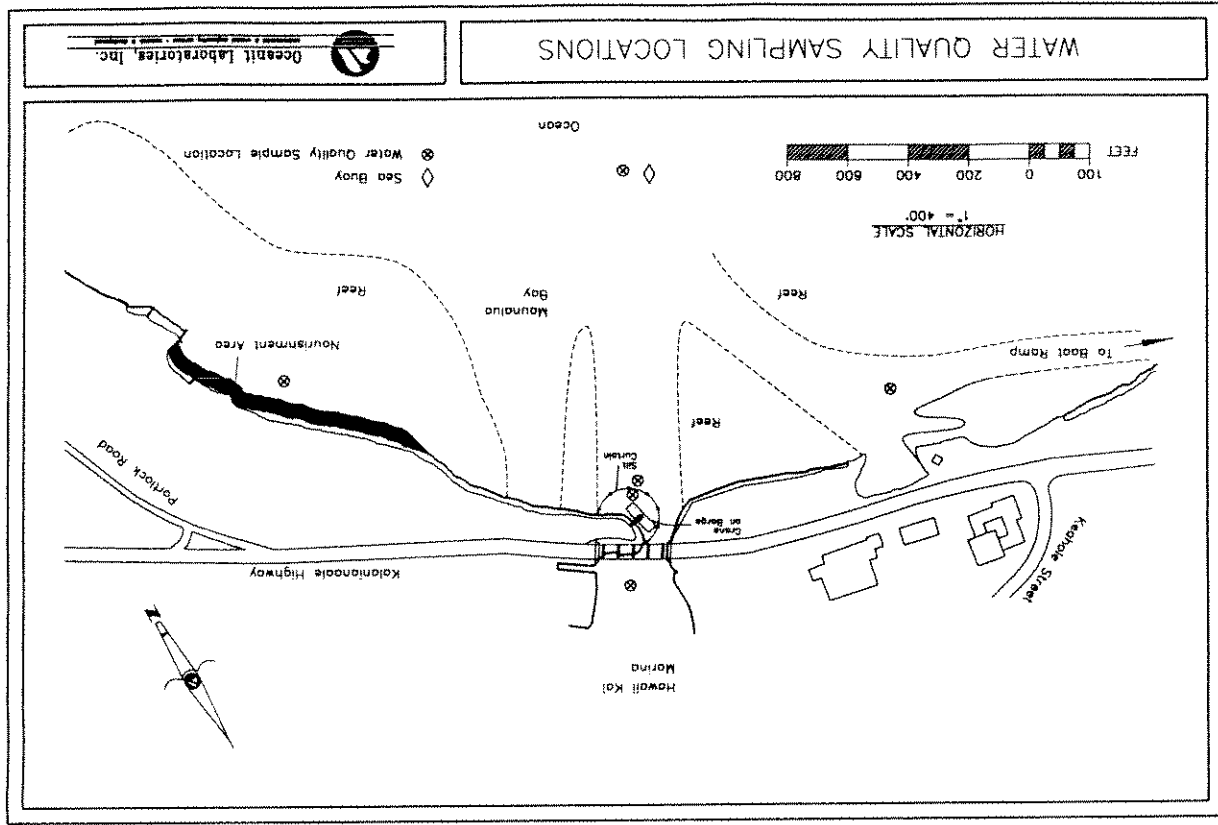
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ANALYTICAL CHEMISTRY • WATER QUALITY • ENVIRONMENTAL SERVICES

**Reports**

The pre-construction and post-construction monitoring reports will be submitted to the Department of Health within two weeks of the sampling date. Construction sampling reports will be submitted within two weeks after each sampling date. Tide, weather conditions (wind, rainfall, recent storms, etc.), construction activity, and visual observations will be included in each report. Each report will also compare results with water quality standards and the baseline data to assess whether receiving water quality has been degraded.

**Quality Assurance/Quality Control**

Quality assurance/quality control procedures will be used throughout the monitoring program. Samples for laboratory analysis will be collected in clean glass or plastic bottles and cooled to 4 °C until analyzed. A chain of custody record will be kept for all samples transferred from the field to a laboratory. Laboratory analysis shall be conducted by a qualified laboratory approved by the Department of Health. Test methods must be those given by 40 CFR Part 136 and Section 11-54-10 of the State Water Quality Standards.



**APPENDIX C**

**Comments and Response Letters**

DEPARTMENT OF LAND UTILIZATION  
**CITY AND COUNTY OF HONOLULU**

850 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813  
PHONE (808) 523-4515 • FAX (808) 527-8743



JEREMY HARRIS  
MAYOR

JANIS HADGE SULLIVAN  
DIRECTOR  
LORETTA K.C. CHEE  
DEPUTY DIRECTOR

98-01566(ASK)

March 10, 1998

The Honorable Michael D. Wilson, Chairperson  
Department of Land and Natural Resources  
State of Hawaii  
Kalanimoku Building  
1151 Punchbowl Street, Room 130  
Honolulu, Hawaii 96813

Dear Mr. Wilson:

Draft Environmental Assessment (EA)  
Maunaloa Bay Dredging  
Portion of 3-9-2, Hawaii Kai, Oahu

We have reviewed the Draft EA for the above-referenced project and offer the following comments:

1. We support the project's concept of beach nourishment.
2. A portion of the project is within the Special Management Area but is exempt under Section 25-1.3(2)(C), Revised Ordinances of Honolulu.
3. Section C of the Final EA should report the cost of the project.
4. The Final EA should describe in greater detail construction activities, such as where dewatering activities will take place and how fill material will be put in place.
5. Figure 11-8 of the Draft EA indicates that the shoreline will shift approximately 25 feet seaward as a result of the beach nourishment project. The Final EA should describe what is to become of this property, who will hold title to it, and what uses will be permitted there.
6. The City Department of Parks and Recreation is currently investigating the acquisition of public beach access to this segment of Portlock Beach. In our opinion, the land which has been newly created through accretion and fill should be considered for public recreational use.

The Honorable Michael D. Wilson, Chairperson  
Page 2  
March 10, 1998

Should you have questions, please contact the Environmental Review Branch at 523-4077.

Very truly yours,

LORETTA K.C. CHEE  
Acting Director of Land Utilization

LKCC:am

cc: ✓ Oceanit Laboratories, Inc. (W.E. Bucher)  
Office of Environmental Quality Control  
Department of Parks and Recreation

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DEPARTMENT OF LAND UTILIZATION  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813  
PHONE: (808) 523-2414 • FAX: (808) 527-8743



JAN ARNOLD SULLIVAN  
DIRECTOR

LORETTA K.C. CHEE  
DEPUTY DIRECTOR

98-01757 (ASK)

JEREMY HARRIS  
MAYOR

April 1, 1998

The Honorable Michael D. Wilson, Chairperson  
Department of Land and Natural Resources  
State of Hawaii  
Kalanimoku Building  
1151 Punchbowl Street, Room 130  
Honolulu, Hawaii 96813

Dear Mr. Wilson:

Conservation District Use Application  
File No. OA-2887  
Maunaloa Bay Dredging  
Portion of 3-9-2, Hawaii Kai, Oahu

We have previously reviewed the Draft EA for the above-referenced project. Our comments are attached. In addition, we would like to note that the segment of Portlock Beach which will be nourished as part of the project appears to be accreting. This trend is shown on shoreline surveys on file with the State Surveyor. The rationale for placing the dredge fill in this location should be explained.

Should you have questions, please contact the Environmental Review Branch at 523-4077.

Very truly yours,

  
LORETTA K.C. CHEE  
Acting Director of Land Utilization

LKCC:am  
attach.

cc: Oceanit Laboratories, Inc. (W.E. Bucher)  
Office of Environmental Quality Control  
Department of Parks and Recreation

9:19 PM MAUNALOBA.ASK

RECEIVED  
APR 2 1998

BENJAMIN J. CAYetano  
GOVERNOR



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF BOATING AND OCEAN RECREATION  
331 KOLEN STREET, SUITE 300  
HONOLULU, HAWAII 96813

MICHAEL D. WILSON  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

GILBERT S. COLOMA-AGUIRAN  
DEPUTY DIRECTOR

BOR 0398.99

November 2, 1998

Ms. Loretta K.C. Chee, Deputy Director  
Department of Planning and Permitting  
650 South King Street, 7th Floor  
Honolulu, Hawaii 96813

Dear Ms. Chee:

**Draft Environmental Assessment, Maunaloa Bay Dredging, Oahu**

Thank you for your letters of March 10, 1998 and April 1, 1998 on the subject draft environmental assessment (EA).

We understand that "A portion of the project is within the Special Management Area but is exempt under Section 25-1.3(2)(C), Revised Ordinances of Honolulu." Therefore no Special Management Area Use Permit application will be submitted.

Other concerns are addressed in the following paragraphs.

Comment:

3. Section C of the Final EA should report the cost of the project.

Response:

The dredging cost of the project is approximately \$175,000.

Comment:

4. The Final EA should describe in greater detail construction activities, such as where dewatering activities will take place and how fill material will be put in place.

Response:

The dredging contractor is responsible for detailed construction activities and at the time of the Draft EA, no contractor had been selected. We do not anticipate dewatering the dredged

Department of Land Utilization  
Page 2

material because it appears to be all clean sand. If any dredged material is not suitable, a bermed settling pond will be constructed on state land near the boat ramp parking lot. We anticipate dewatering by drainage through the underlying soil or by evaporation. However, should it become necessary, the contractor will be asked to design and construct a dewatering system.

The selected contractor will propose a method to place fill material, in this case beach sand, on Portlock Beach. Typically beach material is moved and placed by a front loader and possibly spread using a bulldozer.

Comment:

5. Figure 11-8 of the Draft EA indicates that the shoreline will shift approximately 25 feet seaward as a result of the beach nourishment project. The Final EA should describe what is to become of this property, who will hold title to it, and what uses will be permitted there.

Response:

The beach nourishment portion of this project should not affect the present metes and bounds of adjacent property owners, as there is no legal basis for those property owners to annex adjacent beach property created by artificial means. Therefore, the nourished beach will remain the property of the state and will be open for public use. We have recommended that the land issues resulting from beach nourishment be addressed on a state-wide basis under the Department of Land and Natural Resources' shoreline management plan provisions.

Comment:

The City Department of Parks and Recreation is currently investigating the acquisition of public beach access to this segment of Portlock Beach. In our opinion, the land which has been newly created through accretion and fill should be considered for public recreational use.

Response:

We have no objection to the City Department of Parks and Recreation acquiring lands created through accretion so long as the accretion is outside the original boundaries of the navigation channel.



Comment from April 1, 1998 letter:

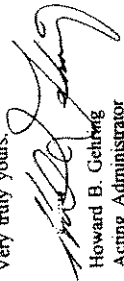
In addition, we would like to note that the segment of Portlock Beach which will be nourished as part of the project appears to be accreting. This trend is shown on shoreline surveys on file with the State Surveyor. The rationale for placing the dredge fill in this location should be explained.

Response:

According to the Oahu Shoreline Study produced by Sea Engineering, Inc., the sand placement area shown in Figure II-7 of the Draft EA eroded between 1974 and 1988. Beach at the north end near the entrance channel has been accreting, most likely from material eroded from the beach just to the south. This erosion/accretion pattern has also been mentioned by residents. An eroded embankment was noted in field trips to the site. Sand will be placed on the eroded shoreline with the knowledge that some of the material will be transported by littoral drift to the north.

We hope that the above responses have satisfactorily addressed your concerns. Should you have any questions, please contact Manuel Emiliano of our Boating Engineering Branch at 587-0122.

Very truly yours,



Howard B. Gehring  
Acting Administrator

bc: Hiram Young, Land Division  
Oceanit  
BOR-E

BENJAMIN J. CAVETANO  
GOVERNOR



STATE OF HAWAII  
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

136 SOUTH KENETAMA STREET  
SUITE 702  
HONOLULU, HAWAII 96813  
TELEPHONE (808) 586-1188  
FACSIMILE (808) 586-1188

GARY GILL  
DIRECTOR

March 10, 1998

Mr. Michael Wilson, Chair  
Department of Land and Natural Resources  
P.O. Box 621  
Honolulu, Hawaii 96809

Dear Mr. Wilson:

Subject: Draft Environmental Assessment for the Maunaloa Bay  
Dredging, Oahu

This is in response to the review of the subject document. We have  
the following questions and comments.

1. The primary purpose of this project is to make navigation easier for private boats to enter an exit a private and exclusive marina. Please justify the use of public funds for such a project.
2. Will the marina be open for public use in the future after public resources have been used to improve its navigation?
3. Please describe the dredging method that will be employed and whether dredging will be conducted at night. Fully describe the impacts of the preferred dredging method and any mitigation measures. Will silt curtains or other appropriate measures be used to limit turbidity?
4. According to the environmental assessment, dredged sand that is not suitable for beach replenishment will be disposed of. Please describe the locations of the disposal sites and any impacts associated with the disposal.
5. According to the environmental assessment, the sand retention system is intended as a demonstration project and will be monitored over a five-year period. Please describe who will monitor the demonstration project and take necessary actions to maintain Portlock Beach. Describe any commitment or dedication of funds to repair or maintain the area beyond five years from completion of the project.

Mr. Wilson  
Page 2

6. A fringing reef and wide reef flat front the dredging area. Please describe impacts of the dredging on the water quality of the reef areas.
7. Please describe whether any monitoring activity will be carried out to ensure that the water quality of the Paiko Lagoon Wildlife Sanctuary is not adversely impacted by this project.
8. There are several shoreline areas near the project site, including Paiko Peninsula, Maunaloa Bay Beach Park and Portlock Beach. Please describe whether the project will adversely affect the adjacent shoreline areas.
9. Please evaluate the impact of the beach nourishment project on any adjacent coral reefs, mud flats, or fish spawning grounds.
10. Please discuss the findings and reasons for supporting the FONSI determination based on the significant criteria listed in §11-200-12 of the EIS rules. Please see the enclosed example.
11. Please list all federal state and county permits that would be required for this project.

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

Sincerely,

Gary Gill  
Director

c: ✓ Oceanit

Attachment

## 8.0 DETERMINATION, FINDINGS AND REASONS FOR SUPPORTING DETERMINATION

### 8.1 SIGNIFICANCE CRITERIA

According to the Department of Health Rules (11-200-12), an applicant or agency must determine whether an action may have a significant impact on the environment, including all phases of the project, its expected consequences both primary and secondary, its cumulative impact with other projects, and its short and long-term effects. In making the determination, the Rules establish "Significance Criteria" to be used as a basis for identifying whether significant environmental impact will occur. According to the Rules, an action shall be determined to have a significant impact on the environment if it meets any one of the following criteria:

- (1) Involves an irrevocable commitment to loss or destruction of any natural or cultural resources;

The proposed project will not impact scenic views of the ocean or any ridge lines in the area. The visual character of the area will change from the current agricultural land to an improved 4-lane highway which is compatible with the surrounding land use plans and programs being implemented for the region. The highway corridor is comprised of "Prime" agricultural land which is an important resource. Development of drainage systems will follow established design standards to ensure the safe conveyance and discharge of storm runoff. In addition, the subject property is located outside of the County's Special Management Area (SMA).

As previously noted, no significant archaeological or historical sites are known to exist within the site activity to be uncovered during the construction phases of development, their treatment will be conducted in strict compliance with the requirements of the Department of Land and Natural Resources.

- (2) Curtails the range of beneficial uses of the environment;

Although the subject property is suitable for agricultural uses, the land area adjoining the Mokulele Highway is naturally suited for transportation purposes due to its location proximate to an existing highway system. To return the site to a natural environmental condition is not practical from both an environmental and economic perspective.

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

The proposed development is consistent with the Environmental Policies established in Chapter 344, HRS, and the National Environmental Policy Act.

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

The proposed project will provide a significant contribution to Maui's future population by providing residents with the opportunity to "live and work in harmony" in a high quality living environment. The proposed project is designed to support surrounding land use patterns, will not negatively or significantly alter existing residential areas, nor will unplanned population growth or its distribution be stimulated. The project's development is responding to projected population growth rather than contributing to new population growth by stimulating in-migration.

- (5) Substantially affects public health

Impacts to public health may be affected by air, noise, and water quality impacts, however, these will be insignificant or not detectable, especially when weighed against the positive economic, social, and quality of life implications associated with the project. Overall, air, noise, and traffic impacts will be significantly positive in terms of public health as compared to the "no action" alternative.

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

Existing and planned large-scale housing development projects within Wailuku-Kahului and Kihei will contribute to a future population growth rate that will require expansion of public and private facilities and services. These improvements will become necessary as the overall population of Maui grows and settlement patterns shift. However, the proposed project will not in itself generate new population growth, but provide needed infrastructure the area's present and future population.

In addition, new employment opportunities will generate new sources of direct and indirect revenue for individuals and the County of Maui by providing both temporary and long-term employment opportunities during the construction period. Indirect employment in a wide range of service related industries will also be created from construction during project development.

- (7) Involves a substantial degradation of environmental quality.

The proposed development will utilize existing vacant agricultural land. With development of the proposed project, the addition of urban landscaping will significantly mitigate the visual impact of the development as viewed from outside the site while the overall design will complement background vistas.

Malua views from the subject property are available, however, they are not significant nor generally available to the public in the property's present restricted condition.

(8) Is individually limited but cumulatively has considerable effect on the environment, or involves a commitment for larger actions.

By planning now to address the future needs of the community and the State, improvement of the transportation system is consistent with the long term plans for Maui. No views will be obstructed or be visually incompatible with the surrounding area.

(9) Substantially affects a rare, threatened or endangered species or its habitat;

No endangered plant or animal species are located within the highway corridor.

(10) Detrimentially affects air or water quality or ambient noise levels;

Any possible impact to near-shore ecosystems resulting from surface runoff, will be mitigated by the establishment of on-site retention basins during the construction phases of development. After development, retention areas within the highway right-of-way will serve the same function to encourage recharge of the groundwater.

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

Development of the property is compatible with the above criteria since there are not environmentally sensitive areas associated with the project and the physical character of the corridor has been previously disturbed by agricultural uses. As such, the property no longer reflects a "natural environment". Shoreline, valleys, or ridges will not be impacted by the development.

(12) Substantially affects scenic vistas and view planes identified in county or state plans or studies;

Due to topographical characteristics of the property, views of the area to be developed are generally not significant although they are visible. The majority of the proposed project will not be visible, except from higher elevations by the general public or from persons traveling along the highway.

(13) Requires substantial energy consumption.

The location of the proposed project is between Maui's major growth areas. This relationship will reduce travel times and energy consumption after project build out through efficiencies gained by the increased capacity of the highway. Construction of the proposed project will not require substantial energy consumption relative to other similar projects.

conducted soundings of the depths and this valuable and pertinent information was not contained in the EA. We also have the dredging on video tape. Massive amounts of sand were removed, a huge mound higher than the bridge. This was not replaced on the beach but hauled away never to be returned to the system. KACOR said they had a permit to dredge on the incoming tide but were dredging on the outgoing tide with large plumes of sediment flowing into the bay. We never saw evidence of a permit. We also had former Governor John Waihee and then Senator Donna Ikeda come out during the subsequent threat of dredging for a proposed ferry system to show them the damage done to Portlock beach as a result of the 1986 dredging. The ferry subsequently was denied.

This is to show that we are very familiar with the history of dredging in the bay and the resulting erosion and feel that if it is to be undertaken again it should be with adequate planning for a permanent solution. We feel that the sand bags are not a feasible. They are easily damaged and are not long lasting. Who will move them if they are not found to be in the right configuration or they are shifted by the ocean? Are there funds available to monitor, repair and or move them? Since they are experimental, if they do not work are there funds to come up with another solution? Esthetically they are also very ugly.

- We are also concerned with the quality of the Environmental Assessment.

- There is no investigation of a permanent solution. Alternatives were not adequately addressed - for example, the construction of a permanent revetments or series of groins constructed of basalt boulders, was not even mentioned. The only alternatives discussed were to do nothing, this sandbag experiment or dredge with no erosion controls!

- The examination of the material for beach replenishment seems to be minimal. Did they only examine the top layer of sand? How do they know it is mostly suitable? The New Year's flood of 1988 brought huge amounts of soil runoff into the bay and this may be a large part of the 8,000 cubic yards to be dredged. We don't see any mitigative measures discussed for siltation of the reefs in the Bay during dredging.

- Oceanit's biological study seems very cursory. What are all the fishermen catching by the bridge if no fish were sighted except for a puffer fish. It is stated that environmental monitoring "can" be conducted. Will it be? Are there funds for it? Will the water quality be monitored? Will there be restrictions to only dredge on the incoming tide? The bay is very rich in marine life and is bound to be affected by dredging without mitigative measures for silt transport.

- What is the impact of the project on the erosion of the adjacent beach park and the Paiko area. New seawalls constructed at the beach park are

Ma

State of Hawaii  
Dept. of Land and Natural Resources  
Division of Boating and Ocean Recreation  
P.O. Box 621  
Honolulu, Hawaii 96809  
Contact: Hiram Young (587-1966)

COMMENTS ON OCEANIT LABORATORIES ENVIRONMENTAL ASSESSMENT FOR MAUNALUA BAY DREDGING.

We are concerned about the plan by the State of Hawaii to request a permit to dredge the entrance channel to the Hawaii Kai marina. We do not believe that there has been enough planning for a permanent solution to the erosion of Portlock Beach due to dredging of the entrance channel. Funds were allocated by the legislature for maintenance dredging and we do not feel they are adequate for a permanent solution. Oceanit has decided to pursue a course of action that is neither permanent nor proven to be effective. We also do not believe that the maintenance of the entrance channel to a private marina that is not open to all of the citizens of the State of Hawaii should be done using State funds.

We are very aware of the erosion problem as we have lived immediately adjacent to the entrance channel even before the channel was dredged and it was a small opening to Kuapa fishpond. Before the existing channel was dredged we believe that the sand circulated in Maunalua Bay. It was transported along the coast from Portlock toward Paiko and then back to Portlock during south storm wave action. This natural process has been greatly impacted by previous dredging with sand no longer being transported toward Paiko and back but instead into the channel entrance.

We experienced an immediate and huge loss of property when the channel was originally dredged with 4 bays under the bridge. No mitigative measures such as a groin or series of groins were designed or employed to deal with the erosion of sand from Portlock beach.

The marina entrance channel was dredged again in November 1986 when the Hawaii Kai Corporate Plaza was being built and Kaiser decided that since they had the crane there they would swing it around on a holiday, election day and dredge with no plan or public commentary. Rapid erosion of approximately 20 feet of shoreline with walls falling in at the south end of the beach were the result. We have evidence of this as we were able to contact the Army Corps of Engineers and asked them to come out. They subsequently

already being undermined.

- The report states that a "water velocity of 2 ft./sec is sufficient to keep the passage free from sand deposition" The velocities in the present channel exceed this. What will the velocity in the dredged channel be? If not 2 feet per second, how will this problem be solved? Will the newly dredged channel stay open? How soon will dredging be required again?
- There is no discussion of what kind of dredging will be done.
- What kind of equipment will be used?
- How will it be put in place at the site?
- What are the noise controls, hours of dredging?
- When would the bags be put in place? The EA does not say if they will be placed before dredging. Past experience has shown that the shoreline will start to erode immediately after dredging. How long the sand bags will last is questionable. John Dilks of Lanikai had them placed in front of his property as a last ditch effort and has said that they are very easily damaged by fisherman and the environment and are expensive to maintain.

Figure 11-8 shows an "artists concept" of the sandbag system. This drawing and the text does not provide enough information to evaluate the feasibility of this system. The EA should include an engineering drawing and an engineering evaluation addressing at least the following:

- the stability of the three layer sandbag system on a soft bottom.
- Many of the sand bags used for shore protection on Lanikai Beach have shifted. These may also shift. Has this been considered?
- the durability of the sandbag material. Where has it been used before? What is the expected frequency of repair? Who will repair it? Are there funds set aside for this?
- an engineering evaluation for the selection of the optimum height and length of the system. It looks very short in the drawing, and may not retain very much of the sand being moved down the beach. How was the height and length selected. Please show these engineering calculations.
- After beach replenishment how much of the sand will stay on the beach? How much sand is expected to move around the end of the sand bag system? Engineering calculations should be done to show this.
- Portlock beach should be monitored before dredging and at regular intervals after dredging. Any property erosion should be the responsibility of the State. If erosion occurs, how does the State propose to solve the problem?
- Long term beach impacts. The report states only that impacts will be beneficial, due to the sand replenishment. The report should address the impacts if the experiment fails, and the sand is transported back into the channel. What will the Portlock shoreline then look like?

Page 17 states: "there are 3,000 feet of shoreline stabilized with revetments and seawalls." The report does not discuss the fragile condition of these walls, or the fact that some are being undercut due to past erosion. An experiment that fails will put these walls at risk of collapse.

The sand bag scenario is an expensive experiment with no funds in place for the definite possibility of failure. If the permit for this project does not cover a permanent solution a permit cannot be obtained in time to prevent erosion of Portlock beach properties. Protecting the marine life and reefs during dredging must also be taken into account.

This EA addresses very few, if any of the questions that were brought up at the public informational meeting held at the Hawaii Kai Library last May, prior to the preparation of the EA. The record of that meeting should be a part of the EA and all concerns addressed.

We feel that if the dredging is to be done it must be done right! A long term, permanent solution to the problem of beach erosion must be put in place after a thorough engineering report has been done.

Sincerely,

Marshall K. & Barbara Anne S. Rosa

*Marshall K. Rosa* *Barbara Anne S. Rosa*

- cc. Portlock community Association
- Paiko Community Association
- Councilman John Henry Felix
- Senator Sam Slom
- Representative David Stegmaier

Mary Ann Schmitt  
280 Paiko Drive  
Honolulu, Hawaii 96821  
396-0325

March 4, 1998

Mr. Hiram Young  
Department of Land & Natural Resources  
Post Office Box 621  
Honolulu, Hawaii 96809

Dear Mr. Young:

I am against the dredging of Maunaloa Bay by the state. I have lived on Paiko Drive as a child in the 1950's and remember when the water was full of silt and mud caused by Henry J. Kaiser's development of Hawaii Kai.

When I returned to Hawaii in the 1970's, the problem of ocean contamination was compounded by run-offs caused by development of our ridges. Where once the waters flourished with mullet, lobsters and turtles, we then faced a partially dying reef.

Once again, I have returned to Paiko Drive to live with my family. The waters are just now clearing up. We can ill afford to live through yet another well-intentioned project.

My husband is an internationally known expert in nematology working at the University of Hawaii. He is the first to recognize the delicate balance between nature and man. No matter how well we plan and try to anticipate, we can never fully control the consequences of our man-made projects.

The experts have told us not to worry. That's what they said in the 50's. They said it again in the 70's. Now we can no longer accept half proven environmental theories.

I have read in the March 3, 1998 Honolulu Advertiser where "Kaneohe Bay will serve...as the basis of research for a computer model designed to save our shorelines, bays, and lagoons." This ecosystem model is known as SPECIES. It is the first of its kind. If they are only now developing a study model, how can we feel confident in the proposed Maunaloa Bay dredging plan.

Mr Hiram Young  
March 4, 1998  
Page 2

For the benefit of my family and the citizens of the state, I strongly urge you not to proceed with this dredging project.

Sincerely,



Mary Ann Schmitt

cc: Senator Sam Slom  
Representative Gene Ward  
Representative David Stegmaier  
City Councilmember John Henry Felix  
Neighborhood Board No. 2  
Office of Environmental Quality Control



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF BOATING AND OCEAN RECREATION  
333 OLUEEN STREET, SUITE 300  
HONOLULU, HAWAII 96813

MICHAEL D. WILSON  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

SHIRLEY BERGSON  
GILBERT S. COLOMAGASBAN

Mr. & Mrs. Rosa  
Page 2

BOR 0403.99

November 2, 1998

Marshall K. & Barbara Anne S. Rosa  
6973 Kalaniana'ole Highway,  
Honolulu, Hawaii 96825

Dear Mr. & Mrs. Rosa:

**Draft Environmental Assessment for Maunalua Bay Dredging, Oahu**

Thank you for your comments on the subject Draft Environmental Assessment (DEA). We appreciate the history of the area that you provided and the results of past dredging projects.

Comments related to the EA and to project funding are restated below followed by our response.

Comment:

We are concerned about the plan by the State of Hawaii to request a permit to dredge the entrance channel to the Hawaii Kai Marina. We do not believe that there has been enough planning for a permanent solution to the erosion of Portlock Beach due to dredging of the entrance channel. Funds were allocated by the legislature for maintenance dredging and we do not feel they are adequate for a permanent solution. Oceanit has decided to pursue a course of action that is neither permanent nor proven to be effective. We also do not believe that the maintenance of the entrance channel to a private marina that is not open to all of the citizens of the State of Hawaii should be done using State funds.

Response:

The funding was appropriated by the legislature (Act 231, 1994) is for maintenance dredging and is not sufficient for designing a permanent solution to erosion of Portlock Beach. Oceanit, as our consultant, recommended the sandbag groin as a relatively inexpensive way to determine if a permanent groin could be a viable method of preventing sand eroded from Portlock beach from being transported into the entrance channel. Groins adjacent to navigation channels are commonly used to reduce siltation. We accepted their recommendation because it has proven effective elsewhere, and initial construction of the sandbag structure could be done with the available funds. Depending on the results of a five-

year study, a more permanent solution may be recommended. Additional funding for such a solution depends on the results of this initial effort.

Comment:

This is to show that we are very familiar with the history of dredging in the bay and the resulting erosion and feel that if it to be undertaken again it should be with adequate planning for a permanent solution. We feel that the sandbags are not feasible. They are easily damaged and are not long lasting. Who will move them if they are not found to be in the right configuration or they are shifted by the ocean? Are there funds available to monitor, repair and or move them? Since they are experimental, if they do not work are there funds to come up with another solution? Aesthetical they are also very ugly.

Response:

The sandbags have been used on several coastal projects in Hawaii. They are made of vinyl coated polyester, are very durable, and can last for years. However, they can be cut with a sharp knife. Cuts can be repaired by sewing. Sand-filled fabric tubes have been used as groins for projects in Florida, North Carolina, and several other places in the world. The Department of Land and Natural Resources (DLNR) is responsible for obtaining general fund appropriations for monitoring, maintenance, and possible replacement of the demonstration sandbag groin.

Comment:

We are also concerned with the quality of the Environmental Assessment. There is no investigation of a permanent solution. Alternatives were not adequately addressed - for example, the construction of a permanent revetments or series of groins constructed of basalt boulders, was not even mentioned. The only alternatives discussed were to do nothing, this sandbag experiment or dredge with no erosion controls!

Response:

A permanent solution for a groin to minimize sand transport into the marina channel is

beyond the scope and funding of the maintenance dredging project. However, one of the best ways to design coastal structures is to physically model the design. With the



sand bags, we are essentially building a full-scale model of a possible permanent solution. Observations of its performance will be highly valuable in future design.

**Comment:**

The examination of the material for beach replenishment seems to be minimal. Did they only examine the top layer of sand? How do they know it is mostly suitable? The New Year's flood of 1988 brought huge amounts of soil runoff into the bay and this may be a large part of the 8,000 cubic yards to be dredged. We don't see any mitigative measures discussed for siltation of the reefs in the Bay during dredging.

**Response:**

Sediment samples were taken at 11 locations shown in Figure III-2 of the EA. These were surface samples. Only those samples taken over 600 feet seaward of the bridge contained high silt content indicating that finer material was carried farther seaward by tidal currents. Those taken in the dredging area under the bridge were above water and were obviously clean white sand similar to the rest of Portlock Beach. Oceanit believes that the tidal currents running beneath the bridge are too fast to allow fine-grained mud, such as that eroded in the flood, to settle.

**Comment:**

Oceanit's biological study seems very cursory. It is stated that environmental monitoring "can" be conducted. Will it be? Are there funds for it? Will the water quality be monitored? Will there be restrictions to only dredge on the incoming tide?

**Response:**

The marine biological study is typical for a project of this type. Water quality monitoring, will be done according to the Best Management Practices Plan (BMP) submitted to the Department of Health (DOH) with the 401 Water Quality Certification Application. The BMP is under review by DOH. A draft copy of the BMP will be included in the final EA.

**Comment:**

What is the impact of the project on the erosion of the adjacent beach park and the Paiko area.

**Response:**

There are no impacts from the project on erosion of the adjacent beach park or the Paiko area.

**Comment:**

The report states that a "water velocity of 2 ft./sec is sufficient to keep the passage free from sand deposition". The velocities in the present channel exceed this. What will the velocity in the dredged channel be? If not 2 feet per second, how will this problem be solved? Will the newly dredged channel stay open? How soon will dredging be required again?

**Response:**

The velocity of 2 feet per second is an average velocity measured on one ebb tide, not the maximum velocity. The velocity in the dredged channel was not calculated because it depends on the tide and on the fact that the marina has two entrances and a complex shape. Two feet per second is sufficient to keep one passage open. Obviously, it is not sufficient to keep the second passage open or dredging would not be required. Without the use of a sand retention system on Portlock Beach, dredging will be required as has been the historical case of as little as every few, or long as every ten years, depending on how frequently the State decides to maintain it.

**Comment:**

There is no discussion of what kind of dredging will be done. What kind of equipment will be used? How will it be put in place at the site? What are the noise controls, hours of dredging? When would the bags be put in place?

**Response:**

The dredging methods will be proposed by the dredging contractor in his bid.

**Comment:**

Figure II-8 shows an "artists concept" of the sandbag system. This drawing and

the text does not provide enough information to evaluate the feasibility of this system. The EA should include an engineering drawing and an engineering evaluation addressing at least the following:

- the stability of the three layer sandbag system on a soft bottom. Many of the sand bags used for shore protection on Lanikai Beach have shifted. These may also shift. Has this been considered?
- the durability of the sandbag material. Where has it been used before?

What is the expected frequency of repair? Who will repair it? Are there funds set aside for this?

- an engineering evaluation for the selection of the optimum height and length of the system. It looks very short in the drawing, and may not retain very much of the sand being moved down the beach. How was the height and length selected. Please show these engineering calculations.
- After beach replenishment how much of the sand will stay on the beach?

How much sand is expected to move around the end of the sand bag system? Engineering calculations should be done to show this.

Response:

The document under review is an environmental assessment, not a design specification. Engineering calculations are proprietary. Our consultant would be at a competitive disadvantage if his design methods were provided to his competitors. Please realize that a demonstration sandbag groin does not require a lot of complex calculations and is not an optimized structure. Its performance will indicate the need for design modifications.

Comment:

Portlock beach should be monitored before dredging and at regular intervals after dredging. Any property erosion should be the responsibility of the State. If erosion occurs, how does the State propose to solve the problem?

Response:

Short-term monitoring requirements will be included in the construction contract. Long-term monitoring and maintenance of the channel and sand retention system will be the responsibility of DLNR.

Comment:

Long term beach impacts. The report states only that impacts will be beneficial, due to the sand replenishment. The report should address the impacts of the experiment fails, and the sand is transported back into the channel. What will the Portlock shoreline then look like?

Response:

If sand is transported back into the channel, the channel and the beach will return to a configuration similar to pre-dredging.

Comment:

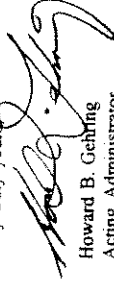
Page 17 states: "there are 3,000 feet of shoreline stabilized with revetment and seawalls." The report does not discuss the fragile condition of these walls, or the fact that some are being undercut due to past erosion. An experiment that fails will put these walls at risk of collapse.

Response:

The shoreline discussed is that to the southeast of the drainage canals that act as groins. This shoreline is approximately 1500 feet from the entrance channel. The seawalls along this shoreline are no longer fronted by beach and the sand retention system will have no effect on them.

We hope the above responses address your concerns. Should you have any questions, please contact Manuel Emiliano of our Boating Engineering Branch at 587-0122.

Very truly yours,



Howard B. Gehring  
Acting Administrator

c: Hiram Young, Land Division  
Oceanit  
BOR-E

BENJAMIN J. CAYETANO  
GOVERNOR



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF BOATING AND OCEAN RECREATION  
333 QUEEN STREET, SUITE 300  
HONOLULU, HAWAII 96813

MICHAEL O. WALSON  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

DEPUTY DIRECTOR  
GILBERT S. COLOMAGADAN

C: Hiram Young, Land Division  
Oceanit  
BOR-E

BOR 0402.99

November 7, 1998

Ms. Mary Ann Schmitt  
280 Paiko Drive  
Honolulu, Hawaii 96821

Dear Ms. Schmitt:

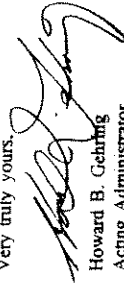
**Draft Environmental Assessment for Maunaloa Bay Dredging, Oahu**

Thank you for your comments on the subject project.

This is a small maintenance dredging project to remove approximately 8,000 cubic yards of sand from the entrance to the Hawaii Kai Marina. The entrance channel will not be enlarged over the original dimensions but will be cleaned up to remove sand from Portlock Beach that has settled in the channel. The project is not in any way comparable with the size and scope of Kaiser's development where hundreds of thousands of cubic yards of material were removed. Maintenance dredging is done frequently around the state to keep harbors and marinas functional. Maintenance dredging at the Hawaii Kai Marina entrance has environmental advantages over some other projects. It is very localized and the dredged material is primarily clean beach sand. Environmental impacts from maintenance dredging are normally low and short duration. Because Paiko Lagoon is over 4,000 feet away from the dredging site, we do not expect any turbid water to move that far. If for some reason turbid water did move to the Paiko area, corrective action would be taken at the dredging site. We have submitted a Best Management Practices Plan (BMP) to the Department of Health as required by our permits. The dredging contractor must follow the BMP guidelines to minimize environmental problems.

Should you have any questions, please contact Manuel Emiliano of our Boating Engineering Branch at 587-0122.

Very truly yours,

  
Howard B. Gehring  
Acting Administrator



Barbara J. Ward MS/CCC  
 Speech Pathologist  
 Hawaii State License #Sp-175  
 P. O. Box #26409  
 Honolulu, Hawaii 96825  
 (808) 396-0648

March 4, 1998

Mr. Hiram Young  
 DLNR  
 P. O. Box 621  
 Honolulu, HI 96809

RE: Maunaloa Bay Dredging Project

Dear Mr. Young:

Put a tiny sail on a match box and set it adrift upstream. If it floats out to the ocean, this is a navigable waterway. The Law of the Land gives jurisdiction of all navigable waterways in the country to the U.S. Army Corps of Engineers. No state, including Hawaii, has jurisdiction over navigable waterways.

The waters of the Hawaii Kai Marina pass the match box test and qualify as navigable waters. However, the Supreme Court, in an unusual case that applies uniquely to the Hawaii Kai Marina area, found that these waters are the exception to the rule because of private ownership.

Public funds cannot be used to improve the navigability of a private waterway. If anyone other than the private owner were to engage in the improvement of navigability of this private waterway, the Supreme Court decision making this area private would be null and void.

The ramifications of the Maunaloa Bay dredging project go far beyond environmental concerns and fiscal accountability. Once public funds are used to improve the navigability of this private waterway, the jurisdiction will go to the U.S. Army Corps of Engineers. Hawaii Kai Marina waters will no longer be private and the area will become a public responsibility. It is important for the agencies and individuals involved to carefully review the far-reaching implications and consequences of this project.

Sincerely,

*Barbara J. Ward*

Barbara J. Ward

cc: Oceanit Laboratories, Inc.  
 Attn: Warren E. Bucher  
 Office of Environmental  
 Quality Control  
 U.S. Army Engineer District

Senator Sam Slom  
 Representative Gene Ward  
 Representative D. Stegmaier  
 Councilmember John Felix

BENJAMIN J. LAVETTANO  
GOVERNOR



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF BOATING AND OCEAN RECREATION  
333 QUEEN STREET, SUITE 300  
HONOLULU, HAWAII 96813

MICHAEL D. WILSON  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

DEPUTY CHAIRPERSON  
GILBERT S. CELEMANAGADUAN

BOR 0401.99

November 2, 1998

Ms. Barbara J. Ward  
P.O. Box #26409  
Honolulu, Hawaii 96825

Dear Ms. Ward:

**Draft Environmental Assessment for Maunaloa Bay Dredging, Oahu**

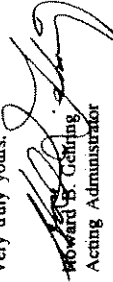
Thank you for your comments on the subject project

The Hawaii Kai Marina is a Navigable Waterway of the United States, and both dredging inside the marina (paid for by the Hawaii Kai Marina Community Association) as well as that in the entrance channel require a Corps of Engineers permit according to Section 10 of the Rivers and Harbors Act. The definition of Navigable Waters does not determine who will pay for a dredging project. The responsibility of the state for funding the entrance channel dredging is not based on Corps of Engineers regulations.

As you pointed out, the U.S. Supreme Court ruled that Kaiser Development could restrict access to Hawaii Kai Marina waters by the general boating public. In 1994, Act 231 was passed (copy attached), containing the following statement: "The legislature declares that keeping the entrance to the Hawaii Kai Marina in navigable condition serves a public purpose because important health, safety, and welfare considerations are involved." Act 231 appropriated the funds for dredging.

Should you have any questions, please contact Manuel Emiliano of our Boating Engineering Branch at 587-0122.

Very truly yours,

  
Howard B. Gehring  
Acting Administrator

Attachment: Act 231

cc: Hiram Young, Land Division  
Occant, BOR-E



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

REF:PB:SL

P.O. BOX 521  
HONOLULU, HAWAII 96809  
MAR - 6 1998

ADJACENT DEVELOPMENT PROGRAM  
MARINE RESOURCES PROTECTION  
CONSERVATION AND RESTORATION  
ENVIRONMENTAL AFFAIRS  
CONSERVATION AND RESTORATION  
CONSERVATION AND RESTORATION  
FORESTRY AND WILDLIFE  
LAND MANAGEMENT  
STATE PARKS  
WATER AND LAND DEVELOPMENT  
WATER RESOURCE MANAGEMENT

FILE NO.: OA-2887  
Acceptance Date: 02/27/98  
180-Day Exp. Date: 08/28/98

MEMORANDUM:

TO: Howard B. Gehring, Administrator  
Division of Boating and Ocean Recreation

FROM: Michael D. Wilson, Chairperson  
Department of Land and Natural Resources

NOTICE OF ACCEPTANCE AND PRELIMINARY ENVIRONMENTAL DETERMINATION  
Conservation District Use Application (OA-2887)  
BOARD PERMIT

This acknowledges the receipt and acceptance for processing your application to dredge the main entrance channel to the Hawaii Kai Marina and to place the dredged sand on a portion of Portlock Beach at East Honolulu, Hawaii.

According to the information in the EA, the project would consist of the dredging of approximately 8,000 cubic yards of material from the entrance channel to the Hawaii Kai Marina which has obstructed marine vehicular access through three of the four channel passages. The dredged material (clean sand) would be placed on Portlock Beach and would be contained with a demonstration detention device. The project is anticipated to take two months to complete.

After reviewing the application, we find that:

1. The proposed uses are identified within the General and Resource Subzones of the Conservation District, according to Administrative Rules, Title 13, Chapter 5;
2. A public hearing pursuant to Chapter 183C, will be required by the Chairperson pursuant to Section 13-5-40(a)(4); and

3. In conformance with Title 11, Chapter 200, of the Administrative Rules, a finding of no significant impact (FONSI) is anticipated for the proposed project. The Draft Environmental Assessment (DEA) for the project was published in the February edition of the Environmental Notice. The deadline for comments is March 10, 1998.

As the applicant, please be advised that it will be your responsibility to comply with the provisions of Section 205A-29(b), Hawaii Revised Statutes, relating to Interim Coastal Zone Management (Special Management Area) requirements.

Negative action as required by law, on your application by the Board of Land and Natural Resources can be expected should you fail to obtain from the County thirty (30) days prior to the 180-day expiration date, as noted on the first page of this notice, one of the following:

1. A determination that the proposed development is outside the Special Management Area (SMA);
2. A determination that the proposed development is exempt from the provisions of the county ordinance and/or regulation specific to Section 205A-29(b), HRS; OR
3. A Special Management Area (SMA) permit for the proposed development.

In addition, please address the following information in the draft environmental assessment:

1. Does the location and design of the demonstration groin provide for optimal sand retention? What is the purpose of placing all of the dredged sand on the south portion of Portlock beach rather than the north portion next to the groin? Why not spread the sand evenly along the beach between beach profiles 2 and 5?
2. A composite map should be included in the EA showing the beach fill area and the demonstration groin.
3. If this is a demonstration project, it may provide the Department with important information regarding design performance, potential impacts to benthic organisms and post project turbidity levels. Although funding is a constraint, we would like to see a monitoring program established with clear objectives, methods and time frames, to assess the project performance and impacts over time.
4. Who will be responsible for the demonstration groin if it is damaged or in need of repair or must be removed?

5. What kind of Best Management Practices will be employed during the dredging project and subsequent placement of sand on the public beach? How long must the beach be closed during and after the nourishment takes place?
6. Will the beach fill affect existing property boundary metes and bounds and will a control line be established at the existing certified shoreline (the shoreline must be certified prior to project construction) to discourage encroachment on or near the mauka boundary of the beach fill? Will the legal shoreline remain at the existing certified shoreline after the beach nourishment and has there been any consultation with Portlock shoreowners?

As this is a Departmental project, please do not hesitate to request our assistance regarding these or any other matters relating to the project.

Pending action on the application by the Land Board in the near future, your cooperation and early response to the matters presented herein will be appreciated. Should you have any questions, please contact Sam Lemmo of our Land Division's Planning Branch, at 587-0381.

cc: Oahu Board Member  
Oahu Land Agent  
City and County Departments  
    Planning  
    Public Works  
    Parks and Recreation  
    Land Utilization  
DOH/DBED&T(OP)/DOT/OHA/Civil Defense  
U.S. Fish and Wildlife Service  
U.S. Army Corps of Engineers  
National Marine Fisheries Services  
Warren E. Bucher



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF BOATING AND OCEAN RECREATION  
333 OAHUA STREET, SUITE 300  
HONOLULU, HAWAII 96813

MICHAEL O. NELSON  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

DEPUTY DIRECTOR  
GILBERT S. COLMAGARON

BOR 0399.99

November 2, 1998

TO: Mr. Sam Lemmo  
Planner, Land Division

THROUGH: Dean Uchida, Administrator

FROM: Howard B. Gehring, Acting Administrator  
Division of Boating and Ocean Recreation

SUBJECT: Notice of Acceptance and Preliminary Environmental Determination,  
Conservation District Use Application (OA-2887), Board Permit

Your letter of March 6, 1998 on the subject Conservation District Use Application contained several conditions and questions that are addressed in the following paragraphs and in the final environmental assessment (EA).

We received a letter (March 10, 1998) from the Department of Land Utilization, City and County of Honolulu, stating that "A portion of the project is within the Special Management Area but is exempt under Section 25-1.3(2)(C), Revised Ordinances of Honolulu." A copy of the letter is attached. This statement should meet the requirements for a determination on the need for a Special Management Area permit.

The following are the numbered requests for information from the March 6 letter and our response to each. This information will be included in the final environmental assessment where appropriate.

Comment:

1. Does the location and design of the demonstration groin provide for optimal sand retention? What is the purpose of placing all of the dredged sand on the south portion of Portlock Beach rather than the north portion next to the groin? Why not spread the sand evenly along the beach between beach profiles 2 and 5?

Response:

The location and design of the demonstration groin is expected to provide for maximum sand retention as it will anchor the existing beach at its present width, and the orientation is perpendicular to the dominant sand transport direction. The dredged sand will be placed on

DLNR  
Page 2

the portion of the beach that has suffered from erosion. The northern portion of the beach has benefited from the accretion of sand eroded from the southern portion.

Comment:

2. A composite map should be included in the EA showing the beach fill area and the demonstration groin.

Response:

The final EA will include a figure showing the beach fill area and the demonstration groin.

Comment:

3. If this is a demonstration project, it may provide the Department with important information regarding design performance, potential impacts to benthic organisms and post project turbidity levels. Although funding is a constraint, we would like to see a monitoring program established with clear objectives, methods and time frames, to assess the project performance and impacts over time.

Response:

A five-year monitoring program is proposed in the draft EA (page 3). We presume that specific monitoring requirements may be specified by DOJH in response to our Section 401 WQC application, and that other monitoring requirements may be established by the Land Board as a condition of the requested CDUA. Long-term monitoring efforts will be subject to future funding availability.

Comment:

4. Who will be responsible for the demonstration groin if it is damaged or in need of repair or must be removed?

Response:

This is a DOBOR project, and therefore, DOBOR will assume the responsibility to obtain necessary funding to address future maintenance or replacement requirements.



Comment:

5. What kind of Best Management Practices will be employed during the dredging project and subsequent placement of sand on the public beach? How long must the beach be closed during and after the nourishment takes place?

Response:

Dredging will be conducted in accordance with the "Best Management Practices and Water Quality Monitoring Plan for Maunaloa Bay Maintenance Dredging" appended to the request for the Section 401 WQC application submitted to DOH. We do not expect to require closure of the beach except during the actual construction activities of placing and grading the sand.

Comment:

6. Will the beach fill affect existing property boundary metes and bounds and will a control line be established at the existing certified shoreline (the shoreline must be certified prior to project construction) to discourage encroachment on or near the mauka boundary of the beach fill? Will the legal shoreline remain at the existing certified shoreline after the beach nourishment and has there been any consultation with Portlock shore owners?

Response:

The beach nourishment portion of this project should not affect the present metes and bounds of adjacent property owners, as there is no legal basis for those private property owners to annex adjacent beach property created by artificial means. We have requested the Land Division to ask DAGS/Survey to perform a shore line survey of the area fronting the Portlock Beach and the adjacent Maunaloa Park to establish a baseline for the sand replenishment. Although numerous consultations have been conducted with Portlock beach front property owners, the specific issue of fee simple acquisition of additional beach width was not addressed. We recommend this issue be addressed on a state-wide basis under the Department's shoreline management plan provisions.

We hope that the above responses have satisfactorily addressed your concerns. Should you have any questions, please contact Manuel Emiliano of our Boating Engineering Branch at 587-0122.

Attachment: DLU letter, March 10, 1998

bc: Hiram Young, Engineering Branch  
Occant  
BOR-E



# University of Hawai'i at Mānoa

Environmental Center  
A Unit of Water Resources Research Center  
Crawford 317 • 2550 Campus Road • Honolulu, Hawai'i 96822  
Telephone: (808) 956-7361 • Facsimile: (808) 956-3980

March 10, 1998

Mr. Hiram Young  
Department of Land and Natural Resources  
Division of Boating and Ocean Recreation  
P.O. Box 621  
Honolulu, Hawaii 96809

Dear Mr. Young:

Draft Environmental Assessment (EA)  
Maunaloa Bay Dredging  
Honolulu, Oahu

The Department of Land and Natural Resources (DLNR) Division of Boating and Ocean Recreation has proposed to undertake maintenance dredging of the entrance channel to the Hawaii Kai Marina. In addition to the dredging, the project would also involve beach restoration using the dredged materials, and construction of a groin perpendicular to the channel entrance to retard the east-west movement of sand.

This draft EA has been reviewed with the assistance of Paul Berkowitz of the Environmental Center.

### General Description of Proposed Action

The EA describes the general nature of the project but needs to elaborate on several potentially significant points. While the document mentions that the beach has eroded and accreted since 1950, no reference is cited. We urge that the source of this information be provided and that the final EA describe more fully the erosion and accretion problems along this coastline. There is no information provided as to the quantity of material that will be used for beach replenishment or the amount that will be disposed of inland or offshore. What permits and what additional tests of the sediments will be required for either inland or offshore disposal? We note that dredged material that is not suitable for beach replenishment, i.e. "too fine or contains too much terrigenous material," will be dewatered at the beach park west of the channel. This may pose a significant odor problem to the residences or commercial establishments downwind

Mr. Hiram Young  
March 10, 1998  
Page 2

of the material. The final EA should provide some estimates of the amount of material to be dewatered and the time required for this process. If ocean disposal is anticipated, then the need for an ocean disposal permit should be discussed. Will the dredged material be subject to chemical analysis to determine its suitability for open ocean disposal?

The most serious omission in the draft EA is the lack of detailed description of the proposed sand retention system. The document states that each bag holds approximately 2.3 cubic yards of sand and weighs 3 tons. While the draft EA notes that these bags can be lifted into place with a small excavator, our reviewers are not familiar with any "small excavators" that have a lifting capacity of 3 tons. Specifically what type of equipment is being considered for this task? The placement of these bags is of critical importance to the coastal processes, as their location may exacerbate erosion at the public beach park just west of the entrance channel. Eventually, as sand accumulates on the east side of the groin, it may round the groin to form a deposit in the middle of the channel. Monitoring of this groin and the long-shore coastal sand transport is of critical importance. What provisions have been established to ensure that the bags and bay will be monitored? The final EA should present a detailed plan for future monitoring.

The draft EA does not describe the type of dredging equipment that will be used. If a suction dredge is used, will the material be pumped ashore for beach replenishment? It would appear that this would be the most economical as well as environmentally benign method. However, provisions would need to be made to assure minimal run off to the coastal waters. If a back-hoe or clam shell dredge is used, how will the material be transported to the beach? If ocean disposal is required, where will the barge be anchored to receive the material for transport offshore? Costs of the project and environmental impacts will largely depend on the types of equipment used. In summary, the final EA should address these issues.

Figure II-5 shows the area to be dredged by the state and also that to be dredged by the Marina Association. This draft EA appears to address only the dredging to be performed by the state. Will the Marina Association be preparing a separate draft EA document? If so, this would appear to violate the EIS rules by "piccencaing" the project?

Figure II-8 illustrates the sand retention device. The draft EA fails to provide the rationale behind the engineering design of the groin structure. There appears to have been no studies of the magnitude and direction of littoral drift. How were the dimensions of this structure derived? What is the purpose of the round terminal point? How long will it take the sand to clog the channel with and without the structure?

### Marine Environment

We note the wave characteristics for this shoreline are given in Table III-1. However, this table is approximately 20 years old. We would question some of these figures. For example, the

Mr. Hiram Young  
March 10, 1998  
Page 3

100-yr south swell has a smaller height and shorter period than the south swell in 1995. Was 1995 an exceptionally severe wave height and period or is there an error in the 100-yr estimate? It would be helpful to provide more current wave data for the final EA.

Water quality measurements indicate some fluctuation between values taken in 1973, 1988, and 1996 (Table III-2, and Figure III-7). However, the document fails to mention if the samples were taken on the same tide cycle. Samples taken on an outgoing tide might be quite different than those taken on an incoming tide. The final EA should present water quality data taken on comparable tides.

#### Marine Biological Surveys

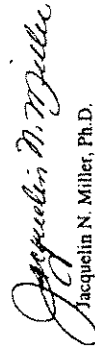
The marine biological survey references animals and algae seen at various points along a transect. The term *Touch point analysis* is used consistently but is not defined in the document. The final EA should include a brief description of this methodology. Many of the biological observations are referenced to various buoys which are ambiguous on the maps. The buoy locations should be included in the final EA. Figure III-8, which shows the biological survey paths, contains some unlabeled lines that should be defined in the final document.

#### Impacts, Alternatives and Mitigation

As mentioned in the General Description of this review, additional information is needed to assure that the proposed sand retention structure will not cause significant erosion impacts to the shoreline west of the channel entrance. The use of silt curtains to contain turbidity should be required if the plume appears to extend beyond the immediate dredging area. Ingress and egress to the marina will need to be maintained during the dredging operations to minimize economic impacts to the commercial fishermen and watercraft operators as well as ensure safe passage for recreational users of the bay.

We appreciate the opportunity to review this document and look forward to the revisions in the final EA.

Sincerely,



Jacquelin N. Miller, Ph.D.  
Associate Environmental Coordinator

cc: OEQC  
Warren Bucher  
Roger Fujioka  
Paul Berkowitz

BENJAMIN J. GARRETT AND  
SOCIETY



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF BOATING AND OCEAN RECREATION  
333 OLUEEN STREET, SUITE 300  
HONOLULU, HAWAII 96813

MICHAEL D. WILSON  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

DEPUTY DIRECTOR  
GILBERT S. COLOMA-ACARAN

BOR 0396.99

November 2, 1998

Jacquelin N. Miller, Ph.D.  
Associate Environmental Coordinator  
Environmental Center  
University of Hawaii at Manoa  
2550 Campus Road, Crawford 317  
Honolulu, Hawaii 96822

Dear Dr. Miller:

**Draft Environmental Assessment, Maunaha Bay Dredging, Oahu**

Thank you for your comments on the subject environmental assessment (EA). Each of your comments has been reviewed and a response provided in the paragraphs below.

**Comment:**

While the document mentions that the beach has eroded and accreted since 1950, no reference is cited. We urge that the source of this information be provided and that the final EA describe more fully the erosion and accretion problems along this coastline.

**Response:**

The reference for the statement is Oahu Intraisland Ferry System, Final Environmental Impact Statement, Appendix F, prepared by Wilson Okamoto & Associates, Inc. and Sea Engineering Inc. in 1989. This document also describes past erosion problems along the coastline.

**Comment:**

There is no information provided as to the quantity of material that will be used for beach replenishment or the amount that will be disposed of inland or offshore. What permits and what additional tests of the sediments will be required for either inland or offshore disposal? We note that dredged material that is not suitable for beach replenishment, i.e. "Too fine or contains too much terrigenous material," will be dewatered at the beach park west of the channel. This may pose a significant odor problem to the residences or commercial establishments downwind of the material. The final EA should provide some estimates of the amount of material to be

Environmental Center  
Page 2

dewatered and the time required for this process. If ocean disposal is anticipated, then the need for an ocean disposal permit should be discussed. Will the dredged material be subject to chemical analysis to determine its suitability for open ocean disposal?

**Response:**

Available information, including the sand source (Portlock Beach) and sand samples, indicates that all of the dredged material will be clean sand; therefore, all of it will be used for beach nourishment. If during dredging the contractor uncovers silt and clay sized material, a bermed retention pond will be planned and constructed by the contractor on state property located near the boat launching parking lot. The county beach park will not be used. Material will be dewatered by allowing water to filter through the underlying substrate. At this time, there are no plans to dispose of dredged material in the ocean.

**Comment:**

The most serious omission in the draft EA is the lack of detailed description of the proposed sand retention system. The document states that each bag holds approximately 2.3 cubic yards of sand and weighs 3 tons. While the draft EA notes that these bags can be lifted into place with a small excavator, our reviewers are not familiar with any "small excavators" that have a lifting capacity of 3 tons. Specifically what type of equipment is being considered for this task? The placement of these bags is of critical importance to the coastal processes, as their location may exacerbate erosion at the public beach park just west of the entrance channel. Eventually, as sand accumulates on the east side of the groin, it may round the groin to form a deposit in the middle of the channel. Monitoring of this groin and the long-shore coastal sand transport is of critical importance. What provisions have been established to ensure that the bags and bay will be monitored? The final EA should present a detailed plan for future monitoring.

**Response:**

Sand bags are typically filled in place by pumping sand into the bag. The bags can be moved, if necessary, by a backhoe. The equipment used will be selected by the dredging contractor. The sand retention device will have no effect on the beach park just west of the entrance channel. Sand from Portlock Beach moves east to west but is trapped by the

channel (the reason for dredging). Portlock Beach sand does not feed the beach on the westside. The reason for installing the sand retention device is to minimize the sand that is carried from Portlock Beach into the channel. Without this, nourished sand will move unhindered back into the channel. When sand builds behind the device far enough to move around the seaward end, the sand should be removed and transported back to the updrift end of the beach. A monitoring program is being planned by DLNR as a separate project that is not included in the EA. The plan will likely include surveyed beach profiles and photographs at several locations along Portlock Beach. In parallel, the sand bags will be periodically inspected for damage and repaired/replaced as necessary.

Comment:

The draft EA does not describe the type of dredging equipment that will be used.

Response:

The dredging contractor will select and propose the dredging equipment. The most likely equipment will be a crane on a barge. The contractor will be responsible for positioning and operating the dredging system and transporting sand to the beach. A Section 401 Water Quality Certification application was submitted to the Department of Health. A Best Management Practices (BMP) Plan is included with the permit application. The BMP states that silt curtains will be deployed around the dredging barge.

Comment:

Figure II-5 shows the area to be dredged by the state and also that to be dredged by the Marina Association. This draft EA appears to address only the dredging to be performed by the state. Will the Marina Association be preparing a separate draft EA document?

Response:

The Marina Association has dredging permits in place. Their dredging program is independent from that of the state.

Comment:

Figure II-8 illustrates the sand retention device. The draft EA fails to provide rationale behind the engineering design of the groin structure. There appear to be no studies of the magnitude and direction of littoral drift. How were the dimensions of this structure derived? What is the purpose of the round terminal point? How long will it take the sand to clog the channel with and without the structure?

Response:

The sand retention device is an experimental sandbag groin that will be evaluated over five years. Its purpose is to block sand transport into the marina channel. The structure will be redesigned for the Final EA. It will extend from the vegetation line to a point 40 feet offshore, which can contain a beach 20-30 feet wide on the updrift side. When the groin fills to this width, sand will be transported back to the east end of the beach. There are earlier studies (see References in the Draft EA) and aerial photographs that plainly show that sand transport is from east to west and that the sand has filled three of the four channels under the bridge. There is very little doubt about the sand transport process at Portlock Beach, and further studies do not appear to be justified.

Comment:

We note the wave characteristics for this shoreline are given in Table III-1. However, this table is approximately 20 years old. We would question some of these figures. For example, the 100-year south swell has a smaller height and shorter period than the south swell in 1995. Was 1995 an exceptionally severe wave height and period or is there an error in the 100-yr estimate? It would be helpful to provide more current wave data for the final EA.

Response:

There are no data from 1995 in Table III-1. There are data from 1996, but the wave height and period are less than the 100-yr values.

Comment:

Water quality measurements indicate some fluctuation between values taken in 1973, 1988, and 1996 (Table III-2; and Figure III-7). However, the document fails to

mention if the samples were taken on the same tide cycle. Samples taken on an outgoing tide might be quite different than those taken on an incoming tide. The final EA should present water quality data taken on comparable tides.

Response:

As stated on page 25 of the draft EA, 1996 samples were taken on an ebb tide. No tide data was given with the 1973 and 1988 historical data.

Comment:

The term *touch point analysis* is used consistently but is not defined in the document. The final EA should include a brief description of this methodology. Many of the biological observations are referenced to various buoys which are ambiguous on the maps. Figure III-8, which shows the biological survey paths, contains some unlabeled lines that should be defined in the final document.

Response:

Touch points are at specific intervals along the transect tape measure. At each point substrate and biota types are identified. Buoy locations are shown in Figure III-2. The unlabeled lines in Figure III-8 are either shorelines or reef edge lines visible in aerial photographs. These will be labeled in the final EA.

Comment:

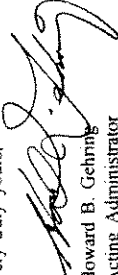
The use of silt curtains to contain turbidity should be required if the plume appears to extend beyond the immediate dredging area.

Response:

Although silt curtains do not work well on open coastlines, they are included in a Best Management Practices Plan submitted to the Department of Health.

We hope that the above responses have satisfactorily addressed your concerns. Should you have any questions, please contact Manuel Emiliano of our Boating Engineering Branch at 587-0122.

Very truly yours,

  
Howard B. Gehring  
Acting Administrator

bc: Hiram Young, Land Division  
Oceanit  
BOR-E

BENJAMIN LAVETANO  
GOVERNOR



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF BOATING AND OCEAN RECREATION  
331 QUEEN STREET, SUITE 300  
HONOLULU, HAWAII 96813

MICHAEL D. WILSON  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

DEPUTY DIRECTOR  
GILBERT S. COLOMA-AGUIRAN

BOR 0400.99

November 2, 1998

TO: Mr. Gary Gill, Director  
Office of Environmental Quality Control

FROM: Howard B. Gehring, Acting Administrator  
Division of Boating and Ocean Recreation

SUBJECT: Draft Environmental Assessment, Maunalua Bay Dredging, Oahu

Thank you for your comments on the subject environmental assessment (EA). Each of your comments has been reviewed and a response provided in the paragraphs below.

Comment:

1. The primary purpose of this project is to make navigation easier for private boats to enter an exit a private and exclusive marina. Please justify the use of public funds for such a project.

Response:

The U.S. Supreme Court ruled that Kaiser Development could restrict access to Hawaii Kai Marina waters by the general boating public. In 1994, Act 231 was passed (copy attached), containing the following statement: "The legislature declares that keeping the entrance to the Hawaii Kai Marina in navigable condition serves a public purpose because important health, safety, and welfare considerations are involved."

Comment:

2. Will the marina be open for public use in the future after public resources have been used to improve its navigation?

Response:

The entrance channel being kept in a navigable condition serves the public purpose outlined in Act 231. The marina will be open for all members of the Hawaii Kai community and to others for special events. It will be open to the public in times of heavy storm conditions, such as Kona storms and hurricanes, to provide a harbor of refuge.

OEOC  
Page 2

Comment:

3. Please describe the dredging method that will be employed and whether dredging will be conducted at night. Full describe the impacts of the preferred dredging method and any mitigation measures. Will silt curtains or other appropriate measures be used to limit turbidity?

Response:

The construction contractor will propose a dredging method. Dredging will not be done at night. The dredging will probably cause increased turbidity in the local area. Silt curtains are included in the Best Management Practices Plan submitted to the Department of Health as part of the 401 Water Quality Certification application. The dredged material is clean sand. Short-term impacts are expected to be low and no long-term impacts are anticipated.

Comment:

4. According to the environmental assessment, dredged sand that is not suitable for beach replenishment will be disposed of. Please describe the locations of the disposal sites and any impacts associated with the disposal.

Response:

Samples from the dredging area and the source of dredged material, Portlock Beach, indicate that all of the dredged material will be clean sand. However, if the dredger should uncover unsuitable material, a dewatering area will be constructed on state land located near the parking lot for the launching ramp. The material will be disposed of at an approved landfill or other upland disposal site approved by the Department of Health. The dredging contractor is responsible for identifying a disposal site in the bid proposal.

Comment:

5. According to the environmental assessment, the sand retention system is intended as a demonstration project and will be monitored over a five-year period. Please describe who will monitor the demonstration project and take necessary actions to maintain Portlock Beach. Describe any commitment or dedication of funds to repair or maintain the area beyond five years from completion of the project.

Response:

This is a Division of Boating and Ocean Recreation (DOBOR) project. Short-term

monitoring requirements will be included in the construction contract. After construction, DOBOR will assume the responsibility for maintenance of the channel and sand retention system. A long-term monitoring program will be developed by the Department based on field observations during the short term monitoring program and availability of funds. Since the primary purpose of this project is to improve navigability of the entrance channel, there are no plans to maintain Portlock Beach except through future dredging projects, which may produce additional sand for beach nourishment.

Comment:

6. A fringing reef and wide reef flat from the dredging area. Please describe impacts of the dredging on the water quality of the reef areas.

Response:

Page 25 of the EA describes turbidity measurements taken in 1996. Turbidity of water transported out of the marina by the tide exceeded water quality standards. Dredging is not expected to cause worse conditions except possibly on a short-term basis. Even with the turbidity measured at the channel entrance in 1996, the water at the outside reef was less turbid than the state standards.

Comment:

7. Please describe whether any monitoring activity will be carried out to ensure that the water quality of the Paiko Lagoon Wildlife Sanctuary is not adversely impacted by this project.

Response:

Paiko Lagoon is over 4,000 feet from the dredging area. No adverse impacts are anticipated at this distance, and no water quality monitoring is planned.

Comment:

8. There are several shoreline areas near the project site, including Paiko Peninsula, Maunaiua Bay Beach Park and Portlock Beach. Please describe whether the project will adversely affect the adjacent shoreline areas.

Response:

The effects on Portlock Beach have been discussed in the draft EA. The dredging and beach

nourishment of Portlock Beach will have no effect on adjacent shoreline areas. Sand from Portlock Beach is not transported to these areas. No beaches are threatened. Dredging is localized at the entrance channel to the marina.

Comment:

9. Please evaluate the impact of the beach nourishment project on any adjacent coral reefs, mud flats, or fish spawning grounds.

Response:

A marine biological survey of the area is discussed in Section III.D.7 of the draft EA. Beach nourishment generally has a positive impact on nearshore areas because the beach provides a buffer that reduces erosion of inland soil that may pollute the water.

Comment:

10. Please discuss the findings and reasons for supporting the FONSI determination based on the significant criteria listed in 11-2000-12 of the EIS rules. Please see the enclosed example.

Response:

A section covering the findings and reasons for the FONSI will be included in the final EA.

Comment:

11. Please list all federal state and county permits that would be required for this project.

Response:

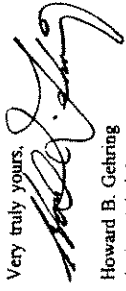
The following permits have been applied for:

Conservation District Use Application  
Department of the Army Permit  
401 Water Quality Certification  
CZM Federal Consistency Determination



We hope that the above responses have satisfactorily addressed your concerns. Should you have any questions, please contact Manuel Emiliano of our Boating Engineering Branch at 587-0122.

Very truly yours,



Howard B. Gehring  
Acting Administrator

Attachment: Act 231

bc: Hiram Young, Land Division  
Occamit  
BOR-E



STATE OF HAWAII  
OFFICE OF HAWAIIAN AFFAIRS  
711 KAPIOLANI BOULEVARD, SUITE 500  
HONOLULU, HAWAII 96813

March 17, 1998

Hiram Young  
Department of Land and Natural Resources  
Division of Boating and Ocean Recreation  
333 Queen Street, Suite 300  
Honolulu, Hawaii

Subject: Draft Environmental Assessment for the Maunaloa Bay Dredging Project.

Dear Mr. Young:

Thank you very much for the opportunity to review the above-referenced Draft Environmental Assessment (DEA). The Department of Land and Natural Resources proposes to widen and improve access through the main entrance channel to Hawaii Kai Marina. Approximately 8,000 cubic yards of material will be dredged from the channel, and the dredged material will be used to replenish Portlock Beach.

The DEA states that the purpose of the proposed dredging is to "widen and improve access through the main entrance channel to the Hawaii Kai Marina" (page 2). The Office of Hawaiian Affairs (OHA) recognizes the necessity of dredging the channel entrance in order to insure its safe recreational use. However, OHA has some concerns with the proposed project.

Firstly, the lands to be dredged by the state are submerged lands which are part of the ceded lands trust. The DEA should clearly state that i) submerged lands are ceded lands, and ii) that ceded lands are "held in trust" (not owned) by the State.

Secondly, The channel area to be dredged is divided into two sections, one section is the responsibility of the state and the other is the responsibility of the Hawaii Kai Marina Association (Figure 11-5, page 8). The larger of these sections (state's responsibility) is to be paid for with public funds. OHA questions the wisdom of using solely public funds for an action which will not benefit the general public.

Dredging of the marina entrance channel will not provide any public improvements or additional lands for public use. Instead, the project would only benefit the 650-700 registered users of the (private) Hawaii Kai Marina. It is difficult to argue any public benefit when there is a sign posted in the middle of the proposed project area which reads: "PRIVATE MARINA NO TRESPASSING". Therefore, it should be considered that dredging costs be shared between the state and the Hawaii Kai Marina Association for the entire project area.

Letter to Hiram Young  
March 17, 1998 - Page 2

Thirdly, the DEA does not address potential adverse impacts of the proposed dredging activities on the endangered green sea turtle (*Chelonia mydas*). The DEA acknowledges the fact that the green sea turtle is "known to inhabit the areas of Maunaloa Bay", yet it offers no information on impacts or mitigative measures (page 30). It appears that the preparers of the DEA did not address potential impacts to the green sea turtle based on the fact that no turtles were observed during a one-day marine biological survey conducted on December 4, 1997.

The problem such a one-day biological survey presents is that it does not take into account temporal variability, and thus renders a skewed assessment. It is unacceptable to dismiss the existence of, or the potential adverse impacts upon, specific fauna simply because the species was not observed during a one-day biological survey. A survey conducted over a period of time would provide more representative and complete data of green sea turtle populations in the area.

The fact that green sea turtles are regularly seen by divers, algae identified in project area are among those eaten by the turtles, and that previous biological surveys of the area (1989) have identified sea turtle populations warrants a more thorough investigation of potential adverse impacts on the green sea turtle.

OHA would appreciate the your cooperation by providing our office with a written response to the above concerns. If you have any questions or need additional information, please contact Colin Kippen, Land and Natural Resources Division Officer, or Richard Stook, EIS Planner at 594-1937, should you have any questions regarding this matter.

Sincerely yours,

Colin Kippen, Officer  
Land and Natural Resources

Randall Ogata  
Administrator

cc: Dr. Warren Bucher, Oceanic Laboratories  
Gary Gill, OEQC  
Board of Trustees



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF BOATING AND OCEAN RECREATION  
333 GREEN STREET, SUITE 300  
HONOLULU, HAWAII 96813

BOR 0395.99

November 2, 1998

Mr. Colin Kippen, Officer  
Office of Hawaiian Affairs  
711 Kapiolani Boulevard, Suite 500  
Honolulu, Hawaii 96813

Dear Mr. Kippen:

**Draft Environmental Assessment for Maunaloa Bay Dredging, Oahu**

Thank you for your comments on the subject Draft Environmental Assessment (DEA). We offer the following responses, in respective order, to your comments.

**Comment:**

Firstly, the lands to be dredged by the state are submerged lands which are part of the ceded lands trust. The DEA should clearly state that i) submerged lands are ceded lands, and ii) that ceded lands are "held in trust" (not owned) by the State.

**Response:**

Although the lands to be dredged by the State are part of the ceded lands trust, a discussion of ceded lands and land ownership is not within the scope of this DEA.

**Comment:**

Secondly, the channel area to be dredged is divided into two sections, one section is the responsibility of the state and the other is the responsibility of the Hawaii Kai Marina Association (Figure II-5, page 8). The larger of these sections (state's responsibility) is to be paid for with public funds. OHA questions the wisdom of using solely public funds for an action which will not benefit the general public.

**Response:**

The U.S. Supreme Court ruled that Kaiser Development could restrict access to Hawaii Kai Marina waters by the general boating public. In 1994, Act 231 was passed (copy attached), containing the following statement: "The legislature declares that keeping the entrance to the

Office of Hawaiian Affairs  
Page 2

Hawaii Kai Marina in navigable condition serves a public purpose because important health, safety, and welfare considerations are involved."

**Comment:**

Therefore, it should be considered that dredging costs be shared between the state and the Hawaii Kai Marina Association for the entire project.

**Response:**

The Hawaii Kai Marina Community Association was issued a permit to perform maintenance dredging of the marina by the U.S. Army Corps of Engineers in January 1994, and the Association will dredge the areas for which they have responsibility. The Special Conditions for this permit specifically prohibit dredging seaward of Kalamanaole Highway by the Association. The State responsibility includes dredging the full width of the highway right-of-way, which extends inland from the edge of the overpass for a distance varying from about fifty feet to about one hundred feet.

**Comment:**

Thirdly, the DEA does not address potential adverse impacts of the proposed dredging activities on the endangered green sea turtle (*Chelonia mydas*). The DEA acknowledges the fact that the green sea turtle is "known to inhabit the areas of Maunaloa Bay" yet offers no information on impacts or mitigative measures (page 30). It appears that the preparers of the DEA did not address potential impacts to the green sea turtle based on the fact that no turtles were observed during a one-day marine biological survey conducted on December 4, 1997.

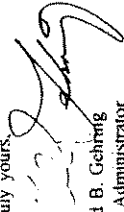
**Response:**

An extensive green sea turtle study is included as Appendix E of Oahu Intraisland Ferry System, Final Environmental Impact Statement issued January 19, 1989. This study concludes that the resident green turtle population was "apparently coexisting with man in an area that has received a considerable level of disturbance over the last thirty years. There is nothing to suggest that the population of green turtles at Hawaii Kai is declining albeit the lack of a historical database. Use of the Hawaii Kai marine facilities and resources has grown in recent years, yet the area harbors a substantial population of

green turtles.....It is expected that the construction of facilities and operation of a ferry at Hawaii Kai will contribute little further impact to either the resident green turtles or to their food resources." Based on these conclusions, we believe that the relatively small, short-term maintenance dredging project at the entrance channel should also contribute little impact to the turtles. The results of the Ferry System study will be referenced in the Final EA.

We hope that the above responses satisfactorily addressed your concerns. Should you have any questions, please contact Manuel Emiliano of our Boating Engineering Branch at 587-0122.

Very truly yours,



Howard B. Gehring  
Acting Administrator

Attachment: Act 231

bc: Hiram Young, Land Division  
Oceanit  
BOR-E



**DEPARTMENT OF BUSINESS,  
ECONOMIC DEVELOPMENT & TOURISM**

**OFFICE OF PLANNING**

235 South Beretania Street, 8th Flr, Honolulu, Hawaii 96813  
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

Ref. No. P-7471

BENJAMIN J. CAVETANO  
GOVERNOR  
SELUF NAYA  
BRADLEY J. MOSSMAN  
DEPUTY DIRECTOR  
RICK EGGED  
DIRECTOR, OFFICE OF PLANNING

Tel: (808) 587-2846  
Fax: (808) 587-2824

Michael D. Wilson  
Page 2  
June 2, 1998

cc: U.S. Army Corps of Engineers, Operations Branch  
U.S. National Marine Fisheries Service, Pacific Area Office  
U.S. Fish and Wildlife Service, Pacific Islands Ecoregion  
Department of Health, Clean Water Branch  
Department of Land & Natural Resources,  
Planning & Technical Services Branch  
Department of Land Utilization, City & County of Honolulu  
Oceanit Laboratories, Inc.

June 2, 1998

**MEMORANDUM**

**TO:** Michael D. Wilson, Chairperson  
Department of Land and Natural Resources

**ATTN:** Division of Boating and Ocean Recreation

**FROM:** Rick Egged *[Signature]*  
Director, Office of Planning

**SUBJECT:** Hawaii Coastal Zone Management (CZM) Program Consistency Review for  
Department of the Army Permit File No. 970000031

Your proposal to maintenance dredge the main entrance channel to Hawaii Kai Marina and nourish Portlock Beach with clean sand from the dredged material is being reviewed for consistency with Hawaii's CZM Program. We need additional information to adequately evaluate the project's consistency. Please submit the information outlined below within 30 days of this letter so that we can continue reviewing your proposal for CZM consistency.

1. The draft environmental assessment, dated January 1998, indicates that monitoring of the beach nourishment and sand retention device will occur over a five-year period following construction. However, the environmental assessment does not identify what the monitoring involves. Provide a monitoring plan which outlines what will be monitored and the frequency of monitoring. We suggest that monitoring include measuring the beach profile at least twice a year over the five-year monitoring period.
2. Explain what actions are planned if beach erosion continues. Will adjustments be made to the design?
3. It appears that the existing groins located at the east end of Portlock Beach may be contributing to the beach erosion. Will the sand retention device, which will be located at the channel/west end of the beach, prevent continued erosion of the nourished portion? Is there a need for a sand retaining feature closer to the east end of the beach to offset the effects of the groins?

Thank you for your cooperation in complying with Hawaii's CZM Program. If you have any questions, please call John Nakagawa of our CZM Program at 587-2878.

BENJAMIN J. CAVETANO  
GOVERNOR



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF BOATING AND OCEAN RECREATION  
333 QUEEN STREET, SUITE 300  
HONOLULU, HAWAII 96813  
November 2, 1998

MICHAEL D. WILSON  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

SENITY DIRECTOR  
GILBERT S. COLOMAGARAN

BOR 0397/99

Mr. Bradley J. Mossman, Director  
Office of Planning  
Department of Business, Economic Development & Tourism  
P.O. Box 2359  
Honolulu, Hawaii 96804

Dear Mr. Mossman:

Draft Environmental Assessment for Maunaloa Bay Dredging, Oahu and  
Hawaii Coastal Zone Management (CZM) Program Consistency Review for  
Department of the Army Permit File No. 970000031

Thank you for your comments on the subject Draft Environmental Assessment (EA).  
We offer the following responses to your numbered comments.

Comment:

1. The draft environmental assessment, dated January 1998, indicates that monitoring of the beach nourishment and sand retention device will occur over a five-year period following construction. However, the environmental assessment does not identify what the monitoring involves. Provide a monitoring plan which outlines what will be monitored and the frequency of monitoring. We suggest that monitoring include measuring the beach profile at least twice a year over the five-year monitoring period.

Response:

Short-term monitoring requirements will be included in the construction contract. The Department of Land and Natural Resources will develop an appropriate longer-term monitoring project. Our consultant recommends measurement of beach profiles quarterly during the first year after nourishment and semiannually in the following years. Beach photographs would be taken simultaneously.

Comment:

2. Explain what actions are planned if beach erosion continues. Will adjustments be made to the design?

DBEDT  
Page 2

Response:

The sand retention device is not designed to stop erosion. Its purpose is to trap sand that is being carried from east to west toward the marina channel. The accumulated sand can then be transported back to the updrift beach by pumping or earthmoving equipment. The groin length and orientation can be changed if necessary to make it more efficient. The only way to stop shoreline recession at Portlock is to ensure a continuing supply of sand.

Comment:

3. It appears that the existing groins located at the east end of Portlock Beach may be contributing to the beach erosion. Will the sand retention device, which will be located at the channel/west end of the beach, prevent continued erosion of the nourished portion? Is there a need for a sand retaining feature closer to the east end of the beach to offset the effects of the groins?

Response:

Please see the response to question number 2. Although additional sand retaining features, such as another groin, might slow sand transport and reconfigure the beach shape, the experiment with one sandbag groin will determine if one is sufficient. Funds for more detailed studies are dependent on field observations during the monitoring period.

We hope that the above responses satisfactorily addressed your concerns. Should you have any questions, please contact Manuel Emuliano of our Boating Engineering Branch at 587-0122.

Very truly yours,

Howard B. Gehring  
Acting Administrator

bc: Hiram Young, Land Division  
Oceanit  
BOR-E

C. Robert Griffith  
7449 Maka'a Street  
Honolulu, Hawaii 96825

February 24, 1998

Mr. Hiram Young  
Board of Land and Natural Resources  
Division of Boating and Ocean Recreation  
P.O. Box 621  
Honolulu, Hawaii 96809

Dear Mr. Young

I am writing to express my support for the Environmental Assessment for the Maunaloa Bay Dredging Project for the entrance channel at the Hawaii Kai Marina under the Kalaniana'ole Highway Bridge. Currently, three of the four passages from the Hawaii Kai Marina through the State Right-of-Way are closed due to sedimentation.

The Proposed Project will allow for better and safe access for residents and commercial boaters to and from the Hawaii Kai Marina to Maunaloa Bay. Additionally, the increase in channel width will allow for better water circulation within the Hawaii Kai Marina and will assist in maintaining water quality of the marina. The Project will also benefit the Portlock Community by nourishing their beach.

Thank you for your consideration.

Sincerely,



C. Robert Griffith

cc: Oceanit Laboratories  
OEQC

BENJAMIN J. CAYENANO  
GOVERNOR



MICHAEL D. WILSON  
Chairperson  
BOARD OF LAND AND NATURAL RESOURCES

DEPUTY DIRECTOR  
OSBERT S. COLOMA-AGUIRAN

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF BOATING AND OCEAN RECREATION  
333 QUEEN STREET, SUITE 300  
HONOLULU, HAWAII 96813

BOR 0394.99

November 2, 1998

Mr. C. Robert Griffith  
7449 Maka'a Street  
Honolulu, Hawaii 96825

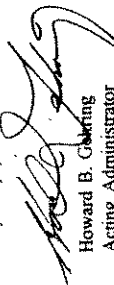
Dear Mr. Griffith:

**Draft Environmental Assessment for Maunaloa Bay Dredging, Oahu**

Thank you for your comments on the subject Draft Environmental Assessment (DEA). We agree that the project will allow for better and safe access for residents and commercial boaters, and will improve circulation and water quality. The Portlock Community will also benefit from a nourished beach. In 1994, Act 231 was passed (copy attached), containing the following statement: "The legislature declares that keeping the entrance to the Hawaii Kai Marina in navigable condition serves a public purpose because important health, safety, and welfare considerations are involved."

Should you have any questions, please contact Manuel Emiliano of our Boating Engineering Branch at 587-0122.

Very truly yours,

  
Howard B. Gearing  
Acting Administrator

Attachment: Act 231

cc: Hiram Young, Land Division  
Oceanit  
BOR-E



March 5, 1998

DLNR  
P.O. Box 621  
Honolulu, Hawaii 96809  
Attn: Mr. Hiram Young

Dear Mr. Young:

Why would the state government even consider funding the Maunaloa Bay dredging project? Only a few wealthy individuals can afford a boat let alone a home on the water in the Hawaii Kai Marina. But it's okay to raise our excise tax rate? It's okay to impose a payroll lag on state government workers? It's okay to cut back government services and increase the number of students in public school classrooms? Not only is this NOT okay, it is immoral!

The burden of the expense of this elitist project will be on the backs of the already overtaxed working citizens. In these difficult economic times when we're already operating in the red, indulging a few, select boat owners who want room for even bigger boats, can hardly be a priority! This project is yet another case of taking care of the rich while penalizing workers! We need this project like we need more koa benches at the capitol!

Yours truly,

*Josephine McCarthy*  
Josephine McCarthy  
2314 Piikoi Drive  
Honolulu, Hawaii 96821

cc: Oceanit Laboratories, Inc.  
OEOC  
Senator Sam Slom  
Rep. Gene Ward  
Rep. David Stegmaler  
Councilmember J. Felix

BENJAMIN J. CAYREANO  
GOVERNOR



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF BOATING AND OCEAN RECREATION  
333 QUEEN STREET, SUITE 300  
HONOLULU, HAWAII 96813

MICHAEL D. NELSON  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

SENIOR DIRECTOR  
GILBERT S. COLOMBO-CARLSON

BOR 03193.99

November 2, 1998

Ms. Josephine McCarthy  
234A Paiko Drive  
Honolulu, Hawaii 96821

Dear Ms. McCarthy:

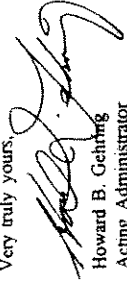
**Draft Environmental Assessment for Maunalua Bay Dredging, Oahu**

Thank you for your comments on the subject project.

Projects such as maintenance dredging of the marina entrance channel may be funded through appropriations from the Legislature of the State of Hawaii. The U.S. Supreme Court ruled that Kaiser Development could restrict access to Hawaii Kai Marina waters by the general boating public. In 1994, Act 231 was passed (copy attached), containing the following statement: "The legislature declares that keeping the entrance to the Hawaii Kai Marina in navigable condition serves a public purpose because important health, safety, and welfare considerations are involved." Act 231 also appropriated the funds for the project.

Should you have any questions, please contact Manuel Emilianio of our Boating Engineering Branch at 587-0122.

Very truly yours,

  
Howard B. Geithing  
Acting Administrator

Attachment: Act 231

cc: Hiram Young, Land Division  
Oceanit  
BOR-E

Paiko Drive Residents' Association  
284 Paiko Drive  
Honolulu, Hawaii 96821  
(808) 395-2219

March 4, 1998

Mr. Hiram Young  
Civil Engineer  
Department of Land & Natural Resources  
Post Office Box 621  
Honolulu, Hawaii 96809

Dear Mr. Young:

The Paiko Drive Residents' Association opposes the release of public funds for the dredging of the Maunaloa Bay channel and construction of a retention system.

Our notebook is now two inches thick and contains letters, reports and minutes from meetings spanning over a five-year period. The issues regarding Maunaloa Bay dredging have not changed during this time. Attached is our letter from 1993 which highlights our environmental and financial concerns regarding this project.

It is clear that a selected few Hawaii Kai marina owners are tenacious in their efforts to have the channel dredged at public expense. Using taxpayers money, this project would be beneficial to a small private group and detrimental to surrounding area residents who are denied access to the Hawaii Kai marina.

The Supreme Court, in a rare decision, has ruled that the Hawaii Kai marina is to be considered as a "private" navigable waterway. This is the only navigable waterway in the entire United States that is considered private. How can you use public money to enhance a private waterway which restricts public passage?

In 1986, Kaiser Development Company requested and was granted a permit to dredge the entrance to the Hawaii Kai Marina. They removed a sandbar which had become a hazard to marina navigation. This was a private venture, funded by Kaiser Development. This set a legal precedent for the marina. It is now Hawaii Kai marina's responsibility to fund their waterway projects.

The Hawaii Kai marina was never intended to be used for commercial ventures. Why should Oahu residents be forced to kowtow to these special interests who pollute our fragile reefs, disturb our tranquility, and monopolize the bay?

1. This is an experimental project with no guarantee of success or environmental protection.

Mr. Hiram Young  
March 4, 1998  
Page 2

2. The economic status of our state is desperate. Is this really where our limited resources should be spent?
3. The experts have admitted that the \$200,000 allocation may be insufficient to complete the task. Can we afford to get involved with this project and not have enough funds to do an exemplary job?
4. What recourse will residents and community members have should our reefs and shorelines be damaged?
5. The environmental impact study must be completed and reviewed by all concerned.

We firmly oppose this dredging.

Sincerely,

*Boisse P. Correa*

Boisse P. Correa  
Spokesperson

Attachment

cc: Senator Sam Slom  
Representative Gene Ward  
Representative David Stegmaier  
Councilmember John Henry Felix  
Office of Environmental Quality Control  
Kulionou/Kalani Iki No. 2  
Oceanit Laboratories Inc.



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
DIVISION OF BOATING AND OCEAN RECREATION  
333 QUEEN STREET, SUITE 300  
HONOLULU, HAWAII 96813

MICHAEL WILSON  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

DEPUTY DIRECTOR  
GILBERT S. COLONIA-MAGARAN

BOR 0392.99

November 2, 1998

Mr. Boisse P. Correa, Spokesperson  
Paiko Drive Residents' Association  
284 Paiko Drive  
Honolulu, Hawaii 96821

Dear Mr. Correa:

**Draft Environmental Assessment for Maunaloa Bay Dredging, Oahu**

Thank you for your comments on the subject Draft Environmental Assessment (DEA). Comments related to the EA and to project funding are restated below followed by our response.

**Comment:**

The Supreme Court, in a rare decision, has ruled that the Hawaii Kai marina is to be considered as a "private" navigable waterway. This is the only navigable waterway in the entire United States that is considered private. How can you use public money to enhance a private waterway which restricts public passage?

**Response:**

The U.S. Supreme Court ruled that Kaiser Development could restrict access to Hawaii Kai Marina waters by the general boating public. In 1994, Act 231 was passed (copy attached), containing the following statement: "The legislature declares that keeping the entrance to the Hawaii Kai Marina in navigable condition serves a public purpose because important health, safety, and welfare considerations are involved."

**Comment:**

In 1986, Kaiser Development Company requested and was granted a permit to dredge the entrance to the Hawaii Kai Marina. They removed a sandbar which had become a hazard to marina navigation. This was a private venture, funded by Kaiser Development. This set a legal precedent for the marina. It is now Hawaii Kai marina's responsibility to fund their waterway projects.

Paiko Drive Residents' Association  
Page 2

**Response:**

The proposed project includes removal of a sandbar mauka of the Kalamanaole Highway overpass which has once again become a hazard to navigation. The Hawaii Kai Marina Community Association was issued a permit to perform maintenance dredging of the marina by the U.S. Army Corps of Engineers in January 1994, and the Association will dredge the areas for which they have responsibility. The Special Conditions for this permit specifically prohibit dredging seaward of Kalamanaole Highway by the Association. The State responsibility includes dredging the full width of the highway right-of-way, which extends inland from the edge of the overpass for a distance varying from about fifty feet to about one hundred feet.

**Comment:**

This is an experimental project with no guarantee of success or environmental protection.

**Response:**

This is not an experimental project; it is a maintenance dredging project with no reason whatever to be unsuccessful. The only experimental part is the sandbag groin, which is meant to trap sand from moving back into the entrance channel and thereby reduce the need for future maintenance dredging. This is a relatively small maintenance dredging project of only 8,000 cubic yards of sand. Kaiser's earlier projects, which appear to be of great concern to the Paiko Community, included many hundreds of thousands of yards of material, much of which was not sand.

**Comment:**

The experts have admitted that the \$200,000 allocation may be insufficient to complete the task. Can we afford to get involved with this project and not have enough funds to do an exemplary job?

**Response:**

Updated calculations of the quantity of dredged material and contractor bids have shown that the dredging budget is sufficient.

**Comment:**

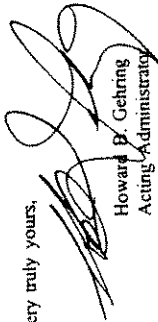
The environmental impact study must be completed and reviewed by all concerned.

**Response:**

The Draft Environmental Assessment was released for public review and comment with a deadline of March 10, 1998. Response to public comment will be included in the Final Environmental Assessment

Should you have any questions, please contact Manuel Emiliano of our Boating Engineering Branch at 587-0122.

Very truly yours,



Howard P. Gehring  
Acting Administrator