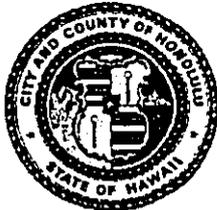


DEPARTMENT OF LAND UTILIZATION  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET  
HONOLULU, HAWAII 96813 • (808) 523-4432



FRANK F. FASI  
MAYOR

DONALD A. CLEGG  
DIRECTOR

LORETTA K.C. CHEE  
DEPUTY DIRECTOR

RECEIVED

92/SV-010(ASK)

November 6, 1992

'92 NOV -9 A10:30

OFFICE OF ENVIRONMENTAL  
QUALITY CONTROL

Mr. Brian J.J. Choy, Director  
Office of Environmental Quality Control  
220 S. King Street, 4th Floor  
Honolulu, Hawaii 96813

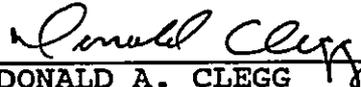
Dear Mr. Choy:

SPECIAL MANAGEMENT AREA ORDINANCE  
CHAPTER 343, HRS  
Final Environmental Assessment/Determination  
Negative Declaration

RECORDED OWNER : State of Hawaii (Waikiki Aquarium)  
APPLICANT : Dr. Bruce Carlson, Director  
AGENT : Aecos, Inc./Rick Guinther  
LOCATION : 2777 Kalakaua Avenue, Honolulu  
TAX MAP KEY : 3-1-3: 06  
REQUEST : Modifications to existing seawater intake  
system within the Shoreline Setback Area  
DETERMINATION : Negative Declaration

Attached and incorporated by reference is the environmental  
assessment prepared by the applicant for the project.

Approved

  
DONALD A. CLEGG  
Director of Land Utilization

DAC:ct

Staff

NOV 23 1992

**FINAL  
ENVIRONMENTAL ASSESSMENT FOR  
THE MODIFICATION OF THE WAIKIKI  
AQUARIUM SEA WATER SYSTEM**

(T.M.K.: 3-1-31: 6)



1992-11-23-0A-PEA-Waikiki Aquarium Seawater  
System

AECOS No. 626C

**FINAL  
ENVIRONMENTAL ASSESSMENT FOR  
THE MODIFICATION OF THE WAIKIKI  
AQUARIUM SEA WATER SYSTEM**

(T.M.K.: 3-1-31: 6)

**Prepared By:**

**AECOS Inc.  
970 Kalaheo Ave. Suite C-311  
Kailua, Hawaii 96734**

**October 1992**

**I. GENERAL INFORMATION**

**A. APPLICANT:**

Dr. Bruce Carlson, Director  
Waikiki Aquarium  
2777 Kalakaua Av.  
Honolulu, HI

**B. RECORDED FEE OWNER:**

State of Hawaii  
University of Hawaii  
2530 Dole St.  
Honolulu, HI

**C. AGENT:**

AECOS Inc.  
970 N. Kalaheo Ave, Suite C311.  
Kailua, HI, 96734

**D. TAX MAP KEY:**

3-1-31-:3

**E. LOT AREA:**

102,210 sq. ft.

**F. AGENCIES CONSULTED IN MAKING ASSESSMENTS:**

City and County of Honolulu,  
Department of Land Utilization  
Department of Parks and Recreation  
Department of Public Works  
Board of Water Supply

State of Hawaii  
Department of Land and Natural Resources  
Department of Health  
Department of Transportation  
Office of State Planning (CZM)

U. S. Federal Government  
U. S. Army Corps of Engineers

## II. DESCRIPTION OF THE PROPOSED ACTION

### A. GENERAL DESCRIPTION:

#### 1. Proposal

The Waikiki Aquarium proposes to modify its sea water intake system which presently uses only well water (Figure 1). In addition to the present system two existing offshore sea water intakes approximately 150 feet from the shoreline will be re-opened to supply the Aquarium with ocean water. This modification will reconnect two existing offshore intake pipelines which were used for about six months in 1955.

This change in the sea water intake system is being undertaken to reduce concentrations of dissolved inorganic nutrients which are presently in high concentrations in the well water from reaching the aquarium's display organisms and being released from the offshore outfall. Approximately 40% of the total water flowing through the aquarium will continue to be from the well and will be utilized in the mahi-mahi research and exhibit aquarium. Concentrations of dissolved nitrogen and phosphorus will be substantially reduced by utilization of ocean water for the remaining 60% of the total flow. The modification will therefore result in reduction of pollutants discharged to the waters of Waikiki to well within the levels specified by the existing NPDES permit and to background levels within the boundaries of the present Zone of Mixing (Figure 2). Backwash from the filters will be held in storage tanks and blended with normal Aquarium effluent at a rate as to not substantially elevate particulate levels at the outfall.

#### 2. Relation to Shoreline Setback, Special Management Area, and Design District

The Waikiki Aquarium lies entirely within the Special Management Area boundary and the Diamond Head District. Most of the proposed modifications will be done within the 40 foot shoreline setback zone. (See Figure 3).

### B. TECHNICAL CHARACTERISTICS

#### 1. Use Characteristics

The Waikiki Aquarium has operated since 1955 in its present location as Hawaii's only publicly owned facility providing display of live marine organisms and education for the general public in marine biology. It presently receives about 300,000 visitors annually. The Waikiki Aquarium also functions as a marine research laboratory for the University of

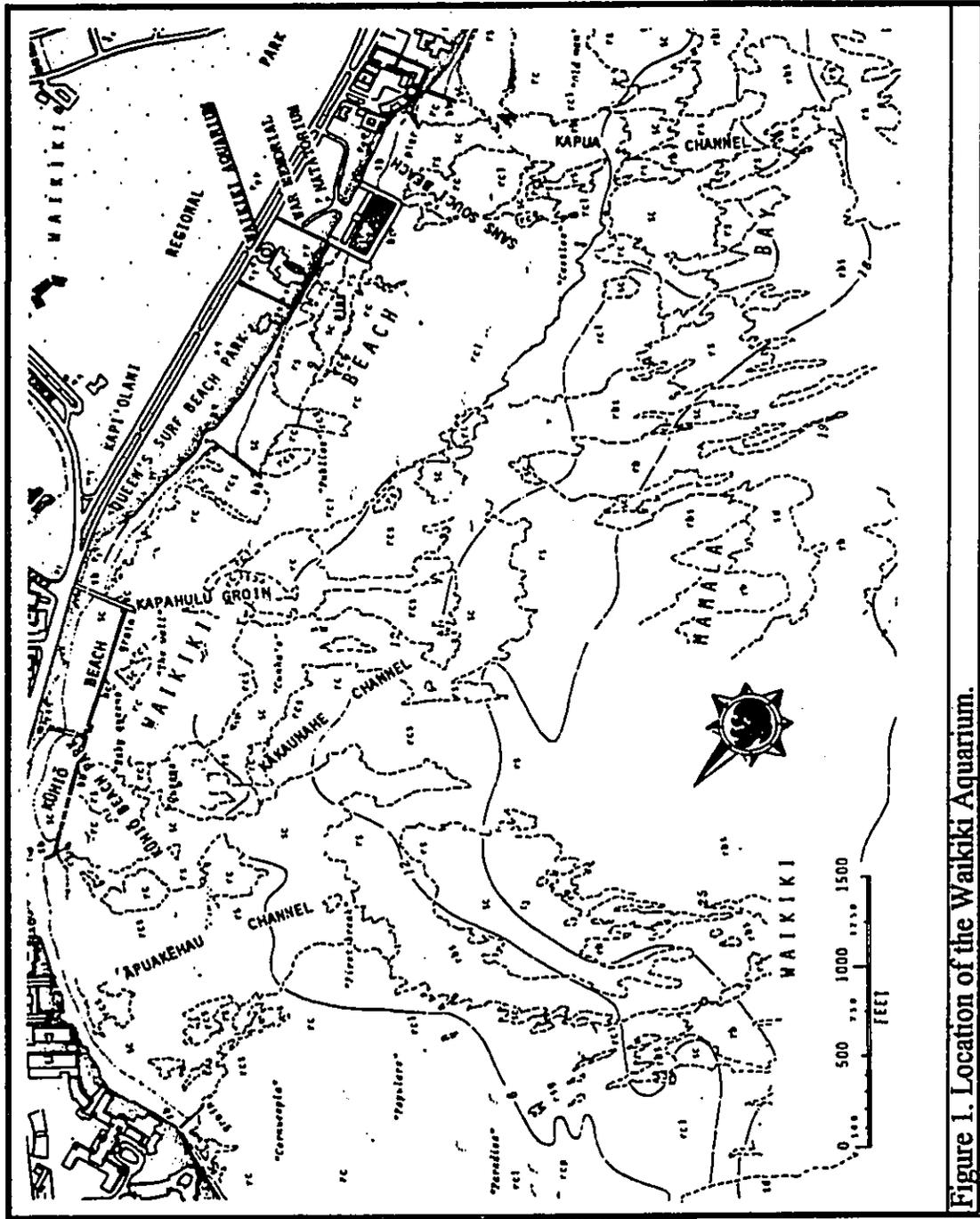


Figure 1. Location of the Waikiki Aquarium.

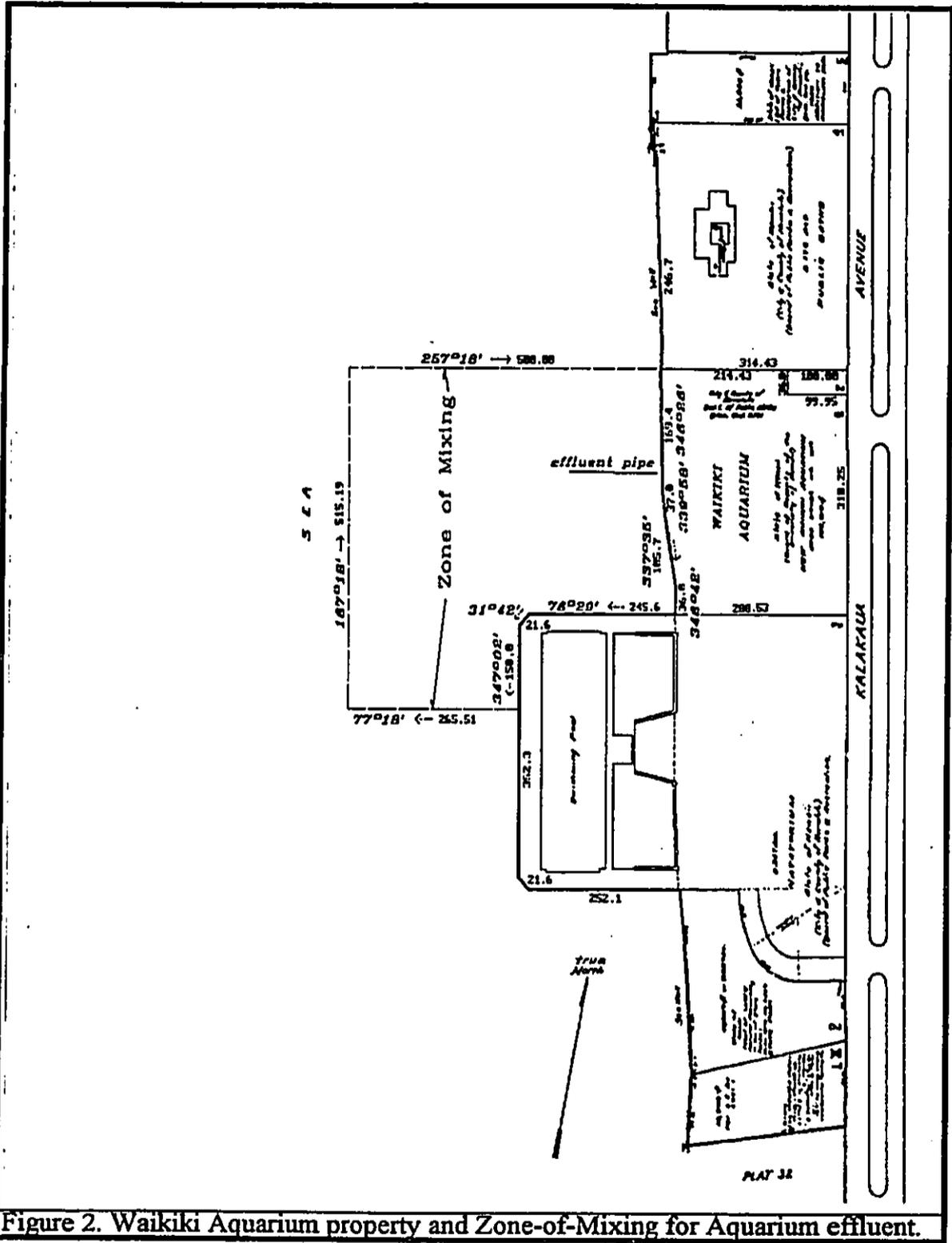


Figure 2. Waikiki Aquarium property and Zone-of-Mixing for Aquarium effluent.

Hawaii and employs 10 research staff as well as 28 support personnel involved in general aquarium operations.

## 2. Physical Characteristics

The layout of the property including reference datum, ground elevations and existing structures is shown in Figure 4. The shoreline surveyed for certification on January 14, 1992 is shown in Appendix A along with copies of photographs of vistas at the shoreline.

## 3. Construction Characteristics

### a. Offshore Construction

Because the offshore intake pipelines are already in place, offshore construction will be minimal and limited to the replacement of two new intake strainers at the end of the existing 8 inch diameter transite pipelines. The openings to the sea water intakes will be redesigned to minimize entrainment of particulate material such as macroalgae and small fish. Offshore work required to install the new intake strainers will be done within one day by two divers working from the shore.

### b. Land Based Construction

The modifications of the Aquarium's sea water system are summarized in the General Plan diagrams in Figure 3. New sea water pumps, sea water filters, filter backflush drain tanks and associated plumbing will be added to the system. The shore end of the existing sea water pipelines will be connected to the two new pumps, which will be installed below ground level a new pump pit. The sand filters will be housed in the existing pump house, and the filter backflush tanks will stand against the wall of the main building. Pipes connecting the system will be below grade.

Most of the construction will occur at two locations: the "Existing Well Sump" and the "Existing Pump House" (Figure 3). Also, minor trenching for laying pipe lines will be required.

#### 1). Well Sump Area

The concrete structure of the existing well sump will remain intact except for the penetration of pipes leading into and out of the sump. Adjacent to the well sump and within the Aquarium property boundaries will be installed a new pump pit below the existing grade and visible only as a concrete curb about 1 foot high. The dimensions of the

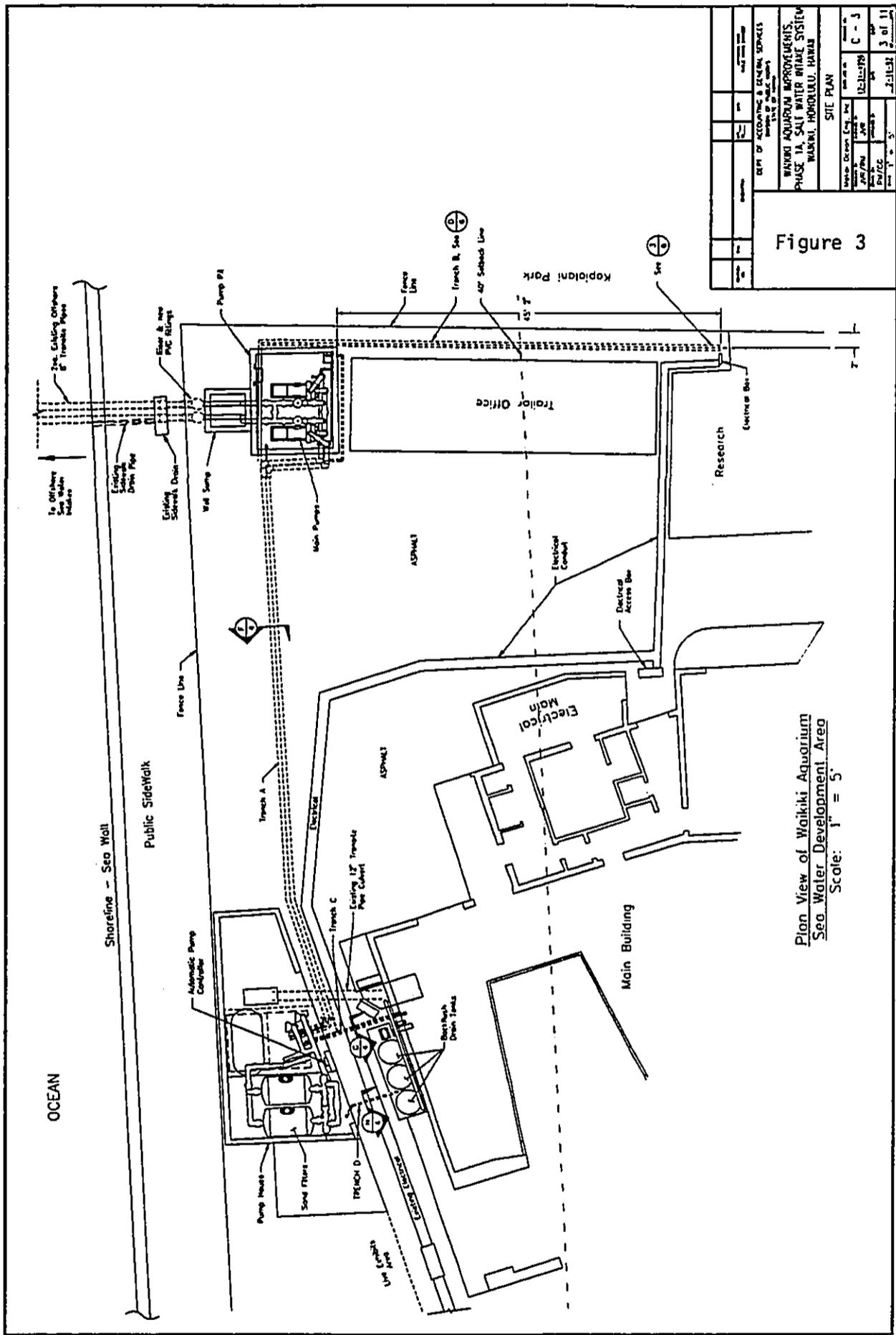


Figure 3

Plan View of Waikiki Aquarium Sea Water Development Area  
Scale: 1" = 5'

DEPT. OF ACCOUNTING & GENERAL SERVICES		DATE: 12/11/79	
WAHAIKI AQUARIUM IMPROVEMENTS		SCALE: 1" = 5'	
PHASE 1A, SEA WATER INTAKE SYSTEM		SHEET: 3 of 11	
HONOLULU, HAWAII		PROJECT NO. 231131	
SITE PLAN			
DESIGNED BY	DATE	SCALE	SHEET NO.
DRAWN BY	DATE	SCALE	SHEET NO.
CHECKED BY	DATE	SCALE	SHEET NO.
APPROVED BY	DATE	SCALE	SHEET NO.

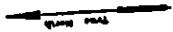


Figure 4

NOTES:  
Locations of all underground utility lines and appurtenances from record information available and are approximate only.  
Boundaries shown graphically in relation to 3/4" pipe, 4" pipe.

Topographic Survey Worksheet  
of Waikiki Aqueduct  
For Reservation and Encroachment Barrier  
TABLE: Schedule, Honolulu, Hawaii  
at Waikiki, Honolulu, Honolulu, Hawaii  
Sheet: 1000 (Sheet Paper) Plot Book: 1000  
August 1964

Graphic Scale in feet  
0 10 20 30 40  
Engineers Surveyors Hawaii, Inc.  
Civil Engineers - Land Surveyors - Planners



Sheet No. 1000  
Plot Book No. 1000  
Date: 08 28 1964

pump pit will be 13.5 by 10.5 feet and 7 feet deep. The pit will house two sea water pumps and their associated plumbing (i.e. strainers, valves, and electrical components.)

## 2). Pump House Area

The existing structure of the pump house will be unchanged except for pipes entering the sump area below grade. Within the pump house some of the existing concrete will be removed for additional space and to expose an access for the new pipes entering the sump. The existing structure will also house the new sand filters for the sea water filtration system.

Three cylindrical filter backflush drain tanks will be installed between the pump house and the main building and aligned against the wall of the main building. Each tank will be 3 feet in diameter and about 10 feet high.

## 3). Pipe Trenches and Electrical Conduits

Trenches A, B, C and D (Figure 3) will be dug to a minimal depth as allowed and specified by the standard code. Trench A will extend from the well sump to the pump house, Trench B from the well sump to the research area, Trench C from the pump house to the main building and Trench D from the pump house to the filter backflush drain tanks. Power for the new sea water pumps will be delivered to the pump pit through an electrical conduit to be buried in the trench with the sea water pipe.

## 4. Other Considerations

The modifications will involve no substantial increases in utility requirements, and no changes in disposal of liquid or solid wastes will occur. Access to areas surrounding the site by the public will be unchanged. Pumps will be moved to a new bunker, changing the sound characteristics emanating from the property. The new bunker will be engineered to ensure that pump noise complies with City and County noise codes at the property boundary.

## C. ECONOMIC AND SOCIAL CHARACTERISTICS

The construction and modifications will require approximately less than one month for completion at a total estimated cost of under \$200,000.

#### D. ENVIRONMENTAL CHARACTERISTICS

The Waikiki Aquarium property lies at the shoreline between the Waikiki Natatorium on the south and the Queens Beach Park on the north. It is bordered by Kalakaua Avenue on its mauka side and by a permanent seawall on its makai side. A public walkway extends along the top of the seawall.

The topography of the property is flat with no distinct features. The soil is classified as Jaucas Sand with 0-15% slope (Foote et al., 1972) although may be partly or mostly fill. Except for building areas and a small parking lot on its mauka and north sides, the property is covered with grass and numerous coconut palm trees (Figure 4). No streams or water channels lie on or near the property, and it is not subject to erosion from land runoff. However, with the exception of the portion right next to Kalakaua Avenue, the property is in the General Flood Zone (A) and most of the existing buildings and structures are in the Flood Fringe Zone (AE) subject to tsunami (seismic wave) inundation.

#### III. AFFECTED ENVIRONMENT

The area surrounding the Waikiki Aquarium is all publicly owned park areas which are used in a variety of recreational activities. The location at the base of Diamond Head is unique and highly aesthetic and includes one of the largest public park complexes in Hawaii. Located nearby are Kapiolani Park and its bandstand, the Waikiki Shell, the Honolulu Zoo, the Natatorium, Sans Souci Beach, and Queens Surf Beach Park. The area attracts visitors from all over the world as well as local residents who utilize the facilities and the shaded grassy park areas for recreation and enjoyment. The Waikiki Aquarium is an integral component in this complex, providing educational as well as recreational benefits.

No historical or archeological sites are registered for the Waikiki property at the Hawaii DLNR Historic Preservation Division (T. Dye, pers. comm.) and no wetlands or other habitats which would support threatened or endangered species are present.

On its western side the Aquarium property is fronted by the Waikiki reef and Mamala Bay, a part of the waters of the Pacific Ocean. The Waikiki reef is wide, extending over 1000 feet to the 6-foot depth contour, and composed of a complex reef bottom type consisting of consolidated limestone, limestone boulders and sand, with a low live coral coverage. The aquarium discharges about 640,000 gallons per day (gpd) of sea water effluent from a nearshore outfall at about 11 feet deep within a dredged channel off the shoreline (Figure 1). Nutrient concentrations, primarily nitrogen, are somewhat

elevated in the effluent above receiving water concentrations (AECOS, 1991). The main source of this nitrogen is ammonia from the well water which is presently the sole source of the Aquarium's sea water. With the open coastline and rapid mixing of effluent with oceanic water that occurs, no negative effects on the marine environment have been determined from the discharge of the Aquarium's effluent, and completion of this project will further reduce the nutrient concentrations in the discharge.

#### IV. PROJECT IMPACTS

The proposed modifications will impose no long term impact which will alter or conflict with present uses of the area. The only disturbance to the public and the shoreline environment will be the temporary breaking through of the public sidewalk to connect the offshore pipe into the existing well sump. The physical appearance of the property will remain unchanged except for the addition of three 3-foot diameter by 10-foot high filter backflush, drain tanks which will stand along the back of the main building. Ground water recharge and disposal of municipal wastes will be unaffected by the project, and completion will result in decreased release of dissolved nutrients in the Aquarium's sea water effluent and a consequent increase in receiving water quality.

#### V. REFERENCES

- AECOS, Inc. 1991. Waikiki Aquarium Zone-of-Mixing Analysis. Prepared for the Waikiki Aquarium, Honolulu. AECOS No. 626B: 11p.
- Foote, D. E., E. L. Hill, S. Nakamura, and F. Stephens. 1972. Soil survey of the islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawaii. U. S. Department of Agriculture, Soil Conservation Service and University of Hawaii, Agricultural Experiment Station.

**APPENDIX A**  
**SHORELINE SURVEY**  
**WAIKIKI AQUARIUM**  
**JANUARY 1992**

JOHN WAIHEE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 621  
HONOLULU, HAWAII 96809

APR 27 1992

Ref: LM-SL

WILLIAM W. PATY, CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES

JOHN P. KEPPELER II  
DONA L. HANAIAKE

AQUACULTURE DEVELOPMENT  
PROGRAM  
AQUATIC RESOURCES  
CONSERVATION AND  
ENVIRONMENTAL AFFAIRS  
CONSERVATION AND  
RESOURCES ENFORCEMENT  
CONVEYANCES  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
PROGRAM  
LAND MANAGEMENT  
STATE PARKS  
WATER AND LAND DEVELOPMENT  
DN 1266F  
SL-92:205

Mr. Kendall Hee  
Engineers Surveyors Hawaii, Inc.  
1020 Auahi St., Bldg. No. 6, Suite #1  
Honolulu, Hawaii 96814

Dear Mr. Hee:

SUBJECT: Shoreline Certification Request  
Applicant: Engineers Surveyors Hawaii, Inc.  
Property Owner: State of Hawaii/DAGS  
Location: Island: Oahu District: Honolulu  
Tax Map Key: 3-1-31:6  
Property Description: Waikiki Aquarium (EO 1817)  
Land Management Case No. OA-342

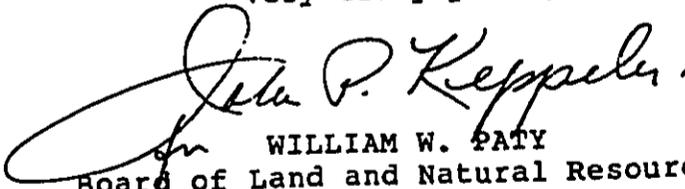
This is to inform you that the subject shoreline certification request has been:

xx certified and no appeal has been received.

6 copies of map are enclosed herewith.

Should you have any questions regarding this matter, please contact Steve Lau of our Land Management Division at 587-0439.

Very truly yours,

  
for WILLIAM W. PATY  
Board of Land and Natural Resources

Enclosures



**APPENDIX B**

**CORRESPONDENCE AND COMMENTS RECEIVED  
CONCERNING THE WAIKIKI AQUARIUM  
SEA WATER SYSTEM MODIFICATIONS**



REPLY TO  
ATTENTION OF

DEPARTMENT OF THE ARMY  
U. S. ARMY ENGINEER DISTRICT, HONOLULU  
FORT SHAFTER, HAWAII 96858-5440

December 23, 1991

RECEIVED DEC 26



Operations Division

Dr. Steve L. Coles  
AECOS  
970 N. Kalaheo Avenue, Suite C311  
Kailua, Hawaii 96734

Dear Dr. Coles:

This is in response to your letter dated December 11, 1991, requesting a review of the Modifications in Waikiki Aquarium Seawater Intake System, Honolulu, Hawaii, for Corps of Engineers (Corps) permit requirements. The work would involve modifications to the existing system to allow use of the existing offshore intake pipeline, as a supplement to the present well water source. Work in the waters of the United States is confined to the replacement of two intake strainers at the end of the existing 8-inch diameter pipeline. The work does not involve any dredging, filling or installation of new structures in the water.

Based on this understanding, I have determined that the proposed work is authorized by the Corps Nationwide permit authority in accordance with Federal Regulations at 33 CFR 330.5(a)(3), and no further Department of the Army processing is necessary. Excerpts from the regulations which list the conditions of this authorization are enclosed for your information and compliance.

In addition to these conditions, you are advised that:

- a. Nationwide permits do not obviate the need to obtain other Federal, state or local authorizations required by law.
- b. Nationwide permits do not grant any property rights or exclusive privileges.
- c. Nationwide permits do not authorize any injury to the property or rights of others.
- d. Nationwide permits do not authorize interference with any existing or proposed Federal project.

This verification will be valid until the nationwide permit is modified, reissued, or revoked. All the nationwide permits are scheduled to be modified, reissued or revoked prior to January 13, 1992. It is incumbent upon you to remain informed of

changes to the nationwide permits. We will issue a public notice announcing the changes when they occur. Furthermore, if you commence or are under contract to commence this activity before the date the nationwide permit is modified or revoked, you will have twelve months from the date of the modification or revocation to complete the activity under the present terms and conditions of this nationwide permit.

File No. NW 92-022 has been assigned to this authorization. Please refer to this number in any future correspondence. If you have additional questions, contact me at 438-9258.

Sincerely,



Michael T. Lee  
Acting Chief, Operations Division

Enclosure

Copies furnished: (without enclosures)

CZM Program Office, Office of State Planning, Honolulu, HI  
Clean Water Br., Dept of Health, State of Hawaii, Honolulu, HI

CONDITIONS TO NATIONWIDE PERMITS

The following special conditions must be followed in order for the nationwide permits identified in paragraph (a) of this section to be valid:

(1) That any discharge of dredged or fill material will not occur in the proximity of a public water supply intake;

(2) That any discharge of dredged or fill material will not occur in areas of concentrated shellfish production unless the discharge is directly related to a shellfish harvesting activity authorized by paragraph (a)(4) of this section;

(3) That the activity will not jeopardize a threatened or endangered species as identified under the Endangered Species Act (ESA), or destroy or adversely modify the critical habitat of such species. In the case of federal agencies, it is the agencies' responsibility to comply with the requirements of the ESA. If the activity may adversely affect any listed species or critical habitat, the district engineer must initiate Section 7 consultation in accordance with the ESA. In such cases, the district engineer may:

(i) Initiate section 7 consultation and then, upon completion, authorize the activity under the nationwide permit by adding, if appropriate, activity specific conditions, or

(ii) Prior to or concurrent with section 7 consultation he may recommend discretionary authority (see section 330.8) or use modification, suspension, or revocation procedures (see 33 CFR 325.7).

(4) That the activity shall not significantly disrupt the movement of those species of aquatic life indigenous to the waterbody (unless the primary purpose of the fill is to impound water);

(5) That any discharge of dredged or fill material shall consist of suitable material free from toxic pollutants (see section 307 of the Clean Water Act) in toxic amounts;

(6) That any structure or fill authorized shall be properly maintained;

(7) That the activity will not occur in a component of the National Wild and Scenic River System; nor in a river officially designated by Congress as a "study river" for possible inclusion in the system, while the river is in an officially study status;

(8) That the activity shall not cause an unacceptable interference with navigation;

(9) That, if the activity may adversely affect historic properties which the National Park Service has listed on, or determined eligible for listing on, the National Register of Historic Places, the permittee will notify the district engineer. If the district engineer determines that such historic properties may be adversely affected, he will provide the Advisory Council on Historic Preservation an opportunity to comment on the effects on such historic properties or he will consider modification, suspension, or revocation in accordance with 33 CFR 325.7. Furthermore, that, if the permittee before or during prosecution of the work authorized, encounters a historic property that has not been listed or determine eligible for listing on the National Register, but which may be eligible for listing in the National Register, he shall immediately notify the district engineer;

(10) That the construction or operation of the activity will not impair reserved tribal rights, including, but not limited to, reserved water rights and treaty fishing and hunting rights;

(11) That in certain states, an individual state water quality certification must be obtained or waived (see § 330.9);

(12) That in certain states, an individual state coastal zone management consistency concurrence must be obtained or waived (see § 330.10);

(13) That the activity will comply with regional conditions which may have been added by the division engineer (see § 330.8(a)); and

(14) That the management practices listed in § 330.6 of this part shall be followed to the maximum extent practicable.

### MANAGEMENT PRACTICES

In addition to the conditions specified in the attached sheet, the following management practices shall be followed, to the maximum extent practicable, in order to minimize the adverse effects of these discharges on the aquatic environment. Failure to comply with these practices may be cause for the district engineer to recommend, or the division engineer to take, discretionary authority to regulate the activity on an individual or regional basis.

(1) Discharges or dredged or fill material into waters of the United States shall be avoided or minimized through the use of other practical alternatives.

(2) Discharges in spawning areas during spawning seasons shall be avoided.

(3) Discharges shall not restrict or impede the movement of aquatic species indigenous to the waters or the passage of normal or expected high flows or cause the relocation of the water (unless the primary purpose of the fill is to impound waters).

(4) If the discharge creates an impoundment of water, adverse impacts on the aquatic system caused by the accelerated passage of water and/or the restriction of its flow shall be minimized.

(5) Discharge in wetlands areas shall be avoided.

(6) Heavy equipment working in wetlands shall be placed on mats.

(7) Discharges into breeding areas for migratory waterfowl shall be avoided.

(8) All temporary fills shall be removed in their entirety.

JOHN WAIHEE  
GOVERNOR



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
869 PUNCHBOWL STREET  
HONOLULU, HAWAII 96813-5097

RECEIVED JAN 13 1992

REX D. JOHNSON  
DIRECTOR

DEPUTY DIRECTORS  
JOYCE T. OMINE  
AL PANG  
JEANNE K. SCHULTZ  
CALVIN M. TSUDA

IN REPLY REFER TO:

January 9, 1992

HAR-ED 5222.92

Steve L. Coles, Ph.D.  
AECOS  
970 North Kalaheo Avenue, Suite C311  
Kailua, Hawaii 96734

Dear Dr. Coles:

Subject: Modifications in Waikiki Aquarium  
Seawater Intake System  
Honolulu, Hawaii

We have no objection to your proposal to modify the Waikiki  
Aquarium seawater intake system.

Thank you for the opportunity to provide comments.

Sincerely,

  
for Rex D. Johnson  
Director of Transportation

JOHN WAIHEE  
GOVERNOR OF HAWAII



JOHN C. LEWIN, M.D.  
DIRECTOR OF HEALTH

STATE OF HAWAII  
DEPARTMENT OF HEALTH  
ENVIRONMENTAL MANAGEMENT DIVISION  
FIVE WATERFRONT PLAZA, SUITE 250  
500 ALA MOANA BOULEVARD  
HONOLULU, HAWAII 96813

In reply, please refer to:  
EMD / CWB

January 9, 1992

P0102WW

Steve L. Coles, Ph.D.  
AECOS  
970 N. Kalaheo Avenue  
Suite C311  
Kailua, Hawaii 96734

Dear Dr. Coles:

Subject: Modifications on the Waikiki Aquarium  
Seawater Intake System

The Department of Health has reviewed the proposed project and offers the following comments. The Department has contacted Ms. Ruby Mizue of the U.S. Army Corps of Engineers and she informed us that a Nationwide Permit Section 10 would be required for the proposed project.

If you have any questions regarding this matter, please contact Mr. Walter West, Engineering Section of the Clean Water Branch, at 586-4309.

Sincerely,

A handwritten signature in cursive script, reading "Thomas E. Arizumi".

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

WW:rm



## OFFICE OF STATE PLANNING

Office of the Governor

MAILING ADDRESS: P.O. BOX 3540, HONOLULU, HAWAII 96811-3540  
STREET ADDRESS: 250 SOUTH HOTEL STREET, 4TH FLOOR  
TELEPHONE: (808) 587-2846, 587-2800

FAX: Director's Office 587-2848  
Planning Division 587-2824

Ref. No. P-2668

January 16, 1992

Steve L. Coles, Ph.D.  
AECOS  
970 N. Kalaheo Avenue  
Suite C311  
Kailua, Hawaii 96734

Dear Dr. Coles:

Subject: Hawaii Coastal Zone Management (CZM) Program Federal  
Consistency Review for Modifications to the Waikiki  
Aquarium Seawater Intake System, Department of the Army  
Nationwide Permit No. NW 92-022

CZM Federal consistency approval is not required for the subject project because it was authorized under a U.S. Army Corps of Engineers' nationwide permit. We previously reviewed the Corps' nationwide permit program for consistency with the CZM program and had no objections.

This CZM determination is not an endorsement of the project nor does it convey approval with any other regulations administered by any State or County agency.

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

Sincerely,

  
Harold S. Masumoto  
Director

cc: U.S. Army Corps of Engineers,  
Operations Division  
U.S. National Marine Fisheries Services,  
Pacific Area Office  
Department of Land and Natural Resources, OCEA  
Department of Land Utilization,  
City and County of Honolulu

JOHN WAIHEE  
GOVERNOR OF HAWAII



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

WILLIAM W. PATY, CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES

- MANABU TAGOMORI
- Dan T. Kochi**
- AQUACULTURE DEVELOPMENT PROGRAM
- AQUATIC RESOURCES CONSERVATION AND ENVIRONMENTAL AFFAIRS
- CONSERVATION AND RESOURCES ENFORCEMENT
- CONVEYANCES
- FORESTRY AND WILDLIFE HISTORIC PRESERVATION PROGRAM
- LAND MANAGEMENT
- STATE PARKS
- WATER AND LAND DEVELOPMENT

REF:OCEA:SKK

RECEIVED JAN 23 1992

JAN 23 1992

FILE NO.: 92-385  
DOC. NO.: 2434E

Mr. Steve Coles, Ph. D.  
AECOS  
970 N. Kalaheo Avenue, Suite C311  
Kailua, Hawaii 96734

Dear Mr. Coles:

SUBJECT: Request to Utilize Existing Offshore Intake Pipeline in Addition to Present Well Water Source - Waikiki Aquarium

Thank you for giving our Department the opportunity to comment on this proposal. We have reviewed your letter requesting permission to utilize two existing intake pipeline adjacent to the Waikiki Aquarium and have the following comments.

Brief Description:

The Waikiki Aquarium proposes to modify its seawater intake system, which presently only utilizes well water. In addition to the present system, two existing offshore seawater intakes approximately 150 feet from the shoreline will be re-opened to supply the Aquarium with ocean seawater. This modification will utilize two pipelines which were in use prior to 1954.

Because the offshore intake pipelines are already in place, offshore construction will be minimal and limited to the replacement of two new intake strainers at the end of the existing 8-inch diameter pipelines. The openings to the seawater intakes will be re-designed to strain out particulate matter such as macroalgae and small fish. Offshore work required to install the new intake strainers will be done within one day by two divers working from the shore.

This change in the seawater intake system is being undertaken to reduce concentrations of dissolved inorganic nutrients and metallic salts, which are presently in high concentrations in the well water, from reaching the Aquarium's display organisms and being released from the offshore outfall. Approximately 40% of the total water flowing through the Aquarium will continue to come from the well and will be utilized in the mahimahi research and exhibit aquarium. Concentrations of dissolved nitrogen and phosphorus will be substantially reduced by utilization of ocean water for the remaining 60% of the total flow.

Comments:

The proposed action should have minimal negative impacts upon the area's aquatic resources.

HISTORIC PRESERVATION DIVISION CONCERNS:

Because the project utilizes an offshore pipeline, they believe that the proposed project would have no effect on any historic sites in the area.

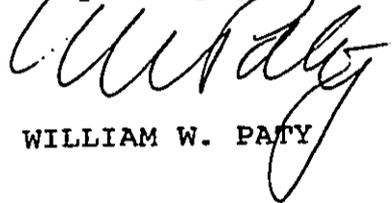
OFFICE OF CONSERVATION AND ENVIRONMENTAL AFFAIRS

The proposed activity (replacement of two new intake strainers at the end of the existing 8 inch diameter transit pipelines) is not a new, different or greater land use and therefore does not require a Conservation District Use Application (CDUA). However, please advise the State Land Use Commission to confirm the location of the Conservation District Boundary to ensure that any trenching and/or construction activities take place mauka of the certified shoreline.

In addition, prior to any work conducted on state submerged land four (4) copies of the construction plans must be submitted to our department for approval. Three of the copies will be returned to you.

Thank you for your cooperation in this matter. Please feel free to call me or Sam Lemmo at our Office of Conservation and Environmental Affairs, at 587-0377, should you have any questions.

Very truly yours,



WILLIAM W. PATY

92.53

DEPARTMENT OF PUBLIC WORKS  
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET RECEIVED  
HONOLULU, HAWAII 96813  
DEPT OF PUBLIC WORKS



JUN 29 11 00 AM '92

FRANK F. FASI  
MAYOR

C. MICHAEL STREET  
ACTING DIRECTOR AND CHIEF ENGINEER

ENV 92-149

June 25, 1992

JUN 30 10 11 AM '92

MEMORANDUM

TO: MR. DONALD A. CLEGG, DIRECTOR  
DEPARTMENT OF LAND UTILIZATION

FROM: C. MICHAEL STREET, ACTING DIRECTOR AND CHIEF ENGINEER

SUBJECT: ENVIRONMENTAL ASSESSMENT (EA)  
WAIKIKI AQUARIUM SEAWATER SYSTEM  
TMK:3-1-31:6

We have reviewed the subject EA and have no comments to offer at this time.

*C. Michael Street*

C. MICHAEL STREET  
Acting Director and Chief Engineer

92-0221



DEPARTMENT OF THE ARMY  
U. S. ARMY ENGINEER DISTRICT, HONOLULU  
FORT SHAFTER, HAWAII 96858-5440  
July 17, 1992



REPLY TO  
ATTENTION OF

Operations Division

SUBJECT: Environmental Assessment (EA), Waikiki Aquarium Seawater System, TMK: 3-1-31: 6

Mr. Donald A. Clegg  
Director  
Department of Land Utilization  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

92 JUL 21 PM 1 44

Dear Mr. Clegg:

In response to your June 24, 1992 request, we have reviewed the subject document and offer the following comment. The project involves modifications to the existing seawater system. Work in the waters of the United States is confined to the replacement of two intake strainers at the end of the existing 8-inch diameter pipeline. No dredging, filling or installation of new structures in the water is included in the proposal.

On this basis, the work was considered authorized under Corps Nationwide permit authority as described in the December 23, 1991 letter which is included in Appendix B of the EA. Although the authorizing regulations expired on January 13, 1992, new nationwide regulations became effective on January 21, 1992. The work continues to be authorized under the Corps Nationwide permit authority at 33 CFR 330, Appendix A, paragraph B. 3., and no further Corps processing is necessary.

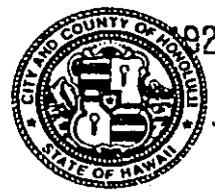
File No. NW 92-022 has been assigned to this authorization. Please refer to this number in any future inquiries or correspondence.

Sincerely,

*Warren Kanani*  
for Michael T. Lee  
Chief, Operations Division

92-1340

PARTMENT OF PARKS AND RECREATIC  
**CITY AND COUNTY OF HONOLULU**  
850 SOUTH KING STREET  
HONOLULU, HAWAII 96813



1992 JUN 24 PM 1 29

FRANK F. FASI  
MAYOR

WALTER M. OZAWA  
DIRECTOR  
ALVIN K.C. AU  
DEPUTY DIRECTOR

July 23, 1992

TO: DONALD A. CLEGG, DIRECTOR  
DEPARTMENT OF LAND UTILIZATION

FROM: WALTER M. OZAWA, DIRECTOR

SUBJECT: ENVIRONMENTAL ASSESSMENT, HRS CHAPTER 343  
WAIKIKI AQUARIUM SEAWATER SYSTEM PROJECT

Thank you for the opportunity to comment on the Environmental Assessment (EA) for the proposal to upgrade the Waikiki Aquarium's Seawater System. We have completed our review of the EA and would like to offer the following comment.

We would appreciate additional information about noise and vibrations that may be generated by these new improvements. The public park immediately adjacent to the Aquarium property is heavily utilized by the public. Will the new pumping facilities generate noise/vibrations which may interfere with the public's enjoyment of the adjacent park?

We have no other comments to offer at this time. If you have any questions please call John Morihara of our Advance Planning Branch at extension 4246.

*Walter M. Ozawa*  
WALTER M. OZAWA, Director

WMO:ei



# AECOS

970 N. Kalaheo Avenue, Suite C311 • Kailua, Hawaii 96734  
Telephone: (808) 254-5884

October 8, 1992

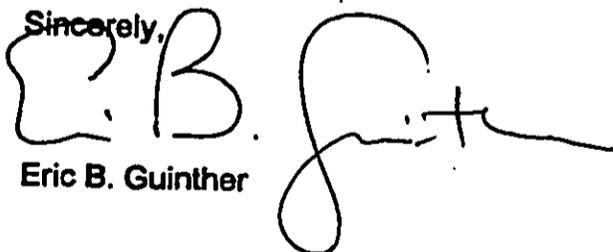
Walter M. Ozawa, Director  
Department of Parks and Recreation  
City and County of Honolulu  
650 So. King Street  
Honolulu, Hawaii 96813

RE: Comments to draft EA for Improvements to Waikiki Aquarium  
Sea Water System.

Dear Mr. Ozawa,

We have passed on to the engineers designing the system your thoughtful concerns about excessive noise/vibrations emanating from the new pumps proposed to be installed at the Waikiki Aquarium. They have informed us that the pumps are rated at 80 db (at a distance of three feet). These pumps are to be operated inside a concrete bunker constructed six feet below the ground and fitted with a heavy wooden hatch cover. Only one pump will be in use at any time. Preliminary calculations indicate that without any modifications to provide additional sound suppression, sound levels at the property line could exceed 45 db. Consequently, additional effort will be put into designing the bunker, hatch cover, and cool-air duct system to suppress pump noise and ensure compliance with the City's noise code.

Sincerely,



Eric B. Guinther

92-1686

JOHN WAIHEE  
GOVERNOR OF HAWAII



JOHN C. LEWIN, M.D.  
DIRECTOR OF HEALTH

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

92 AUG 3 AM 7 25

In reply, please refer to:

July 30, 1992

92-231/epo

Mr. Donald A. Clegg  
Director, Department of Land Utilization  
City & County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

Dear Mr. Clegg:

Subject: Environmental Assessment  
Waikiki Aquarium Seawater System  
2777 Kalakaua Avenue, Honolulu, Oahu  
TMK: 3-1-31: 6

Thank you for allowing us to review and comment on the subject project. In addition to the Department of Health's comment dated January 9, 1992, which is found in Appendix B of this assessment, we have the following comments to offer:

The project will require a modification of the facility's NPDES permit. This is required because, after the modification of the intake water system, sea water will be used as part of the intake source. The current application for renewal of the existing permit identifies the brackish water well as the Aquarium's only source of intake water. The Waikiki Aquarium should contact the Clean Water Branch in order to modify its NPDES permit.

If you should have any questions on this matter, please contact Mr. Alec Wong of the Clean Water Branch at 586-4309.

Very truly yours,

*John C. Lewin*  
JOHN C. LEWIN, M.D.  
Director of Health

c: Clean Water Branch



# AECOS

970 N. Kalaheo Avenue, Suite C311 • Kailua, Hawaii 96734  
Telephone: (808) 254-5884

October 8, 1992

John C. Lewin, M.D.  
Director of Health  
Hawaii State Department of Health  
P.O. Box 3378  
Honolulu, Hawaii 96801

RE: Environmental Assessment, Waikiki Aquarium Seawater System  
92-231/epo

Dear Dr. Lewin:

We will inform the Waikiki Aquarium of the need to contact the Clean Water Branch to modify its NPDES permit as a result of increasing the proportion of nearshore sea water used as intake water to the system. Our studies demonstrate that one result of this modification to the sea water system will be an improvement in the quality of the discharge covered by the permit. Improvement in water quality relative to the requirements of the NPDES permit in part prompted the modifications proposed in the EA.

Thank you for your comments,



Eric B. Guinther

JOHN WAIHEE  
GOVERNOR OF HAWAII



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

REF:OCEA:SKK

AUG 3 1992

FILE NO.: 92-818  
DOC. ID.: 1159

92-1825 42  
WILLIAM W. PATY, CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES

JOHN P. KEPPELER, II  
DONA L. HANAIKE

AQUACULTURE DEVELOPMENT PROGRAM  
AQUATIC RESOURCES CONSERVATION AND ENVIRONMENTAL AFFAIRS  
CONSERVATION AND RESOURCES ENFORCEMENT  
CONVEYANCES  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION PROGRAM  
LAND MANAGEMENT  
STATE PARKS  
WATER AND LAND DEVELOPMENT

The Honorable Donald Clegg, Director  
Department of Land Utilization  
City and County of Honolulu  
650 So. King Street  
Honolulu, Hawaii 96813

Dear Mr. Clegg:

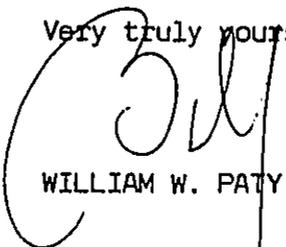
SUBJECT: Environmental Assessment for the Waikiki Aquarium  
Seawater System  
2777 Kalakaua Ave., Honolulu, TMK: 3-1-31: 06

Thank you for giving our Department the opportunity to comment on this matter. We have reviewed the submitted EA and have the following comments.

In addition to our previous comments (attached), our Department's Land Management Division questions whether the subject intake pipes are legal. If not, the applicant must obtain a State land disposition for the occupancy of State-owned submerged land.

Thank you for your cooperation in this matter. Please feel free to call Sam Lemmo at our Office of Conservation and Environmental Affairs, at 587-0377, should you have any questions.

Very truly yours,

  
WILLIAM W. PATY

cc: Steve Coles

Attachment

92-818  
AUG 7 5 59



# AECOS

970 N. Kalaheo Avenue, Suite C311 • Kailua, Hawaii 96734  
Telephone: (808) 254-5884

September 29, 1992

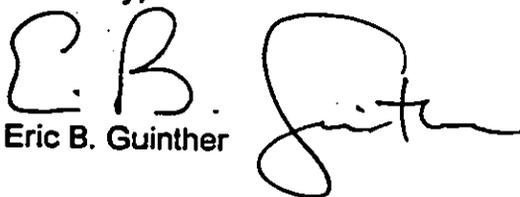
The Honorable Mr. William Paty, Director  
Department of Land and Natural Resources  
P. O. Box 621  
Honolulu, HI 96809

Dear Mr. Paty:

Subject: Environmental Assessment for Proposed Modifications  
to the Waikiki Aquarium Sea Water Intake System  
(File No. 92-818)

Thank you for your comments on the draft EA for the subject project. We have discussed the concern expressed regarding the "legality" of the offshore pipes with Mason Young of your Land Management Division and he has agreed to work with the University of Hawaii in obtaining the required documents for a proper State land disposition. The pipes to be restored in this case were constructed in the 1950's at a time when such work may have been done without the kind of documentation now required.

Sincerely,

  
Eric B. Guinther

cc: Richard Nakahara, Planning Office, University of Hawaii.

92-2005

**BOARD OF WATER SUPPLY**

CITY AND COUNTY OF HONOLULU

630 SOUTH BERETANIA STREET

HONOLULU, HAWAII 96843



August 10, 1992

FRANK F. FASI, Mayor

WALTER O. WATSON, JR., Chairman

MAURICE H. YAMASATO, Vice Chairman

SISTER M. DAVILYN AH CHICK, O.S.F.

JOHN W. ANDERSON, JR.

REX D. JOHNSON

MELISSA Y. LUM

C. MICHAEL STREET

KAZU HAYASHIDA  
Manager and Chief Engineer

TO: DONALD A. CLEGG, DIRECTOR  
DEPARTMENT OF LAND UTILIZATION

FROM: FOR KAZU HAYASHIDA, MANAGER AND CHIEF ENGINEER  
BOARD OF WATER SUPPLY *[Signature]*

SUBJECT: YOUR MEMORANDUM DATED JUNE 24, 1992 REGARDING THE  
ENVIRONMENTAL ASSESSMENT, SHORELINE SETBACK,  
92/SV-10(ASK), FOR THE WAIKIKI AQUARIUM SEAWATER SYSTEM,  
TMK: 3-1-31: 6, KALAKAUA AVENUE

92 AUG 11 PM 3 32

Thank you for the opportunity to review and comment on the proposed Waikiki Aquarium project. We have the following comments to offer:

1. The existing water system is presently adequate to accommodate the proposed project. There are existing water meters currently serving the site.
2. The availability of additional water will be confirmed when the building permit is submitted for our review and approval. When additional water is made available, the applicant will be required to pay our Water System Facilities Charges and any applicable meter installation charges.
3. If a three-inch or larger meter is required, the construction drawings showing the installation of the meter should be submitted for our review and approval.
4. The proposed project will be subject to our cross-connection control requirements prior to the issuance of the building permit.

If you have any questions, please contact Bert Kuioka at 527-5235.

92-2684

JOHN WAIHEE  
GOVERNOR



BRIAN J. J. CHOY  
Director

STATE OF HAWAII  
OFFICE OF ENVIRONMENTAL QUALITY CONTROL  
220 SOUTH KING STREET  
FOURTH FLOOR  
HONOLULU, HAWAII 96813  
TELEPHONE (808) 586-4185

August 19, 1992

Loretta Chee, Acting Director  
City and County of Honolulu,  
Department of Land Utilization  
650 S. King Street, 7th Floor  
Honolulu, Hawaii 96817

92 AUG 23 AM 8 12

Dear Ms. Chee:

Subject: Environmental Assessment for the Modification to the Waikiki Seawater Intake System

We have reviewed the draft environmental assessment for the subject project and request that when submitting the final environmental assessment, you include a description of the findings and reasons supporting the determination pursuant to §11-200-10(10) and §11-200-12, Hawaii Administrative Rules.

If you have any questions, please call Margaret Wilson at 586-4185. Thank you.

Sincerely,

*Brian J. J. Choy*  
Brian J. J. Choy  
Director

c: Ardis-Shaw-Kim, Department of Land Utilization