

DEPARTMENT OF LAND UTILIZATION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813 • (808) 523-4432

RECEIVED

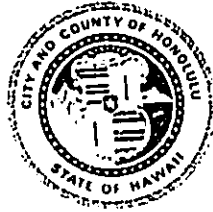
'94 JAN 13 P3:25

DONALD A. CLEGG
DIRECTOR

LORETTA K.C. CHEE
DEPUTY DIRECTOR

93/SV-015(ASK)

FRANK F. FASI
MAYOR



OFC. OF ENVIRONMENTAL
QUALITY CONTROL

December 30, 1993

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

Dear Mr. Choy:

CHAPTER 343, HRS
Environmental Assessment/Determination
Negative Declaration

Recorded Owner/	:	Jane T. Takamiya
Applicant	:	AECOS, Inc.
Agent	:	98-165 Aiea Kai Way, Aiea, Oahu
Location	:	9-8-15: 57
Tax Map Key	:	Shoreline Setback Variance, after-
Request	:	the-fact
Proposal	:	To retain repairs and modifications to an existing seawall, and construct a new drainage system within the shoreline setback
Determination	:	A Negative Declaration Is Issued

Attached and incorporated by reference is the Environmental Assessment prepared by the applicant for the project. Based on the significance criteria outlined in Chapter 200, State Administrative Rules, we have determined that preparation of an Environmental Impact Statement is not required.

Very truly yours,

Handwritten signature of Loretta K. C. Chee in cursive.

LORETTA K. C. CHEE
Acting Director of Land Utilization

LKCC:ak
Enclosures
G:sv15nd.ask

1994-02-08-0A-*FEA-Takamiya Seawall* FEB - 8 1994
Repairs & Drainage System

AECOS No. 742

TAKAMIYA SEAWALL *REPAIRS* 2-8-94
Final
ENVIRONMENTAL ASSESSMENT
SEA WALL AND DRAINAGE SYSTEM
AT 98-165 AIEA KAI WAY
KALAUAO, 'EWA, O'AHU

TMK: 9-8-15: 57

Prepared for

Michael & Claire Tanoue
99-378 Kulawea Place
Aiea, Hawaii 96701

Prepared by:

AECOS, Inc.
970 N. Kalahoe Ave, Suite C311
Kailua, Hawaii 96734

December 1993

93 DEC 22 AM 9 17
DEPT OF LAND UTILIZATION
CITY & COUNTY OF HONOLULU

Final
ENVIRONMENTAL ASSESSMENT
SEA WALL AND DRAINAGE SYSTEM
AT 98-165 AIEA KAI WAY
KALAUAO, 'EWA, O'AHU

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INTRODUCTION

This Environmental Assessment describes a sea wall surrounding two sides of Lot 6 of Aiea Kai Subdivision (F.P. 1477) at Kalauao, 'Ewa, O'ahu, Hawai'i (TMK: 9-8-15: 57) and a proposed drainage system for the same property. Kalauao is makai of Aiea, between McGrew Point and Waimalu. The subject lot is a flag lot (Figure 1) which borders the shore of East Loch of Pearl Harbor and a waterway adjacent to Loko Pa'aiau (Pa'aiau Fish Pond). The wall was built in 1976 or possibly earlier. Loose boulders were reset in 1977 (see Appendix A). In December 1991, the wall was raised an additional 2.5 feet to mitigate flooding which had been occurring on occasions of high tides and heavy rains. Photographs of the wall as it presently exists are include in Appendix C. The drainage system has been designed by Belt Collins and Associates and this Environmental Assessment (EA) accompanies the application to the Department of Land Utilization, City and County of Honolulu for a Shoreline Setback Variance and other permits as required.

Applicant	Jane T. Takamiya 99-378 Kulaweia Place Aiea, Hawaii 96701
Agent / Environmental Consultant	AECOS, Inc. 970 N. Kalaheo Ave., Suite C311 Kailua, Hawaii 96734 (808) 254-5884
Land Owner	Jane T. Takamiya 99-378 Kulaweia Place Aiea, Hawaii 96701
Tax Map Key (TMK)	9-8-15: 57, Lot 6
Lot Area	14,259 sq. ft.
Land Use Classifications:	Zoning: R5 (Residential) State Land Use: Urban. FIRM: X (no hazard)
OEQC Bulletin Publication Date(s)	(Draft EA): October 23 & November 8, 1993
Accepting Agency:	City & County of Honolulu Dept. of Land Utilization 650 So. King Street, 7th Floor Honolulu, Hawaii 96813

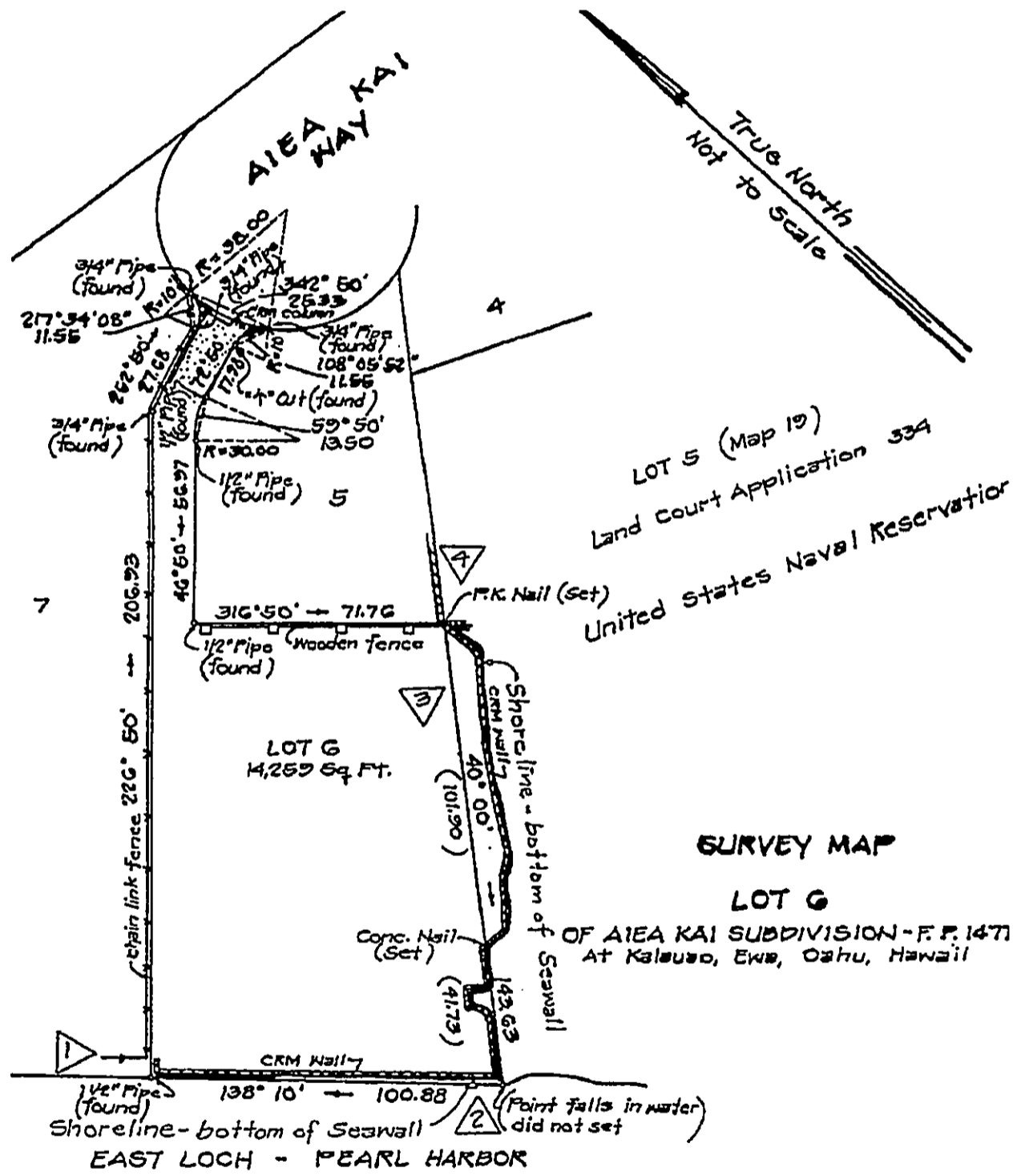


Figure 1. Survey map of the Takamiya property in Aiea (TMK: 9-8-15:57).

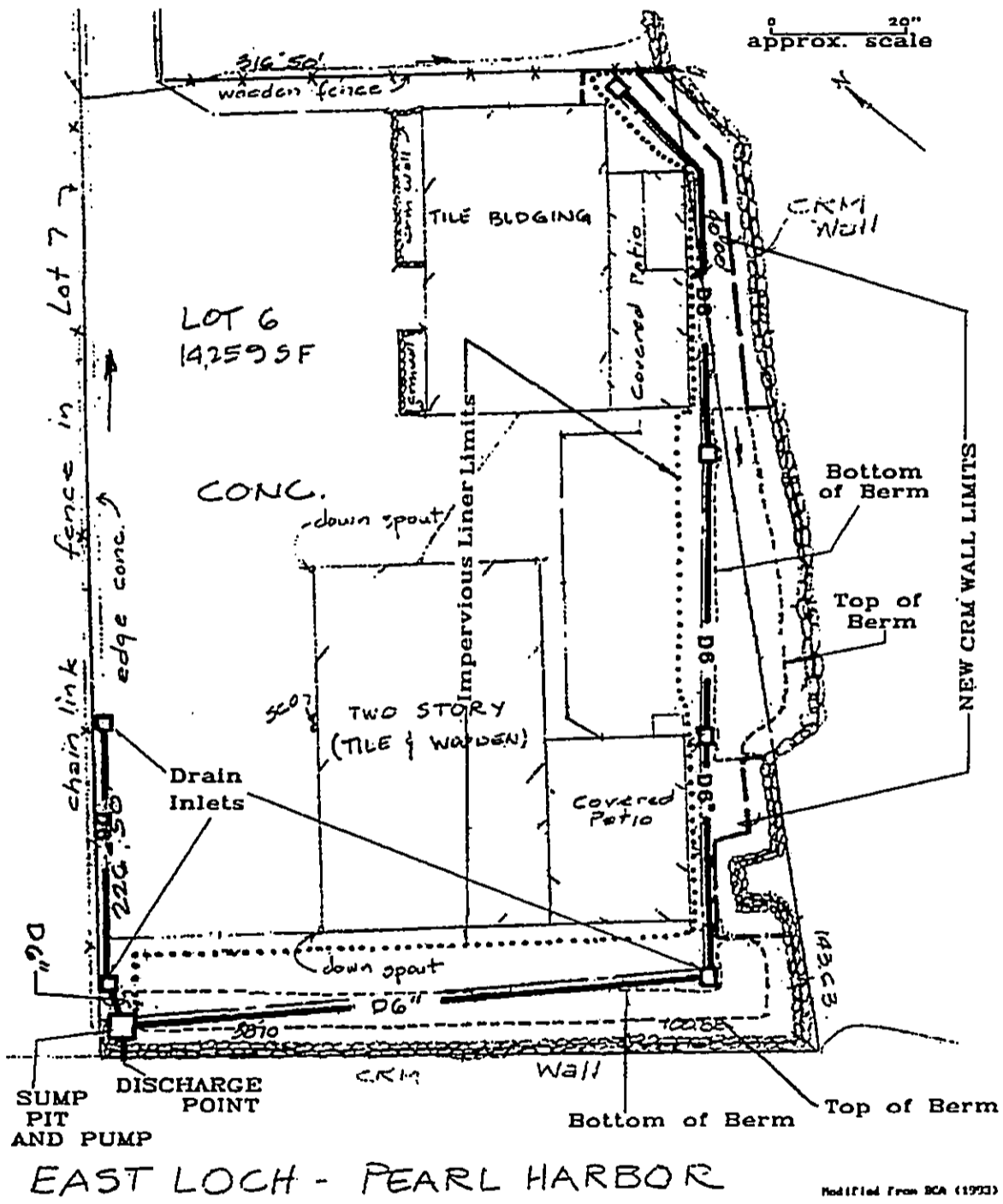
AGENCIES CONSULTED

The project has been discussed with staff at DLU (City & County of Honolulu), OCEA (DLNR, State of Hawaii), DOH, and the U.S. Army Corps (U.S. Army) to elicit concerns that would need to be addressed in the Environmental Assessment. Given the minor nature of the proposed and existing items and structures that are all located on private residential property, a wider participation in the Environmental Assessment preparation process was not considered essential. Distribution of the draft EA by DLU followed OEQC recommendations and comments received are included in Appendix B. This application includes features (the sea wall) which have already been built and for which the client has been attempting compliance; therefore, the earlier correspondence with various agencies is complicated. Pertinent letters are provided in Appendix B. The history of the correspondence is described in the following section covering project permit requirements.

PROJECT PERMIT REQUIREMENTS

Apparently none of the work on the sea wall was covered by permits from federal, state, or county agencies. The jurisdictional aspects of the construction activities simplify permit requirements because: (1) the portion of the wall on the east encroaches on federal property and the waterway is part of Lot 5 (TMK: 9-8-19: 3; owner is the U.S. Navy) (see Appendix A); and (2) all of the sea wall on the south was built entirely upon the owner's property. Consequently, no encroachment on State submerged lands occurred. However, the sea wall is the present shoreline (Shoreline Certification dated July 13, 1993; see Appendix A).

The property is exempt from City and County of Honolulu, Special Management Area (SMA) regulations, but not from the Shoreline Setback Rules and Regulations. The City and County Building Department cited the property owner in February 1992 for violations of both the Building Permit Ordinance (R.O.H. Sec. 18-3.1) and Shoreline Setback (Rule 13.3) for the shoreline encroachment. However, these violations were dismissed in December 1992 by the county Building Department after a determination was made that the wall was built on federal property not under the jurisdiction of the county. The Department of Land Utilization has since pointed out (see Appendix B) that the south property boundary abuts the shoreline of Pearl Harbor, which is not federal property. Thus, the need for an after-the-fact Shoreline Setback Variance for at least the portion of the wall along the south property boundary.



EAST LOCH - PEARL HARBOR

Modified From BCA (1993)

FIGURE 2. Plan view of the existing sea wall and proposed drainage system improvements at 98-165 Aiea Kai Way, Aiea.

The U.S. Army Corps of Engineers determined in September 1991 (ACOE, 1991; ACOE, 1993 in Appendix B) that the reconstruction work on the wall would be covered under nationwide permit authority (33 CFR 350.5(a) (3) and (13)). The east side wall, although at the water's edge, encroaches on federal property (Figure 1 and Appendix A), and the U.S. Navy (the land owner in this case) has agreed to sell an easement right to the owner for this encroachment (U.S. Navy, 1993; see Appendix B).

Included in this assessment and permit application is a proposal to construct a drainage system behind the sea wall. Because the parcel is level and low-lying, drainage is poor. During periods of exceptionally heavy rains, runoff can pond behind the sea wall, creating a potential for flood damage to structures on the property. The source of this water is direct runoff from both the property and from the adjacent, street frontage lot (Lot No. 5). Total drainage area is 0.47 acre. The street is ordinarily not part of the drainage basin (BCA, 1993). Water from Pearl Harbor does not flood onto the site. However, the infiltration and drainage characteristics of the site are influenced by water level in Pearl Harbor (BCA, 1993).

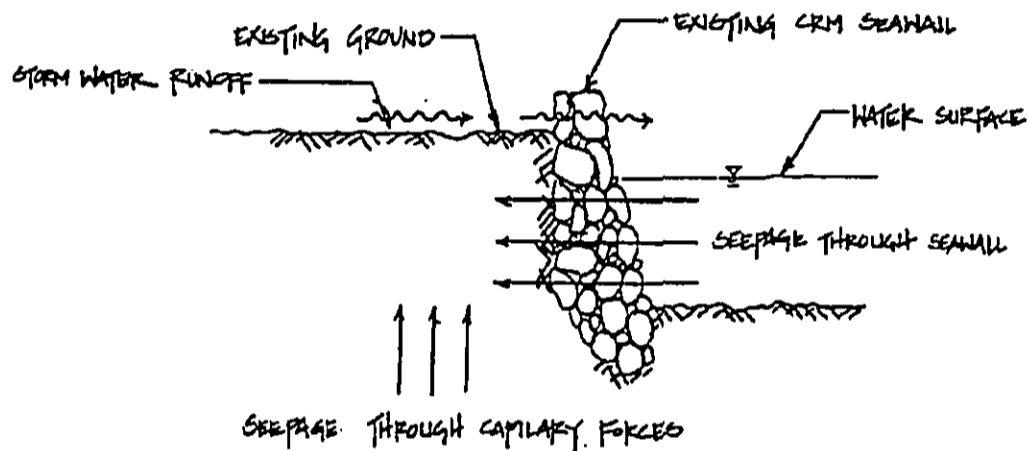
The drainage system design is included in the permit applications. Total cost of constructing the system is estimated at \$ 42,000. The system is exempt from Special Management Area (SMA) requirements, but would need to comply with Shoreline Setback Rules and Regulations. None of the drainage system is to be built on State land. However, the discharge of storm runoff would be directed into State waters. State of Hawaii environmental regulatory concerns would need to be addressed through the Department of Health. The site is only 0.33 acre and the proposed discharge would consist entirely of storm water runoff from a site which is not associated with industrial activity as defined in 40 CFR §122.26(b)(14)(i) through §122.26(b)(14)(ix). Offsite drainage onto this property is insignificant. While the proposed discharge is a form of "dewatering", it is from a storm runoff, drainage system and not from a dewatering process associated with construction activity.

PROJECT DESCRIPTION

Belt Collins and Associates inspected the property and prepared a drainage report in December 1992. The following paragraph from the report prepared by Belt Collins and Associates (1993) describes the site.

The property is located at the southwestern end of the cul-de-sac along Aiea Kai Way. A CRM sea wall surrounds the perimeter of the lot from the ocean. The elevation of the lot is approximately 5 feet above mean sea level (see Figure [2]). Two homes, a single story and a two-story, are situated on the property. Other than rain gutters and downspouts there is no other

runoff collection system within the parcel. Currently, at times of high tides coinciding with heavy rainfall, the runoff cannot drain to the ocean and hence, ponds on the property. There is also evidence that sea water seeps through the sea wall and through the soil by capillary forces (see Figure [3]). Because of the salinity, vegetation is almost non-existent. At times other than high tide, storm water runoff can flow into the ocean through a low point in the wall at the southwest corner of the property.



After Belt Collins & Associates (1993)

Figure 3. Typical section (existing condition) of sea wall at 98-165 Aiea Kai Way.

Belt Collins & Associates (1993) recommended drainage improvements to handle a 2-year, 1 hour storm. The following specific recommendations were provided (refer to Figures 4 through 6):

1. Install an underground piped system with inlets (Figure 4). This system would convey runoff to a sump (Figure 6) from where a sump pump would pump the runoff to flow into the ocean.
2. Install a liner adjacent to the sea wall (Figure 4). The liner would restrict seepage of sea water into the soil on the property.
3. Construct an earth berm along the inside of the sea wall (Figure 4). This berm would raise the level of the ground inside the sea wall, would direct runoff into the drains, and would provide soil for plantings that is above the influence of saline ground water.

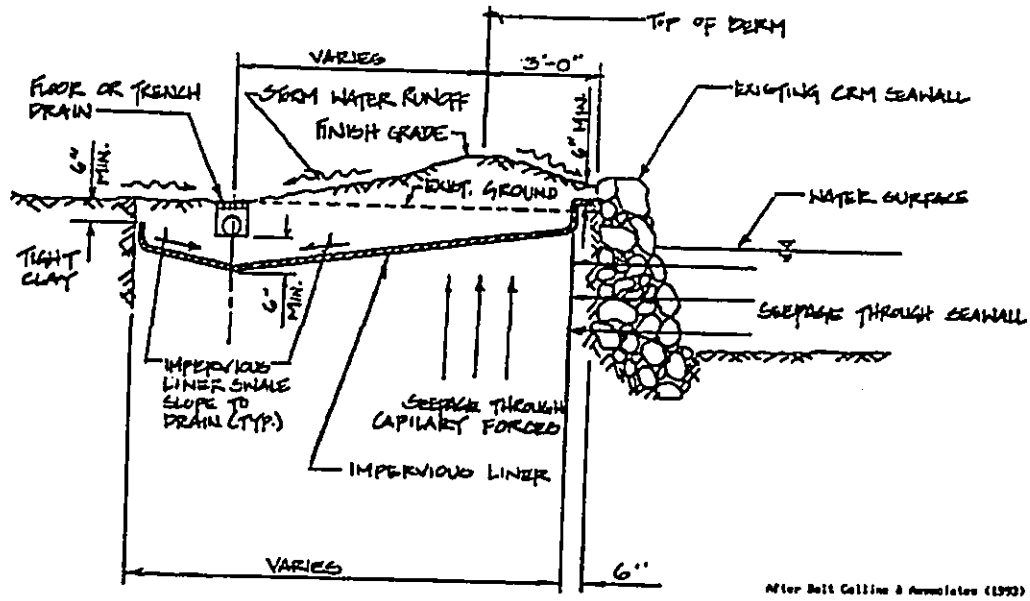


Figure 4. Typical section (finish condition) of berm and drainage system behind sea wall at 98-165 Aiea Kai Way.

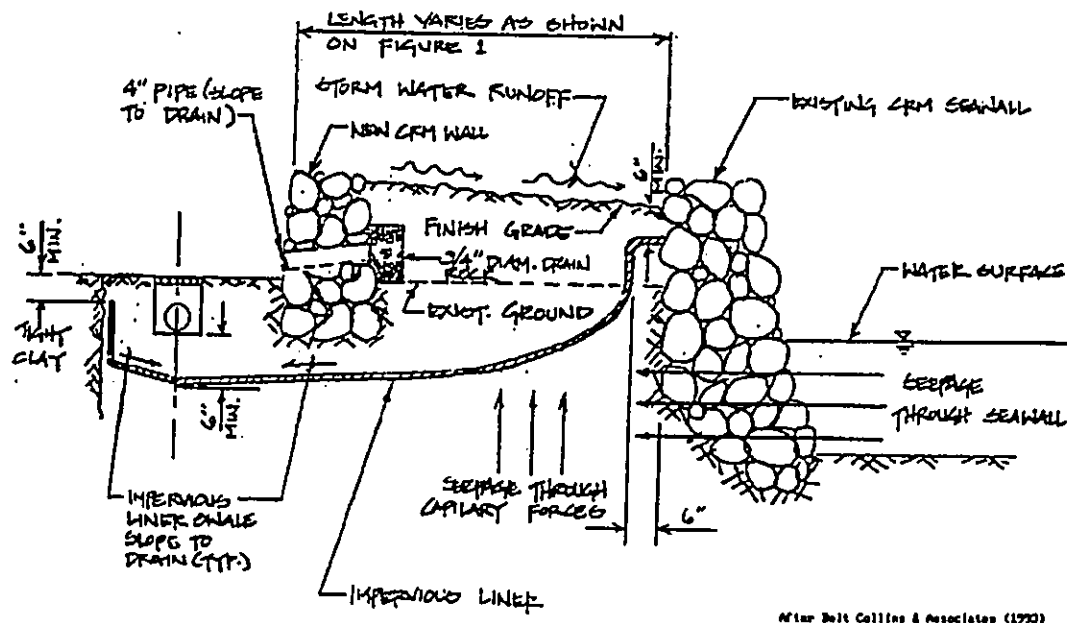
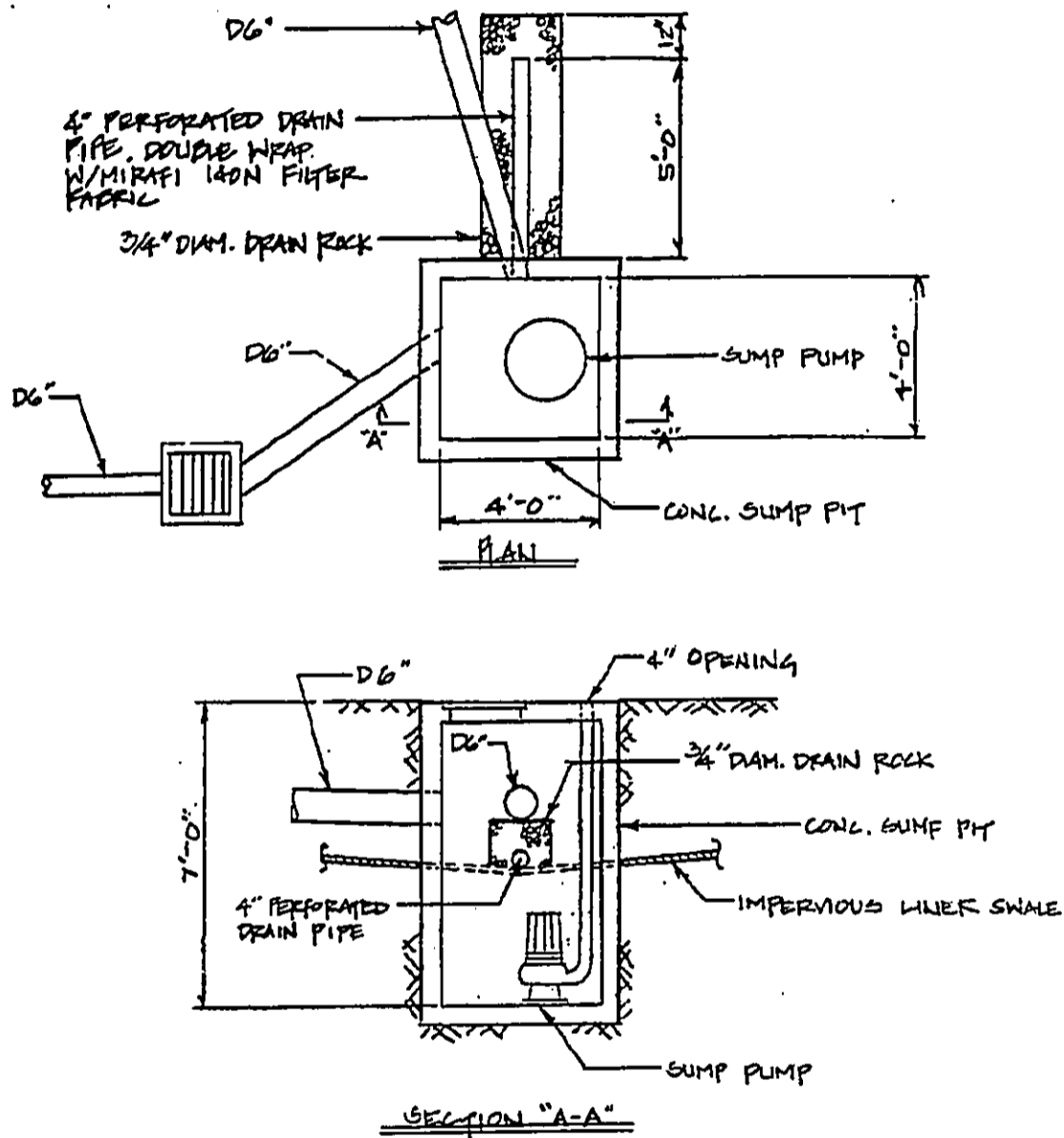


Figure 5. Typical new CRM wall section behind sea wall at 98-165 Aiea Kai Way.



SUMP PIT
NOT TO SCALE

After Belt Collins & Associates (1993)

Figure 6. Engineering drawings of the proposed sump pit.

4. Where space does not allow room for the earth berm, construct a wall (Figure 5). This wall would provide a facing for the raised ground level on the inside the sea wall in places where structures are located close to the sea wall.

COASTAL ENGINEER REPORT

The existing sea wall has been certified by Daniel G. Ching, PE (see Appendix A).

The sea wall is not situated so as to interfere with normal coastal processes to enhance erosion of adjacent shoreline areas. A separate report attesting to this statement is in preparation by Sea Engineering Inc., and will be attached to this EA as an appendix once completed.

AFFECTED ENVIRONMENT

The sea wall is constructed of loose basalt boulders and CRM and forms the shoreline on two sides of the subject property. This area is the generally quiet and usually brackish waters of upper East Loch, Pearl Harbor. Surrounding parcels lack protective walls and these shorelines, unless regularly maintained, will naturally develop to mangrove (*Rhizophora mangle*) swamp. Mangroves have substantially encroached upon the nearby fish pond. Indeed, mangrove shoreline typifies the northern parts of East Loch, Middle Loch, and West Loch wherever urban or military development does not extend to the water line.

BIOLOGICAL IMPACTS

The sea wall supports attached marine organisms capable of withstanding immersion in the brackish surface water that occurs frequently during the wetter time of the year. Readily visible are oysters (*Crassostrea virginica*). No aspect of the wall as it presently exists can be regarded as having a significant adverse impact on the estuarine biota of Pearl Harbor.

It is possible that parts of nearby Pa'aiau Fish Pond are visited by endangered Hawaiian stilt (*Himantopus himantopus knudseni*). However, the pond is not directly adjacent to the Takamiya property, and dense mangrove growth isolates the pond from surrounding residential developments. No part of the existing or proposed project will have an adverse impact on stilt or other threatened or endangered species. The inner

WATER QUALITY IMPACTS

The proposed discharge by pumping of runoff water will not have any significant impacts on water quality. The proposed drainage system has the effect of increasing the rate at which runoff is delivered to the open waters of the Loch and focusing this delivery at a specific point. Without the drainage system, runoff from the property would reach the Loch anyway, although peak flows would be lessened somewhat because a portion of the water would be retained behind the wall (creating temporary flooding) and discharges would be distributed around the property and involve some infiltration and seepage. The existing drainage system provides for some runoff into Pearl Harbor to occur without the assistance of the sump collection and pump. This runoff occurs at the southwest corner of the property which is the proposed location of the pump discharge.

HISTORICAL SITE IMPACTS

The wall as built serves as a "sea wall" and comprises a shoreline of East Loch, Pearl Harbor. The eastern portion is on a fishpond parcel owned by the U.S. Navy. The actual fish pond wall is, however, across an expanse of water from the sea wall. The Department of Land and Natural Resources, State Historical Preservation Division has assessed the situation and concluded that the sea wall does not impact on Loko Pa'aiau (Site 50-80-09-108) or any other historic site (DLNR, 1992; DLNR, 1993 in Appendix B).

PUBLIC ACCESS IMPACTS

The property is not located adjacent to public access points to the shoreline of Pearl Harbor and foot access along the shore frontage is not possible because of the absence of a beach and the extensive growth of mangroves. Property boundaries in this area extend out into the water. A public bikeway/footpath paralleling the shore between McGrew Point Navy Quarters and Pearl Harbor Park crosses Aiea Kai Way near the intersection of this short cul-de-sac with Aiea Kai Place. The described project will have no impacts on public access to or along the shore of Pearl Harbor.

CONSTRUCTION IMPACTS

Impacts from the *proposed* construction (site drainage system) could include increased sediment in site runoff where disturbed areas are exposed to storm waters and generation of a dewatering discharge into the waters of East Loch. Mitigation of adverse

impacts on water quality from construction can be achieved by minimizing the time disturbed areas are exposed by the construction and the application of sound site management practices by the construction contractor. For example, disturbed areas (particularly soil stock piles) should be covered with plastic sheeting if a rain storm is imminent. Placement of the drainage pipes should be completed in a matter of days, and the disturbed areas relandscaped. Dewatering may be needed for construction of the proposed sump. If dewatering is necessary, a General Permit under HAR §11-55 will need to be obtained prior to dewatering into Pearl Harbor and would be the responsibility of the general contractor. The Notice of Intent will have to include a description of practices (BMP) intended to minimize water quality degradation.

ALTERNATIVES

A sea wall has been at the present location since at least 1976. The action described herein encompasses the addition of boulders (CRM) to the top of an existing wall for the purpose of providing flood protection associated with heavy rains and high tides. Physical erosion or damage from wave activity is not a threat to property in this area. Consequently, the impacts of the added height, being above the normal water level, are minor or non-existent with respect to the natural environment. Also, no adverse social consequences have been identified.

Because this is an after-the-fact assessment, any alternatives must first consider removal of portions or all of the existing wall. Removal of just the upper portion could have adverse impacts on the property and its structures, but would not create additional impacts or mitigate existing impacts. Removal of entire sections of the wall could possibly have minor beneficial impacts on the open water along the southeast boundary and might be required if agreement cannot be finalized with the U.S. Government on the encroachment issue. However, all of the existing wall within the Shoreline Setback is on the owner's property, and removal would serve no environmentally beneficial purpose.

Alternatives with respect to the proposed storm water drainage system do exist. However, direct drainage without a pumping system will not address the potential flooding situation created when both heavy rainfall and high water in East Loch coincide. The Belt Collins and Associates proposal (BCA, 1993) is deemed to be the best engineering solution to the drainage problem. Comparison of environmental impacts with and without the proposed project would find no real difference. However, the proposed drainage system will require application for a discharge permit under the National Pollution Discharge Elimination System (NPDES).

REFERENCES CITED

- ACOE. 1991. Letter from Dept. of the Army, Operations Division to Jane T. Takamiya c/o Claire M. Tanoue dated Sept. 18, 1991 [Included in Appendix B].
- BCA. 1993. Drainage study at residence at 98-165 Aiea Kai Way. Belt Collins and Associates, Honolulu. December 1992, revised May 1993.
- DLNR. 1992. Letter from State Historic Preservation Division to NAVFACENGCOM-PACDIV, Real Estate Division dated Dec 16, 1992 and marked LOG No.: 6803 [included in Appendix B].
- U.S. Navy. 1993. Letter from Pacific Division, Naval Facilities Engineering Command to Ms. Claire Tanoue, dated January 15, 1993 [included in Appendix B].

APPENDIX A
ADDITIONAL
MAPS AND DRAWINGS

DOCUMENT CAPTURED AS RECEIVED

RECEIVED SEP 08 1993

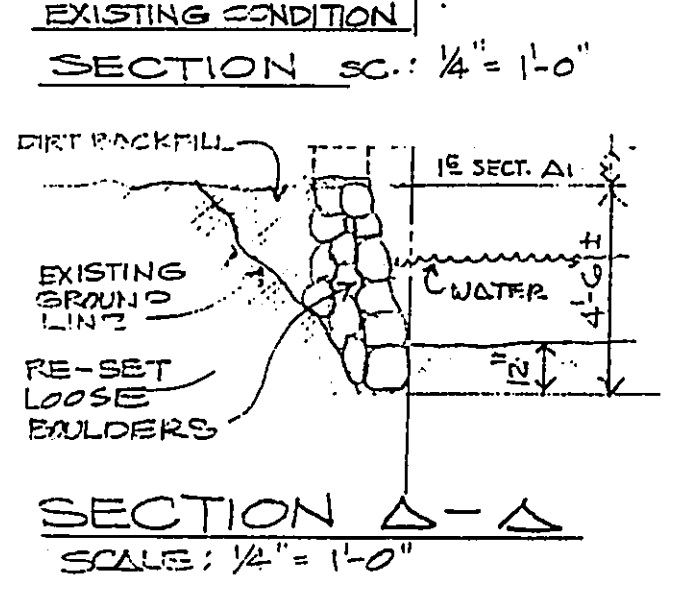
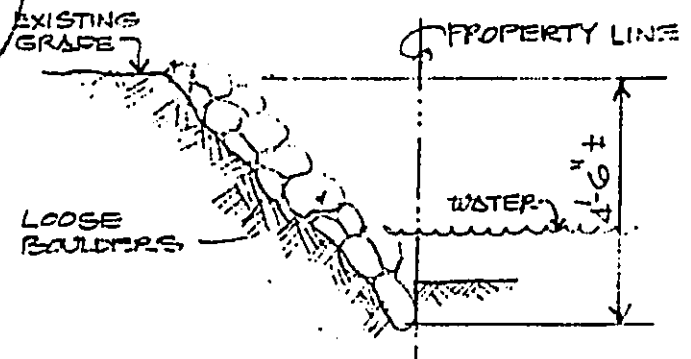
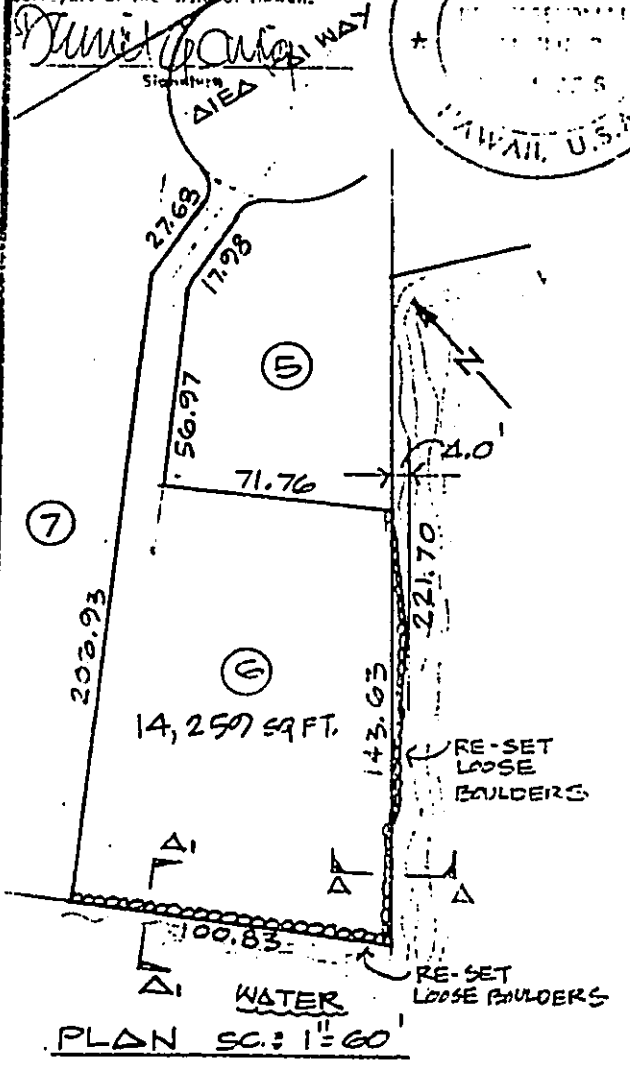
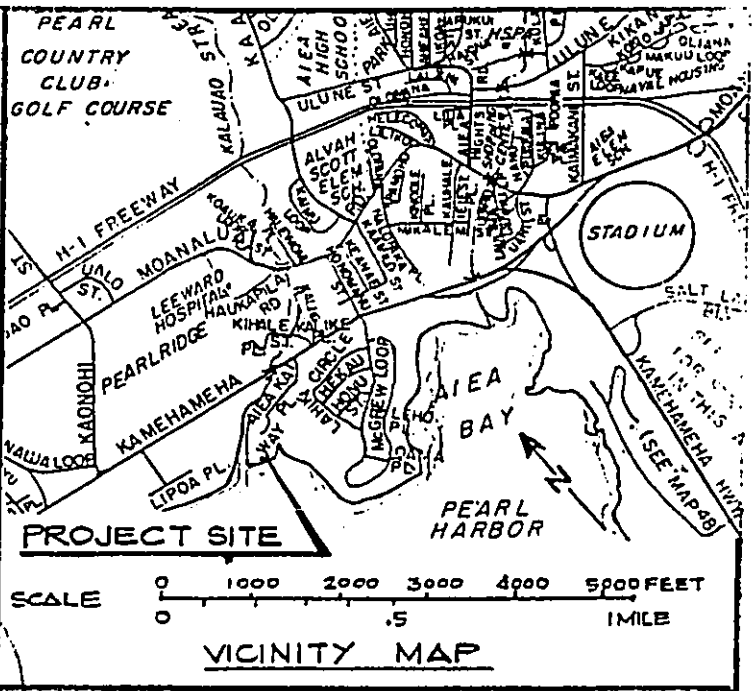
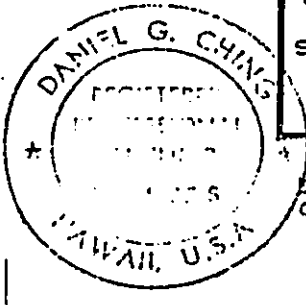
PURPOSE: RECONSTRUCT EXISTING
LOOSE BOUNDERS

ADJACENT PROPERTY OWNERS:
LOT 5 -
LOT 7 -

DT: DIEA, OAHU, HAWAII
TAX MAP KEY: 9-8-15:57 LOT #6
ADDRESS: 98-165 DIEA KAI WAY

This work was prepared by me or
under my supervision and construction
of this project will be under my super-
vision. Supervision of construction as
defined in Section 1.2(N) of the
Rules and Regulations of the Board of
Professional Engineers, Architects and
Surveyors of the State of Hawaii.

Daniel G. Ching
Signature
DIEA KAI WAY



DOCUMENT CAPTURED AS RECEIVED

JOHN WAHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 621
HONOLULU, HAWAII 96809
JUL 13 1993

Ref: LM-SL

KEITH W. AHUE, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES
JOHN P. KEPPELER, II
DONAL HANAIKE

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

DN 1266F
SL-93:338

Mr. Alden Kajioka
ControlPoint Surveying and
Engineering, Inc.
1043 Wong Ho Lane
Honolulu, Hawaii 96814

Dear Mr. Kajioka:

SUBJECT: Shoreline Certification Request
Applicant: ControlPoint Surveying & Engineering
Property Owner: Jane T. Takamiya
Location: Island: Oahu District: Ewa
Tax Map Key: 9-8-15:57
Property Description: Lot 6 of Aiea Kai Subd.,
File Plan 1477 at Kalauao
Land Management Case No. OA-416

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

xx certified and no appeal has been received.

3 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.

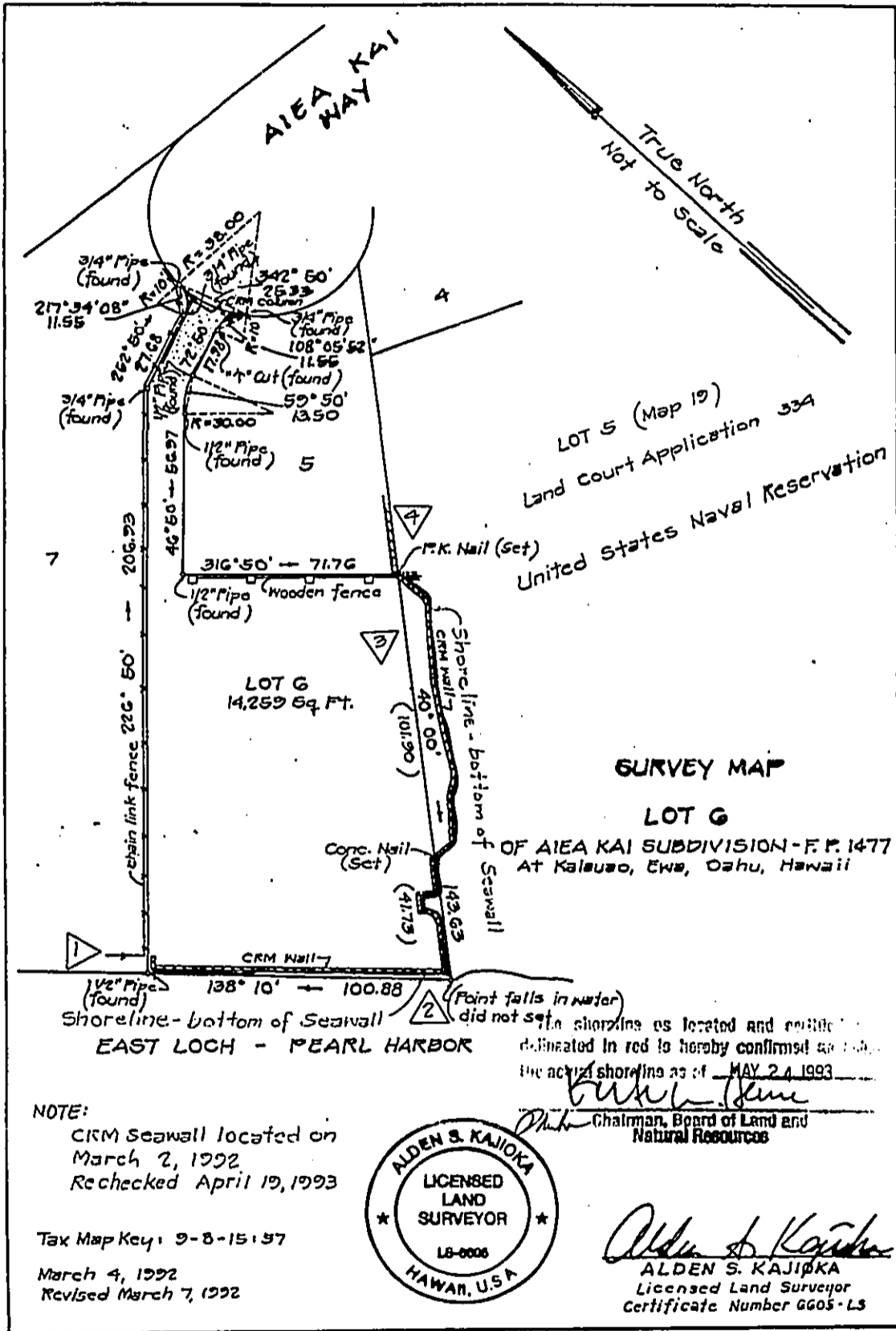
Very truly yours,

KEITH W. AHUE, Chairperson
Board of Land and Natural Resources

Enclosures

cc: Board Member
Survey Division

DOCUMENT CAPTURED AS RECEIVED



CONTROLPOINT SURVEYING AND ENGINEERING, INC.
1043 Wong Ho Lane
Honolulu, Hawaii 96814

Sht. 1 of 2 Shts
Job No. 92098
F.B. No. 776:57

APPENDIX B
PREVIOUS CORRESPONDENCE
AND
COMMENTS RECEIVED



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

September 18, 1991

REPLY TO
ATTENTION OF

Operations Division

Ms. Jane T. Takamiya
c/o Claire M. Tanoue
99-378 Kulaweia Place
Aiea, Hawaii 96701

Dear Ms. Takamiya:

This is in response to your letter, dated September 5, 1991, requesting authorization for increasing the height of an existing seawall at your Aiea property, 98-165 Aiea Kai Way, TMK: 9-8-15-57, lot #6. The work would involve reconstructing the existing wall by re-setting loose boulders and backfilling as the wall's height is increased. The total length of the wall is about 225 feet, and the completed section would include less than an average of one cubic yard per running foot placed along the bank within waters of the United States.

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 (13), and no further Department of the Army processing is necessary. Excerpts from the regulations which list the conditions and management practices of this authorization are enclosed for your information and compliance.

In addition to these conditions and management practices, 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 November 13, 1991. It is incumbent upon you to remain informed

-2-

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. NW91-093 is assigned to this authorization. Please refer to this number in any further inquiries or correspondence.

Sincerely, *

Stanley J. Arakaki
Stanley T. Arakaki
Chief, Operations Division

Enclosure

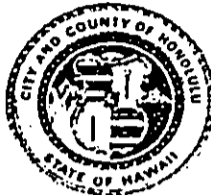
Copy furnished: (without enclosure)

CZM Office, Office of State Planning, State of Hawaii

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. CHIFF
DEPUTY DIRECTOR

LU2/92-663 (JM)

March 2, 1992

Ms. Claire M. Tanoue
99-378 Kulaweia Place
Aiea, Hawaii 96701

Dear Ms. Tanoue:

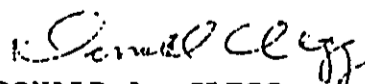
Shoreline Setback Variance Application
For 98-165 Aiea Kai Way, Aiea, Hawaii
Tax Map Key: 9-8-15-57, Lot #6

We have reviewed your letter of February 3, 1992 relating to the improvements that were made to the seawall along your property. The seawall improvements for which you have been cited will require a shoreline variance. We have enclosed a Master Application Form for your completion, as well as instructions dealing with applying for a shoreline variance. In addition, your application for a shoreline setback variance will need to be accompanied by a certified shoreline survey.

Because you have an outstanding building violation, we will be contacting the Building Department to have them cite you for your violation of the shoreline setback area. We urge that you expedite the processing for your certified shoreline survey and shoreline setback variance application. An application for a shoreline setback variance typically takes several months to process. It is our standard process to assess daily fines for existing violations until such time as the variance is received, or the illegal structure is removed.

If you have any questions, please feel free to call John Morihara of our staff at 527-5349.

Very truly yours,


DONALD A. CLEGG
Director of Land Utilization

DAC:cct
a:tanoue.jsm

JOHN WADSWORTH
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
33 SOUTH KING STREET, 8TH FLOOR
HONOLULU, HAWAII 96813

REF:HP-AMK

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

DEPUTIES

JOHN P. KEPPeler, II
DONA L. HANAKE

AQUACULTURE DEVELOPMENT
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AQUATIC RESOURCES
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HISTORIC PRESERVATION
DIVISION
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

COPY

Mr. J.M. Kilian, Director
Real Estate Division
Pacific Division
Naval Facilities Engineering Command
Pearl Harbor, Hawaii 96860-7300

LOG NO: 6803
DOC NO: 9212TD19

Dear Mr. Kilian:

SUBJECT: Easement to Tanoue Family for a Rock Wall
Kalauao, 'Ewa, O'ahu
TMK: 9-8-15: 57

Thank you for your letter of November 10, 1992. We concur with your position that the proposed easement grant will have "no effect" on Loko Paaiau (Site 50-80-09-108) or any other historic site.

Very truly yours,

A handwritten signature in cursive script that reads "John P. Keppeler II".
for WILLIAM W. PATY, Chairperson and
State Historic Preservation Officer

TD:amk



DEPARTMENT OF THE NAVY
PACIFIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
(MAKALAPA, HI)
PEARL HARBOR, HAWAII 96860-7300

11011
Ser 241/0218

1 5 JAN 1993

Ms. Claire M. Tanoue
99-378 Kulawea Place
Aiea, HI 96701

Dear Ms. Tanoue:

This is to advise you that the State of Hawaii Historic Preservation Officer has concurred in our determination that the proposed grant of an easement to your mother, Jane T. Takamiya, for the seawall that was constructed on Navy property at McGrew Point will have no effect on the nearby Loko Paaiau Fishpond. A copy of the State's letter of concurrence, dated December 16, 1992, is enclosed for your records.

We may now proceed with further consideration of your request. In this regard, it is noted that we have no evidence that the Corps of Engineers permit forwarded with your letter of July 29, 1992, has been transferred to your mother. Please provide documentation that the permit has been transferred and the Corps of Engineers is aware of the transfer.

As previously indicated to you, fair market value must be changed for the easement. While a formal appraisal has not been undertaken due to the high cost, we believe the fair market value of the easement interest is approximately \$18.50 per square foot. This is based on the assessed value of TMK 9-8-15-57. The final payment amount would be calculated after the easement area is determined by survey, as discussed below. Please advise if this rate is acceptable.

If you believe the amount is incorrect, an appraisal will have to be obtained at your expense for our consideration. The appraisal would have to be prepared by a State of Hawaii "certified general real estate appraiser" in accordance with the "Uniform Standards of Professional Appraisal Practice" published by The Appraisal Foundation. Should you employ an appraiser, it is suggested that the appraiser work closely with us so that the appraisal report is not rejected when submitted for Navy approval.

We have also prepared the enclosed draft grant of easement for your review. The terms and conditions of the easement are prescribed by Navy policy and cannot be modified without sufficient justification.

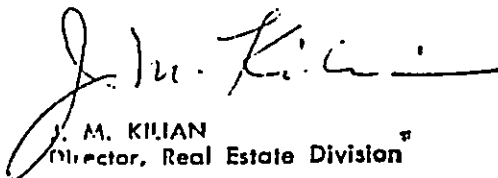
The grant is drafted in the name of your mother, Jane T. Takamiya. Please submit satisfactory evidence that your mother is the current and sole owner of Lot 6, TMK 9-8-15-57. Ideally, this would be in the form of a title report. However, alternate documentation currently in your mother's possession may be sufficient for this purpose.

11011.
Ser 241/0218

Please note that a legal description and map of the easement area will have to be submitted for incorporation into the easement and a final determination of the cost of the easement. It is not recommended that you obtain this documentation until we are in agreement on the valuation of the easement and final Navy approvals for the easement have been obtained.

If you have any questions concerning the above, please contact us at 471-3217.

Sincerely,



J. M. KILIAN
Director, Real Estate Division

Encl:

- (1) SHPO ltr of Dec 16, 1992
- (2) Draft easement

JOHN WAINEE
GOVERNOR OF HAWAII

RECEIVED NOV 05 1993



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 621
HONOLULU, HAWAII 96809

KEITH W. AHUE, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES
JOHN P. KEPPELER, II
DONA L. MANAIKE

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

REF:OCEA:DKP

File No.: 94-190
DOC. NO.: 3673

NOV 2 1993

Eric B. Guinther
AECOS
970 N. Kalaheo Avenue, Suite C311
Kailua, Hawaii 96734

Dear Mr. Guinther

Subject: Conservation District Use Application (CDUA) for the Tanoue
Seawall and Drainage Improvements, Aiea, Oahu, TMK: 9-8-15: 57

We have reviewed the CDUA and Environmental Assessment information for the proposed project transmitted by your letter dated September 15, 1993, and find that a Conservation District Use Permit will not be required as the project will occur within Urban District land owned by the Tanoues.

However, if any construction activities involve areas seaward (makai) of the certified shoreline (ie. equipment placement or access to the seawall's exterior, etc.), a Right-of Entry will have to be obtained from our Division of Land Management.

We have no other comments to offer at this time. However, we recognized that we will have another opportunity to comment on this matter during the County's processing of the Shoreline Setback Variance.

Please feel free to call Steve Tagawa at the Office of Conservation and Environmental Affairs, at 587-0377. should you have any questions.

Very truly yours,

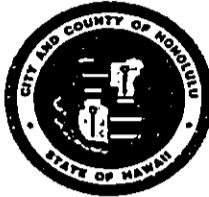
Handwritten signature of Keith W. Ahue in black ink.
Keith W. Ahue

DEPARTMENT OF LAND UTILIZATION
CITY AND COUNTY OF HONOLULU

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

RECEIVED NOV 30 1993

FRANK F. FASI
MAYOR



DONALD A. CLEGG
DIRECTOR

LORETTA K.C. CHEE
DEPUTY DIRECTOR

93/SV-015 (ASK)

November 26, 1993

Mr. Rick Guinther
AECOS, Inc.
970 N. Kalaheo Avenue, Ste. C311
Kailua, Hawaii 96734

Dear Mr. Guinther:

Application for a Shoreline Setback Variance (SV)


Recorded Owner/	:	Jane T. Takamiya
Applicant	:	AECOS, Inc.
Agent	:	AECOS, Inc.
Location	:	98-165 Aiea Kai Way, Aiea, Oahu
Tax Map Key	:	9-8-15: 57
Request	:	Shoreline Setback Variance, after-the-fact

We are forwarding copies of all comments we have received relating to the Draft Environmental Assessment (DEA) of the above referenced project.

In accordance with the provisions of Chapter 343, Hawaii Revised Statutes, you must respond in writing to these and any other comments which were received during the 30-day comment period which began with publication of a notice of availability of the DEA in the OEOC Bulletin. The final EA must include these comments and responses, as well as revised text, if appropriate.

If you have any questions, please contact Ardis Shaw-Kim of our staff at 527-5349.

Very truly yours,


for DONALD A. CLEGG
Director of Land Utilization

DAC:ak
Enclosures
G:sv15res.ask

93-08346

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

450 SOUTH KING STREET
HONOLULU HAWAII 96813



FRANK FASI
MAIL ROOM

C. MICHAEL STREET
DIRECTOR AND CHIEF ENGINEER
KENNETH SPRAGUE
DEPUTY DIRECTOR

ENV 93-223

October 12, 1993

MEMORANDUM

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

FROM: C. MICHAEL STREET, DIRECTOR AND CHIEF ENGINEER

SUBJECT: ENVIRONMENTAL ASSESSMENT (EA)
TAKAMIYA SEAWALL MODIFICATION AND NEW DRAINAGE SYSTEM
TMK: 9-08-15: 57

We have reviewed the subject EA and have the following comments:

1. The EA should address the potential impact of storm water discharge associated with construction activities on water quality of the receiving waters.
2. The EA should also state what structural or non-structural best management practices (BMP) will be provided to control and reduce discharge of pollutants resulting from construction operations. *No construction*
3. If dewatering is anticipated, dewatering permits will be required by the State Department of Health as well as the Department of Public Works, City and County of Honolulu.

Should you have any questions, please contact Mr. Alex Ho, Environmental Engineer, at 523-4150.

Very truly yours,

A handwritten signature in cursive script that reads "C. Michael Street".

C. MICHAEL STREET
Director and Chief Engineer



AECOS

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

December 14, 1993

C. Michael Street, Director
Department of Public Works
City and County of Honolulu
650 S. King Street
Honolulu, Hawaii 96813

RE: Environmental Assessment, Sea Wall and Drainage System at 98-
165 Aiea Kai Way, Kalauao, 'Ewa, O'ahu.

Dear Mr. Street,

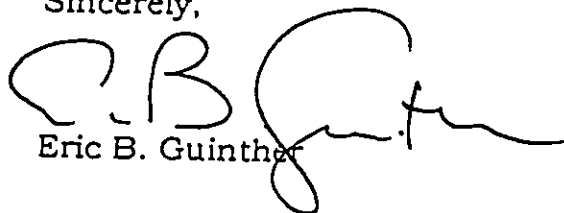
Thank you for your comments on the subject EA. We provide the following responses to the points raised in your letter:

(1) We do not anticipate that any impacts on water quality of the receiving water will occur with this project as described. This action is for after-the-fact repairs made to an existing sea wall and a proposed drainage collection system. No additional construction will occur for the sea wall. The drainage system will result in some disturbance of the soils on the site, which is a private house lot of a little over 14,000 sq. ft. in area. Construction as proposed should be completed in a matter of days. Reasonable precautions can be taken to minimize the opportunity for storm generated rains to wash sediment into Pearl Harbor during the construction period. ✓

(2) See (1) above. Additional information will be added to the Final EA.

(3) Dewatering is not anticipated for any aspect of the project except construction of the sump. If dewatering is required for this structure, a dewatering NOI will be filled with DOH. I do not believe a dewatering permit is required from the City and County because the property is makai of the storm drain system.

Sincerely,


Eric B. Guinther

93.05541



DEPARTMENT OF THE NAVY
PACIFIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
(MAKALAPA, HI)
PEARL HARBOR, HAWAII 96860-7300

11011
Ser 241/
20 OCT 1993

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

Dear Mr. Clegg:

This responds to your letter 93/SV-015 (ASK) of October 11, 1993, which forwarded an environmental assessment describing a seawall surrounding Lot 6 of Aiea Kai Subdivision at Kalauao, Ewa, Oahu (TMK 9-8-15: 57) and a proposed drainage system at the same location.

We have no comment with regard to the environmental assessment except to note that the Navy continues to cooperate in the grant of an easement to the owner of Lot 6 for the portion of the seawall which encroaches into Navy property.

Sincerely,

J. M. Kilian
J. M. KILIAN
Director, Real Estate Division

RECEIVED
OCT 20 1993

RECEIVED OCT 29 1993

DEPARTMENT OF LAND UTILIZATION
CITY AND COUNTY OF HONOLULU
850 SOUTH KING STREET
HONOLULU, HAWAII 96813 • (808) 523-4432

FRANK F. FASI
MAYOR



DONALD A. CLEGG
DIRECTOR

LORETTA K.C. CHEE
DEPUTY DIRECTOR

93/SV-15 (ASK)

October 27, 1993

Dr. Eric Guinther
970 N. Kalaheo Avenue, Suite C311
Kailua, Hawaii 96734

Dear Dr. Guinther:

**ENVIRONMENTAL ASSESSMENT
SEAWALL AND DRAINAGE SYSTEM WITHIN THE SHORELINE SETBACK
Tax Map Key 9-8-15: 57**

We have reviewed the Environmental Assessment and Application for a Shoreline Setback Variance for the above named project. You must submit the following prior to our acceptance of your Shoreline Variance Application for processing:

- An update on the status of your request for a grant of easement from the Department of the Navy.
- Information identifying State Department of Health requirements. Page 5 of the Environmental Assessment states that "State of Hawaii environmental regulatory concerns would need to be addressed through the Department of Health."
- The drainage report and the coastal engineer's report.
- A copy of the certified shoreline survey.

Should you have questions regarding the above, you may contact Ardis Shaw-Kim of our staff at 527-5349.

Very truly yours,


DONALD A. CLEGG

Director of Land Utilization

DAC:ak
A:eric.as5
G:eric.ask

October 22, 1993

Department of Land Utilization
City and County of Honolulu
650 So. King Street
Honolulu, Hawaii 96813

Attn.: Ardis Shaw-Kim

Dear Ardis,

Enclosed is the additional information you requested for the Shoreline Setback Variance Application of Janet Takamiya, for a seawall at 98-165 Aiea Kai Way (TMK: 9-8-15: 57) in Aiea. Included is a copy of the shoreline certification signed and stamped at DLNR, and all material relevant to the easement agreement between the U.S. Navy and the property owner.

Sincerely,

Eric B. Guinther

FILE: 742

43-08700

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

In reply, please refer to:

October 28, 1993

93-295/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
Takamiya Seawall Modification and New Drainage System
98-165 Aiea Kai Way
Aiea, Oahu
TMK: 9-8-15: 57

Thank you for allowing us to review and comment on the subject project.
We do not have any comments to offer at this time.

Very truly yours,


JOHN C. LEWIN, M.D.
Director of Health

11 11 1993



REPLY TO
ATTENTION OF

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

RECEIVED NOV 05 1993

November 4, 1993



Operations Division

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

Dear Mr. Clegg:

In response to your October 11, 1993 letter, we have reviewed the Environmental Assessment for the Takamiya After-the-Fact Seawall Modifications and New Drainage System, 98-165 Aiea Kai Way, Aiea, Oahu, TMK: 9-8-015: 057. The repair and modification of the seawall was authorized by Corps nationwide authority in a letter dated September 18, 1991, File No. NW 91-093. All of the seawall work was completed prior to expiration of the Corps permit; however, the owner failed to obtain all of the necessary local permits for the project.

We understand that the owner is now in the process of obtaining the necessary permits for the completed seawall work and is also proposing to install a new drainage system. All of the work on the drainage system will be located inland of the seawall, and none of the structures, including the outlet pipe, will be placed below the mean high water line along the shore. Under these circumstances, Department of the Army authorization for the drainage system is not required, and no other Corps requirements must be met for the completed seawall work.

We appreciate the opportunity to review the Environmental Assessment. If there are any questions on this matter, please contact the Operations Division and refer to File No. NP 94-011.

Sincerely,

Warren S. Kanai

Warren S. Kanai
Acting Chief, Operations Division

Copy Furnished:

✓ AECOS, 970 N. Kalaheo Ave., Suite C311, Kailua, Hawaii 96734

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 96801-3378

November 8, 1993

In reply, please refer to:
File: EMD / CWB

RECEIVED NOV 12 1993

P1112EC

Mr. Eric B. Guinther
AECOS, Inc.
970 N. Kalaheo Ave., Suite C311
Kailua, HI 96734

Dear Mr. Guinther:

Subject: Draft Environmental Assessment (DEA) for Sea Wall and
Drainage System Construction At 98-165 Aiea Kai Way
Kalaauao, Ewa, Oahu
TMK: 9-8-15:57, Lot 6

Thank you for the opportunity to review and comment on the DEA for the subject activity. We have reviewed the DEA and are providing the following comments:

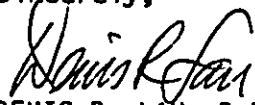
1. Based on the scope of the proposed activity, a National Pollutant Discharge Elimination System (NPDES) permit is required if dewatering effluent discharges into Pearl Harbor are anticipated from the following construction activities:
 - ✓ a. Construction of a sump pit;
 - b. Excavation of the trench or installation of a 6" drainage pipe; and
 - c. The installation of the impervious liner swale.
2. We recommend that the drainage system be constructed in such a manner that:
 - ✓ a. Storm water runoff will be collected by gravity flow;
 - b. Proper filtration or screening devices be installed to prevent solid waste, leaves or other pollutants from being washed into the sump pit; and
 - c. The sump pit should be so designed as to allow only the overflow to be discharged into Pearl Harbor.
3. An NPDES permit is required if the final design requires the operation of a pump to discharge the collected runoff into Pearl Harbor.

Mr. Eric B. Guinther
November 8, 1993
Page 2

4. There is no indication as to how the discharge outfall will be constructed. The final design of the discharge outfall shall be submitted to the U.S. Army Corps of Engineers (COE), Honolulu District, for a review of the requirements for a Department of Army (DA) permit. A Section 401 Water Quality Certification or a waiver may be required if a DA permit is deemed to be necessary.

Should you have any questions, please contact Mr. Edward Chen, Engineering Section of the Clean Water Branch, at 586-4309.

Sincerely,


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

EC:rm

c: COE, Operations Branch, Honolulu District



AECOS

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

December 17, 1993

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

REF: P1112EC

RE: Environmental Assessment, Sea Wall and Drainage System at 98-165 Aiea Kai Way, Kalauao, 'Ewa, O'ahu.

Dear Mr. Lau,

Thank you for your comments on the subject EA. We provide the following responses to the points raised in your letter:

1. We have notified the client and the design engineers that a dewatering permit under the State's NPDES General Permits program may be required for the construction of the sump and possibly other trenching activities as proposed.
2. We will pass along your recommendations for minimizing adverse water quality impacts to the design engineers.
3. We have submitted an NPDES permit application to DOH as suggested in your letter and in discussion with your staff.
4. The draft EA stated that no part of the drainage system would be built on State land (p. 5). So long as the end of the discharge pipe does not extend seaward of the outer face of the sea wall, no additional State or Federal permits are required for the construction as described.

Thank you for the comments,


Eric B. Guinther

CC: Keith Terada, Belt Collins & Associates, Honolulu

JOHN WAIHEE
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 621
HONOLULU, HAWAII 96809

REF:OCEA:SKK

File No.: 94-268
Doc. No.: 3716

NOV 10 1993

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

Dear Mr. Clegg:

SUBJECT: Environmental Assessment (EA) for a Shoreline Setback Variance (93/SSV-015): Takamiya Seawall and Drainage System at 98-165 Aiea Kai Way, Aiea, Oahu, TMK: 9-8-15: 57

We have reviewed the EA information for the proposed project transmitted by your letter dated October 11, 1993, and have the following comments:

Office of Conservation and Environmental Affairs

The Office of Conservation and Environmental Affairs (OCEA) finds that a Conservation District Use Application (CDUA) will not be required for the proposed project. However, if any construction activities involve areas seaward (makai) of the certified shoreline (ie. equipment placement or access to the seawall's exterior), a Right-of-Entry will have to be obtained from the Division of Land Management.

OCEA also notes that pursuant to Act 241, Session Laws of Hawaii (SLH) 1992, the subject EA should be designated as a Draft Environmental Assessment.

Historic Preservation Division

The Historic Preservation Division (HPD) comments that their "no effect" determination, attached in Appendix B, was for an easement grant at this parcel, and not for the proposed action described in the subject EA.

97-0408
KEITH W. AKUE, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES
JOHN P. KEPPELER, II
DONA L. KANAHE

AQUACULTURE DEVELOPMENT PROGRAM
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CONVEYANCES
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HISTORIC PRESERVATION
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

NOV 10 1993

Mr. D. Clegg

-2-

File No.: 94-268

The proposed project consist of seawall modifications and installation of a new drainage system. The seawall modifications and excavation of a sump pit and seepage liners. Excavation for the seepage liners appears to be limited to fill soils above the original fishpond (Loko Pa'aiiau, Site 50-80-09-108).

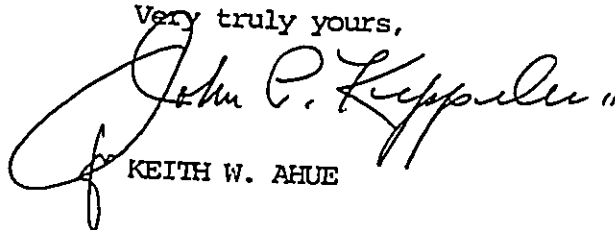
Excavation of the small 4' x 4' sump pit in the interior side of the southeast portion of the seawall may impact original fishpond soils, however construction of the seawall in 1976 has probably disturbed original deposits at this location. Therefore, HPD believes that the seawall modifications and new drainage system as described in the EA will have "no effect" on Loko Pa'aiiau.

We will forward our Division of Aquatic Resources comments as they become available.

We have no other comments to offer at this time. Thank you for the opportunity to comment on this matter.

Please feel free to call Steve Tagawa at the Office of Conservation and Environmental Affairs, at 587-0377, should you have any questions.

Very truly yours,


KEITH W. AHUE



AECOS

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

December 17, 1993

Keith W. Ahue, Chairman
State of Hawaii, Department of Land
and Natural Resources
P.O. Box 621
Honolulu, Hawaii 96809

REF: 94-268
OCEA

RE: Environmental Assessment, Sea Wall and Drainage System at 98-
165 Aiea Kai Way, Kalauao, 'Ewa, O'ahu.

Dear Mr. Ahue,

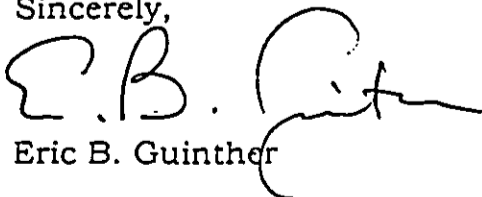
Thank you for forwarding your comments on the subject EA. We provide the following responses to the points raised in your letter:

We have informed the client and project designers of the need to keep all physical parts of the proposed drainage system within the shoreline boundary as previously certified by your department. The subject EA was a draft EA as indicated on page ii, but inadvertently left off the title page.

We are pleased to understand that while Historic Preservation Division wishes to make a distinction between the impacts of granting an easement for an existing contemporary wall and the granting of an after-the-fact SSV for the same structure, their conclusion ("no effect") is the same. We were somewhat remiss in not addressing the impacts of the proposed drainage system. In part this was because it was realized that the trenching as proposed is not very deep or extensive. However, we admit to being unsure of the location of the fishpond known as Loko Pa'aiiau, which is shown on recent maps as the adjacent (U.S. Navy) parcel. This fact does not eliminate the possibility that portions of the fishpond and/or the fishpond wall could lie beneath the Takamiya parcel.

We look forward to considering any comments received from Division of Aquatic Resources.

Sincerely,


Eric B. Guinther

APPENDIX C
COASTAL ENGINEERING EVALUATION
OF THE SEAWALL AT 98-165 AIEA KAI WAY
KALAUAO, EWA, OAHU

By
Sea Engineering, Inc.
Lic. #AC-13714
Makai Research Pier
Waimanalo, Hawaii 96795

Environmental Assessment
Sea Wall and Drainage System
at 98-165 Aiea Kai Way
Kalauao, 'Ewa, O'ahu

October 1993

APPENDIX C

COASTAL ENGINEERING EVALUATION OF THE SEAWALL AT 98-165 AIEA KAI WAY KALAUAO, EWA, OAHU

This report describes the coastal engineering aspects of the seawall bounding the property of Lot 6 of the Aiea Kai Subdivision in Ewa, Oahu. Figure 1 illustrates the lot location and the structural engineering certification for the seawall. Figure 2 illustrates the shoreline certification for the property. The property is located at the end of Aiea Kai Way on the shore of East Loch, Pearl Harbor. The southwest and southeast boundaries of the property consist of a grouted vertical rock seawall protecting the backshore from the waters of Pearl Harbor. Photos 1 to 7 illustrate the seawall, backshore and surrounding waters. Figure 3 shows the photo locations and typical profiles of the wall.

The seawall is composed of basalt rocks 6 to 12 inches in diameter, with a 1 inch thick flat concrete top. The wall is 1.3 feet wide. The top of the wall along the southwest is roughly 4 feet above mean lower low water (MLLW), and the ground level behind the wall is 2.8 feet MLLW (Figure 3, Profile A; Photos 1-4). Along the southeast, the wall is 1.3 feet higher. The top of the wall along this side is 5.3 feet MLLW, while the ground level behind the wall is 2.8 feet MLLW (Figure 3, Profile B; Photos 4-7). The wall appears to be in relatively good shape, and was recently certified by a structural engineer (Figure 1).

The wall is located on the eastern shoreline of East Loch, immediately north of McGrew Point. The water is brackish and turbid, and typically calm because it is sheltered from the trade winds. The offshore bottom is muddy, and there is little evidence of littoral transport.

The lot is relatively flat, and at an elevation ranging from only 2.8 feet (MLLW) adjacent to the wall to approximately 5 feet in the interior. Two houses with covered patios are located on the lot. Because of its low elevation, the lot is susceptible to flooding from both Pearl Harbor and runoff. The ground adjacent to the wall is less than 1 foot above high tide waters.

The adjacent shorelines are unprotected. The shoreline of the property to the west consists of gravel fill averaging 0.5 inches in diameter with some concrete rubble placed at the waterline (Photo 1). Immediately adjacent to the seawall, this gravel shoreline is indented 5 feet landward, and nearly reaches the concrete foundation of the tool shack on the neighboring property (Photo 2). This indented shoreline may be evidence of erosion aggravated by the end effects of the seawall. During typical conditions, this area is calm and the seawall has little impact on the neighboring shore. However, during periods of strong westerly or southwesterly winds, considerable wave energy could be reflected off the seawall and aggravate erosion along this gravel shoreface. ©

The shoreline to the north is muddy and densely vegetated with mangroves (Photo 7). A wall marks the property line approximately 10 to 15 feet inshore of the waterline. There is no evidence of transport or erosion along this shore.

Typical conditions along this shoreline are calm because it is sheltered from the trade winds. However, the shore is exposed to wind and waves from the southwest and west (Photo 3). The maximum fetch in these directions is approximately 10,000 to 11,000 feet. Strong winds blowing from these directions during high tide could generate waves that would overtop the southwest seawall.

There are two basic alternatives to the seawall: no shore protection, and a rock revetment. No protection is not an alternative for this site because of the low elevation of the backshore, the proximity of the structures to the shoreline, and previous flooding problems. Leaving the shoreline unprotected would expose the houses to flood damage. A revetment is a facing of erosion resistant material typically consisting of large armor stone over an underlayer and bedding layer, designed to protect a shoreline from direct erosion by waves. The slope of the revetment should not be greater than 1 vertical to 1.5 horizontal. Revetments therefore require considerable horizontal space. Revetments reduce wave runup, reflection and overtopping, and are a preferred protection method in areas of significant wave energy and where shoreline space is available. Vertical seawalls are also a proven, long lasting and relatively low maintenance shore protection method if they are designed properly. Seawalls require little shoreline area. Seawalls dissipate little wave energy, and therefore can be subject to overtopping, scour and increased erosion. On calm shorelines exposed to little wave energy, and with limited shoreline space, the seawall is an acceptable, proven method of shore protection. Because of the limited space available, and the low wave energy characteristic of this shoreline, a vertical seawall is a practical shore protection method for the project area.

DOCUMENT CAPTURED AS RECEIVED

**PURPOSE: RECONSTRUCT EXISTING
LOOSE Boulders**

ADJACENT PROPERTY OWNERS:

LOT 5-
LOT 7-

LOT: AIEA, OAHU, HAWAII

TAX MAP KEY: 9-8-15:57 LOT 6G

ADDRESS: 98-165 AIEA KULUWAHA

The work was prepared by me or under my supervision and construction of this project will be under my supervision. Supervision of construction as required by Section 17(1) of the Public Works Law of the Board of Engineers, Architects and Surveyors of the State of Hawaii.

DANIEL G. CHING

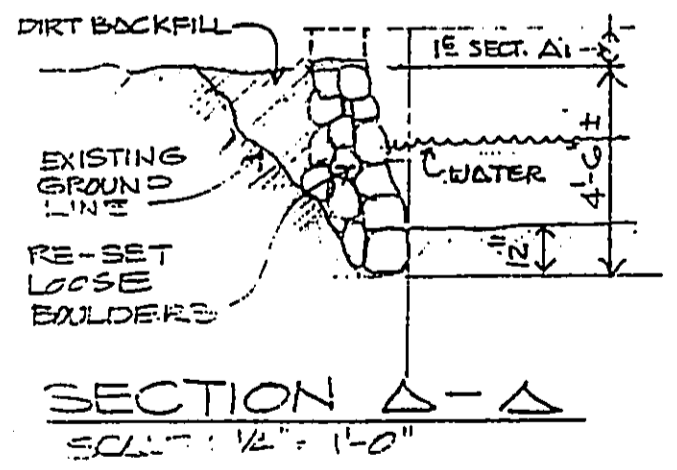
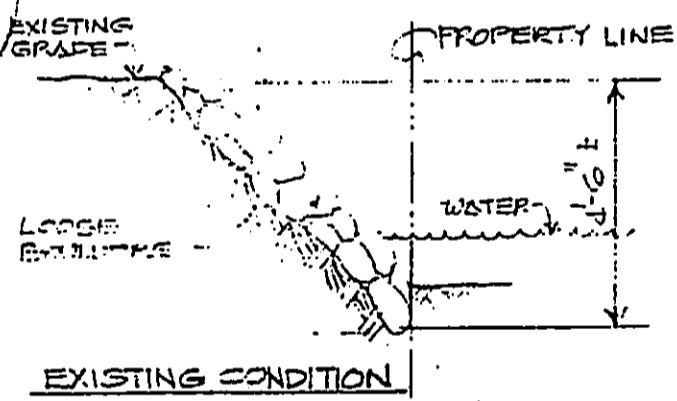
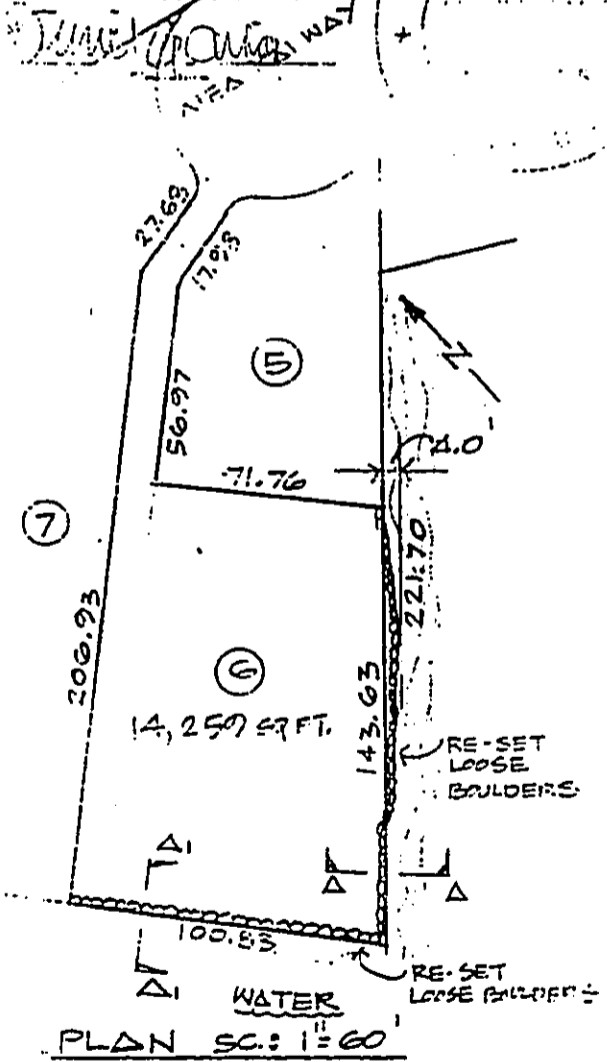
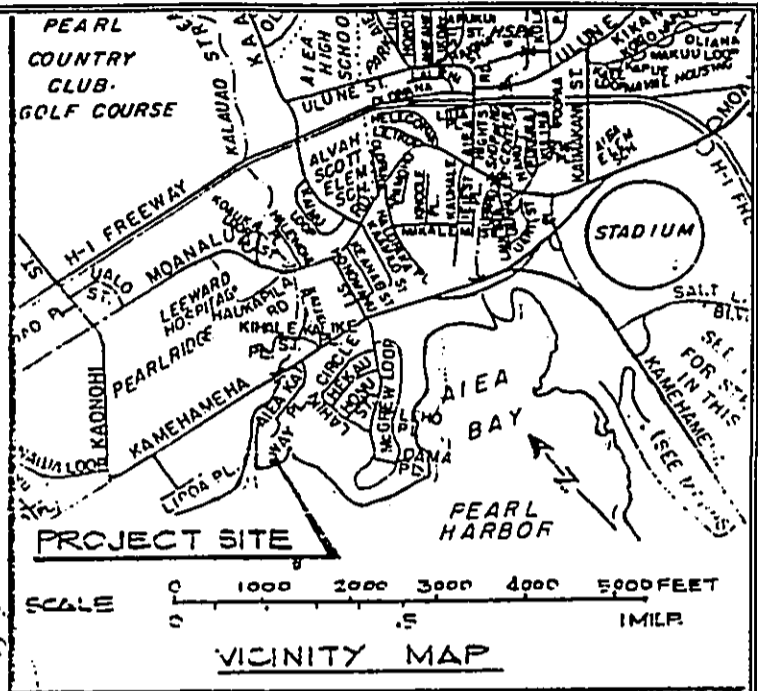
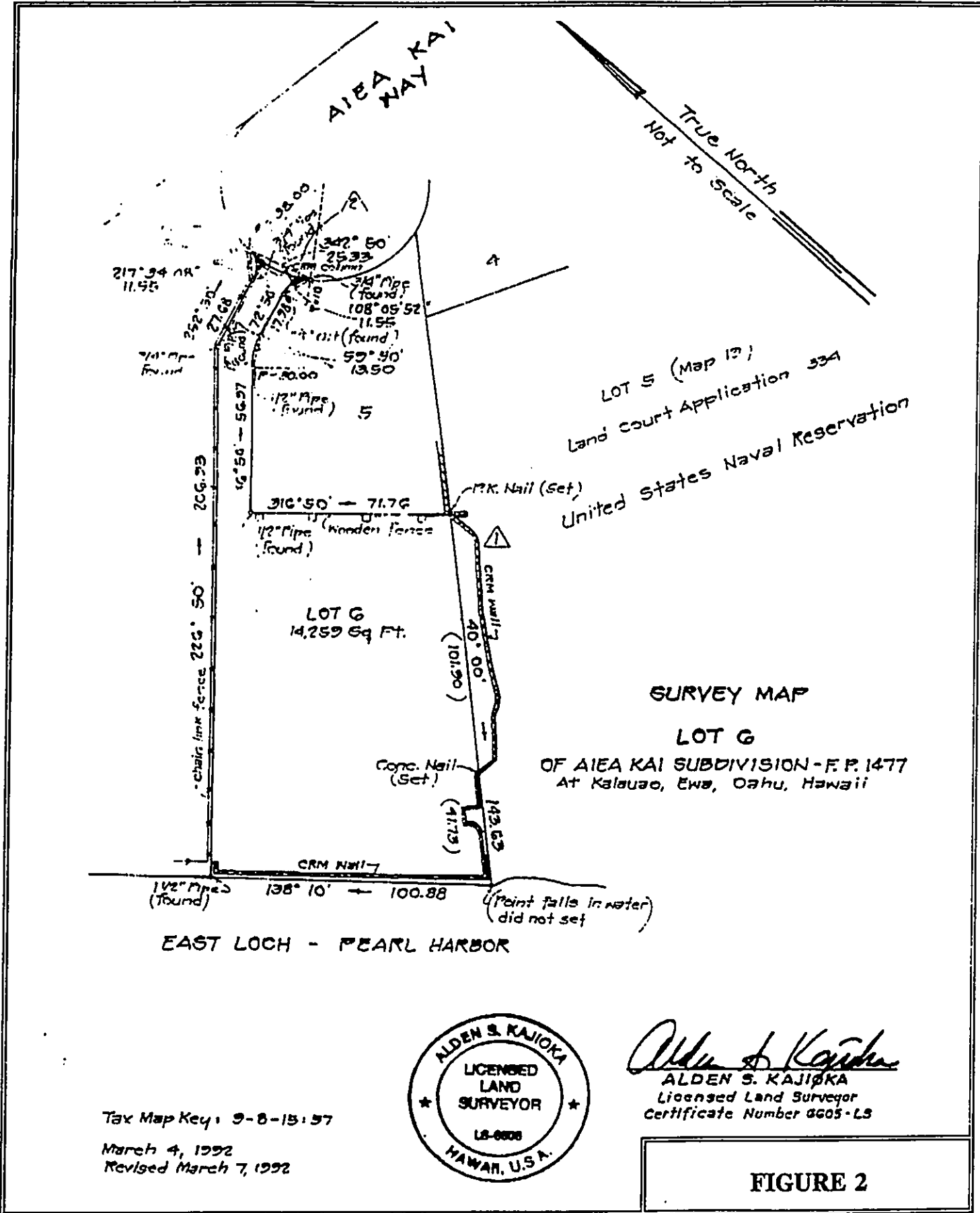


FIGURE 1



DOCUMENT CAPTURED AS RECEIVED

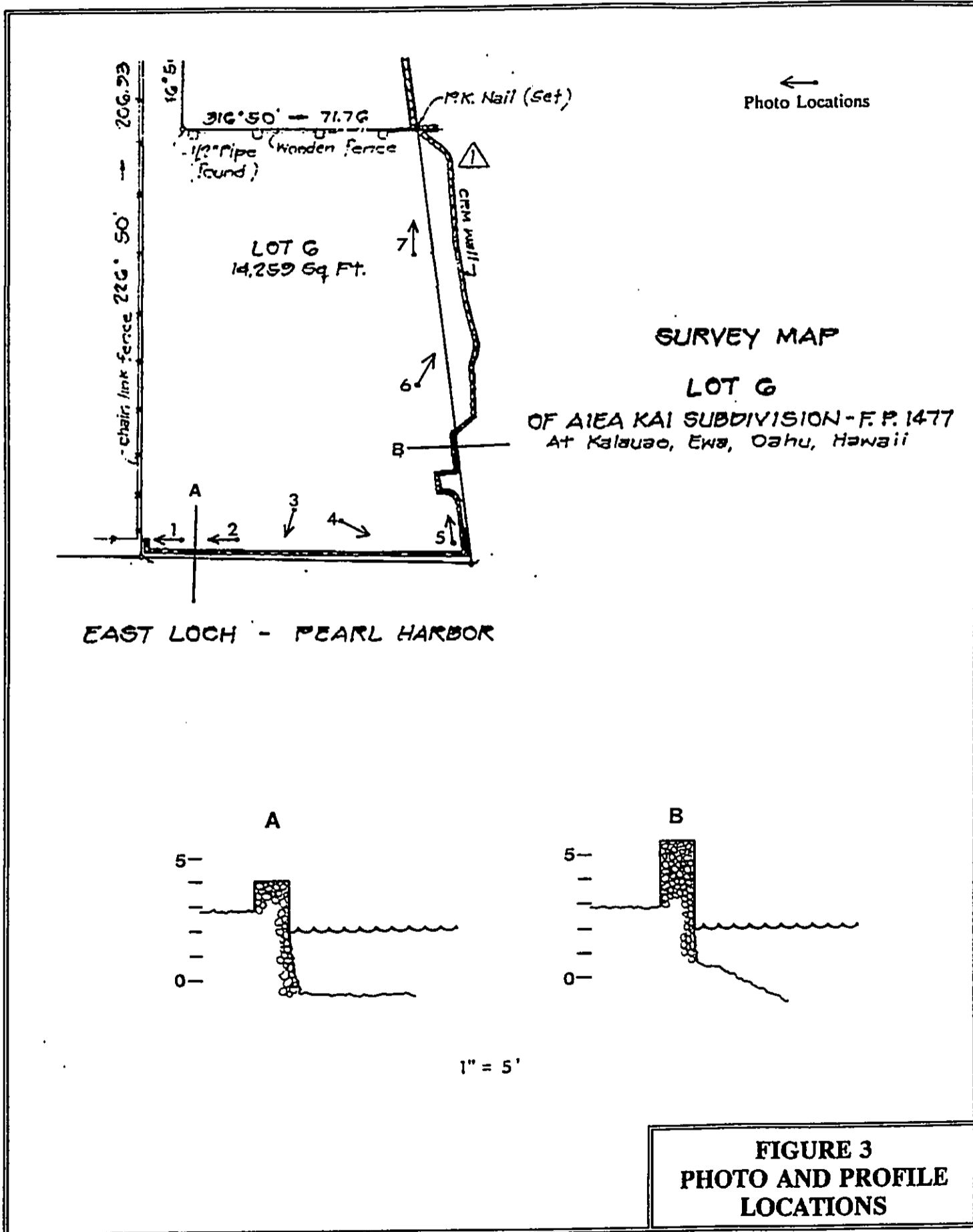


FIGURE 3
PHOTO AND PROFILE
LOCATIONS

APPENDIX C - PHOTOGRAPHS

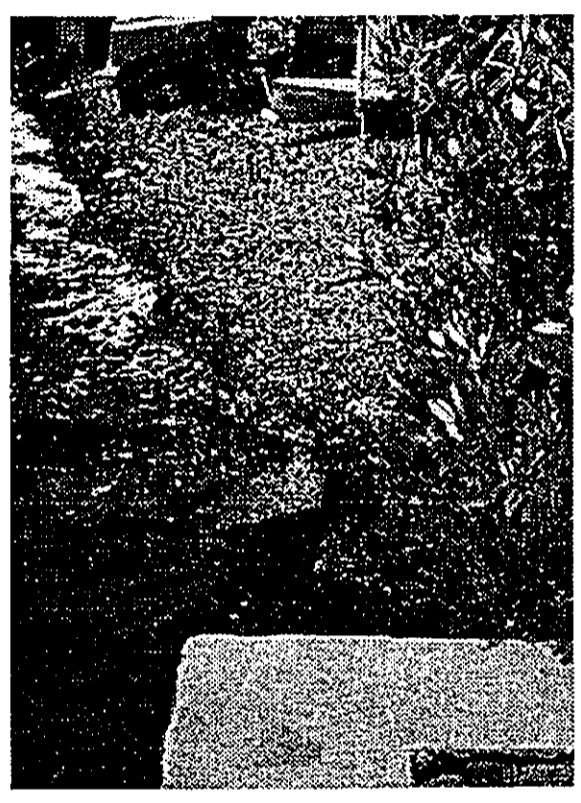


PHOTO 1 - West corner of property showing East Loch gravel shore on adjacent parcel.

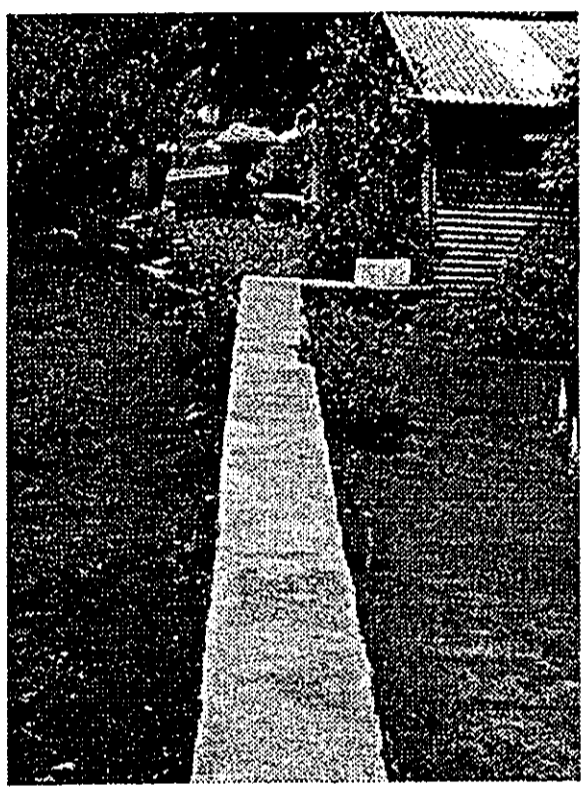


PHOTO 2 - Southwest portion of wall along the shore of East Loch, Pearl Harbor.

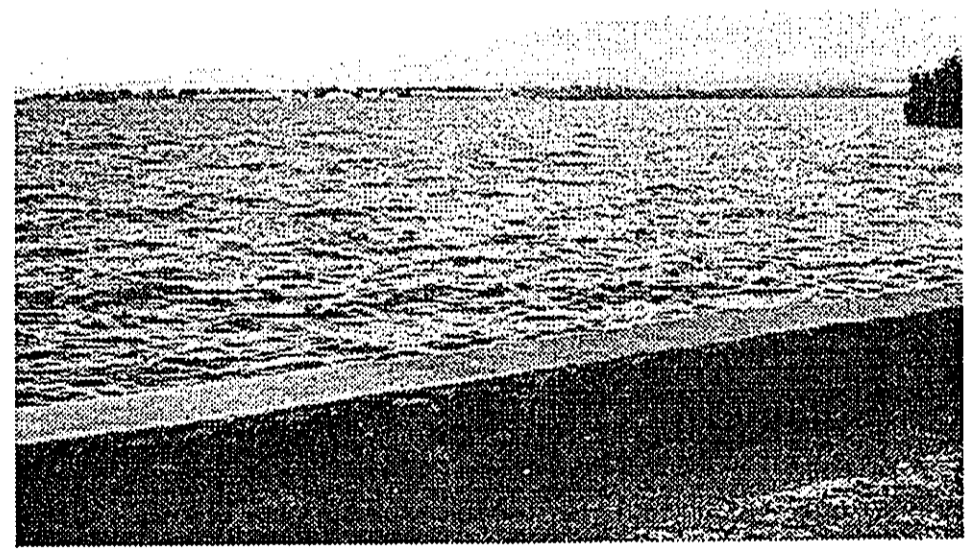


PHOTO 3 - Middle of southwest wall looking out across East Loch of Pearl Harbor.

APPENDIX C - PHOTOGRAPHS (Continued).

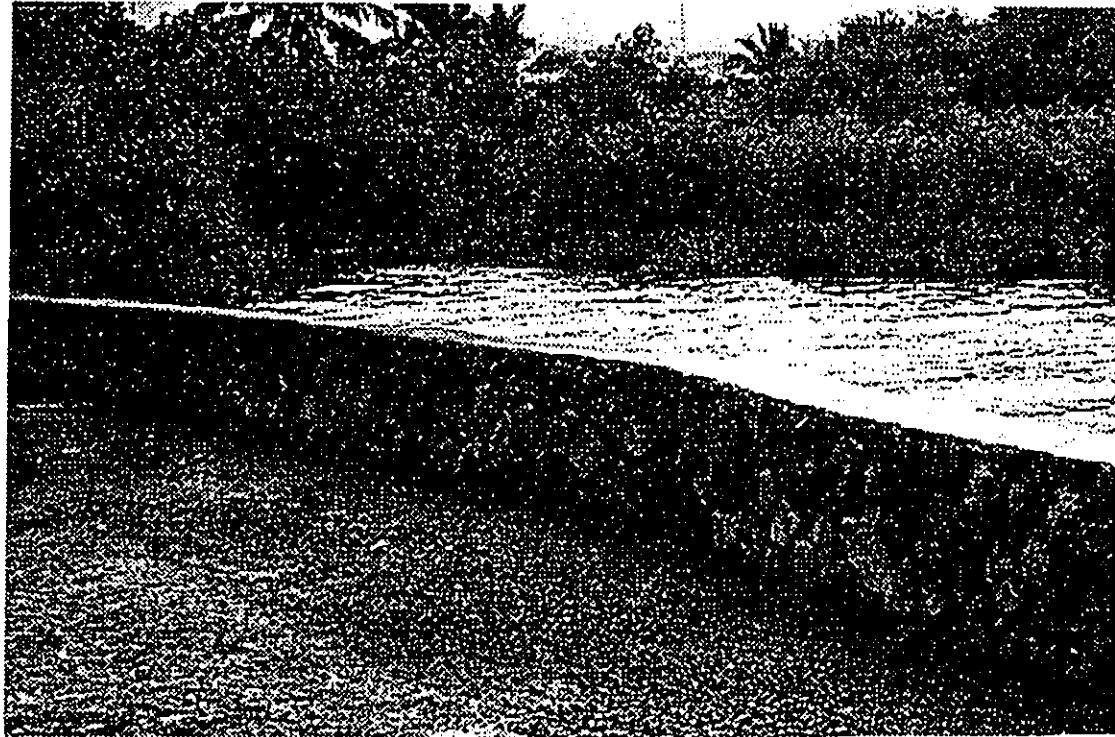


PHOTO 6 - Wall and inlet along the boundary with U.S. Navy property. Loko Pa'iaia is behind the mangrove on the right.

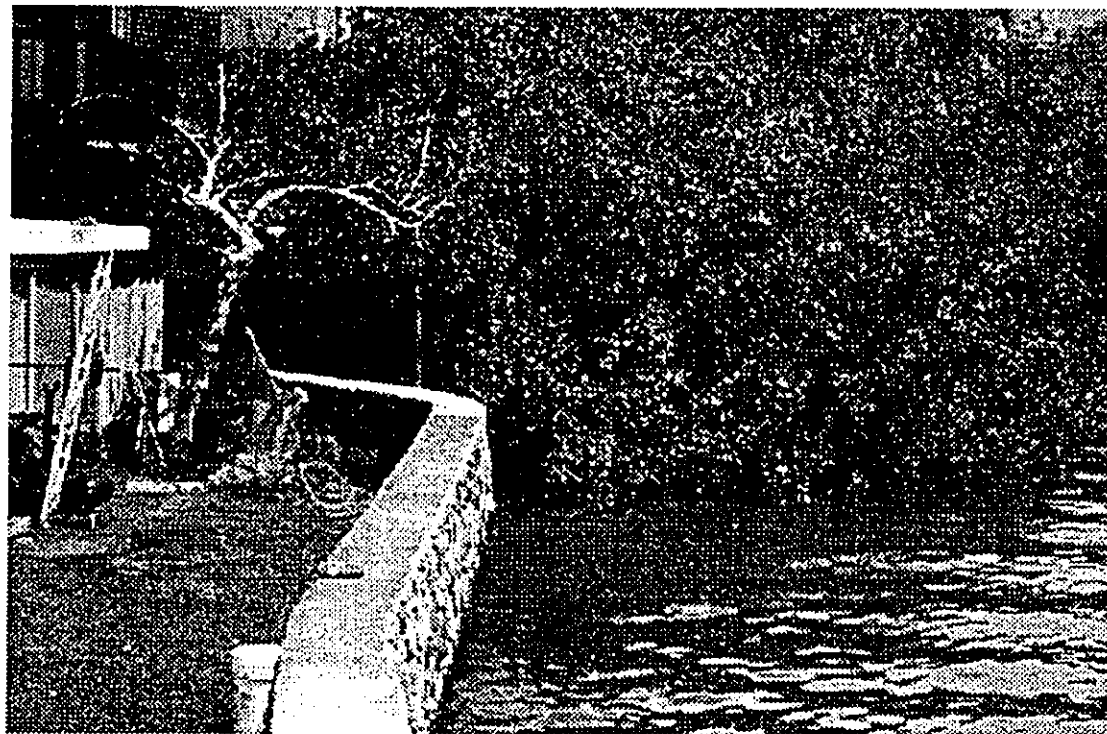


PHOTO 7 - Northeast property corner showing wall and adjacent dense mangrove growth.

APPENDIX C - PHOTOGRAPHS (Continued).

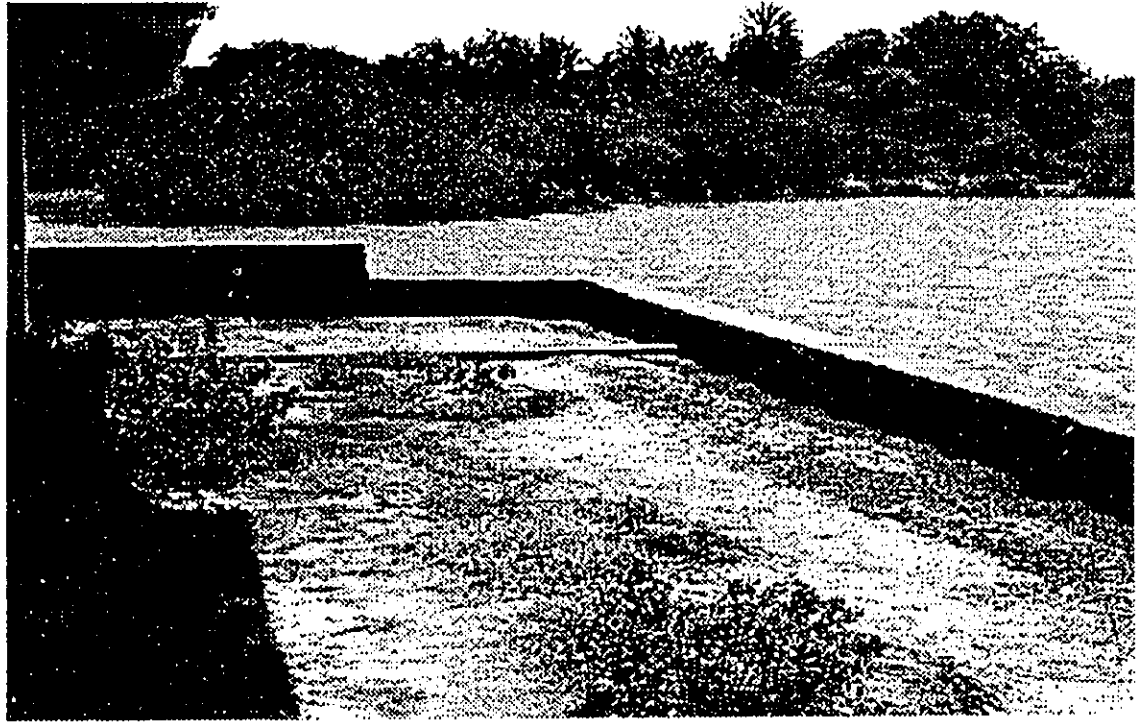


PHOTO 4 - South corner of the property with Loko Pa'aiiau behind mangroves in the background (left) and East Loch on the right.

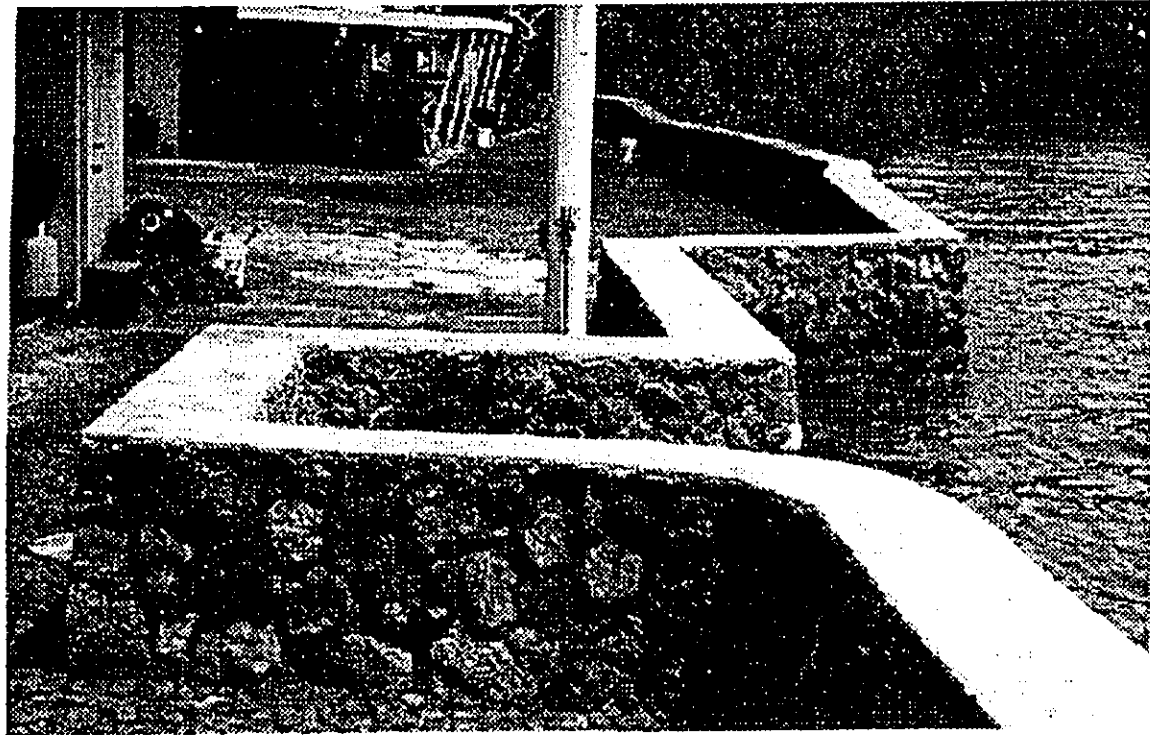


PHOTO 5 - Portion of wall along the boundary with U.S. Navy property.