

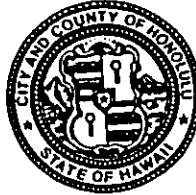
*Pau Hana Elderly Housing*

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

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

RECEIVED

JEREMY HARRIS  
MAYOR



96 NOV 18 12:38

PATRICK T. ONISHI  
DIRECTOR

LORETTA K.C. CHEE  
DEPUTY DIRECTOR

OFFICE OF ENVIRONMENTAL  
QUALITY CONTROL

96/SMA-033 (ASK)  
96/SV-003 (ASK)  
96-07733

November 13, 1996

The Honorable Gary Gill, Director  
Office of Environmental Quality Control  
State of Hawaii  
220 South King Street, 4th Floor  
Honolulu, Hawaii 96813

Dear Mr. Gill:

Chapter 343, Hawaii Revised Statutes  
Environmental Assessment/Determination  
Finding of No Significant Impact

Recorded Owner: Robert U. Mitsuyasu Company  
Applicant : Mitsuyasu Family  
Agent : Group 70 International, Inc.  
Location : 91-603 Pohakupuna Road, Ewa Beach, Oahu  
Tax Map Key : 9-1-28: 40  
Request : Special Management Area Use Permit and  
Shoreline Setback Variance  
Proposal : Construction of a 26-unit elderly housing  
project  
Determination : A Finding of No Significant Impact is issued

Attached and incorporated by reference is the Final Environmental Assessment (FEA) 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.

We have enclosed a completed OEQC Bulletin Publication Form and four copies of the FEA. If you have any questions, please contact Ardis Shaw-Kim of our staff at 527-5349.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Patrick T. Onishi".

PATRICK T. ONISHI  
Director of Land Utilization

PTO:am  
Encls.  
g:feasma33.ask

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FILE COPY

**Environmental Assessment  
Application for Special Management Area (SMA) Use Permit  
Application for Shoreline Setback Variance**

**PAU HANA HALE ELDERLY HOUSING**

91-603 Pohakupuna Road, Ewa Beach, Oahu, HI  
Lot 315 of Land Court App 242 (Map 190)  
TMK (1) 9-1-28:40

**Applicant:**

Mitsuyasu Family  
Hawaiian Trust Company, Limited as Agent  
Honolulu, HI

**Authority:**

City and County of Honolulu  
Department of Land Utilization  
Honolulu, HI

**Planning and Environmental Consultant:**



Group 70 International, Inc.  
Architecture • Planning • Interior Design • Environmental Services  
Honolulu, HI

October 1996

1996 OCT 28 AM 11:00

DEPT. OF LAND UTILIZATION  
CITY & COUNTY OF HONOLULU

**Environmental Assessment  
Application for Special Management Area (SMA) Use Permit  
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October 1996

**• Pau Hana Hale Elderly Housing, Ewa Beach, Oahu •**  
**Draft Environmental Assessment, SMA Use Permit & Shoreline Setback Variance**

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**SECTION 1**  
**General Information**

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• Pau Hana Hale Elderly Housing, Ewa Beach, Oahu •  
Draft Environmental Assessment, SMA Use Permit & Shoreline Setback Variance

## SECTION 1

### GENERAL INFORMATION

#### Overview

An elderly housing development is planned for a 2.74 acre property at Ewa Beach. The property has been owned by the Mitsuyasu family for two generations (since the 1930's), and the property is now managed by Hawaiian Trust Co., Ltd. as agent.

The Mitsuyasu family plans to develop up to 26 units of elderly housing on this property. This elderly housing project has been named Pau Hana Hale. As many as 12 of these units are planned to be occupied by senior members of the Mitsuyasus. The development lies within the Special Management Area (SMA) of the City and County of Honolulu. Improvements within the 40 foot shoreline setback area include landscape plantings and a concrete reinforced material (CRM) landscape wall to be positioned 10 to 20 feet inland from the certified shoreline.

Discretionary approvals are required from the City and County of Honolulu are required to develop the proposed elderly housing project, including a Special Management Area (SMA) Use Permit and a Shoreline Setback Variance. The project is planned as a Cluster Housing project, requiring approval by the City's Director of Land Utilization.

This document is a composite application for the SMP and SSV, including an Environmental Assessment pursuant to Chapter 25 Revised Ordinances of Honolulu (ROH).

General project information is presented below.

- A. **Applicant:** Mitsuyasu family  
Hawaiian Trust Company, Limited as Agent  
P. O. Box 3170  
Honolulu, HI 96802-3170  
Leiolani Abdul, Assistant Vice President  
(808) 538-4563
- B. **Recorded Fee Owner:** Robert U. Mitsuyasu Co.
- C. **Applicant's Representative:** Group 70 International, Inc.  
925 Bethel Street, 5th Floor  
Honolulu, HI 96813-4307  
George Atta, Director of Planning  
(808) 523-5866 ext. 105

• Pau Hana Hale Elderly Housing, Ewa Beach, Oahu •  
Draft Environmental Assessment, SMA Use Permit & Shoreline Setback Variance

- D. Tax Map Key: Zone 9, Section 1, Plat 28, Parcel 40
- E. Lot Area: 2.74 acres
- F. Agencies Consulted: City & County of Honolulu  
Department of Land Utilization  
Building Department  
Department of Wastewater Management  
Board of Water Supply  
Department of Public Works  
Department of Transportation Services  
State of Hawaii  
Department of Land and Natural Resources

Accepting Authority: City and County of Honolulu  
Department of Land Utilization  
650 South King Street, 7th Floor  
Honolulu, HI 96813  
Patrick Onishi, Director  
(808) 523-4107

Contents of the Application

This application is presented in six sections, as follows:

- Section 1 contains general information on the proposed development,
- Section 2 presents a detailed description of the proposed project,
- Section 3 describes the affected environment,
- Section 4 relates the project to the Coastal Zone Management Program,
- Section 5 is a summary of unavoidable short-term and long-term impacts and proposed mitigative measures,
- Section 6 presents alternatives to the proposed action,
- Section 7 includes comment letters received and responses made, and
- Exhibits include the shoreline survey map, preliminary construction plans, a report presenting the shoreline evaluation and recommendations, flood elevation report for zone A, and a preliminary drainage plan.

**SECTION 2**  
Description of the Proposed Action



## SECTION 2.0

### DESCRIPTION OF THE PROPOSED ACTION

#### 2.1 GENERAL DESCRIPTION

##### 2.1.1 DESCRIPTION OF PROPOSED PROJECT

An elderly housing development is planned for a 2.74 acre property at Ewa Beach. The property has been owned by the Mitsuyasu family for two generations (since the 1930's), and the property is now managed by Hawaiian Trust Co., Ltd. as agent. The location of the project site is shown in Figure 2-1. Figure 2-2 shows the TMK map for this parcel.

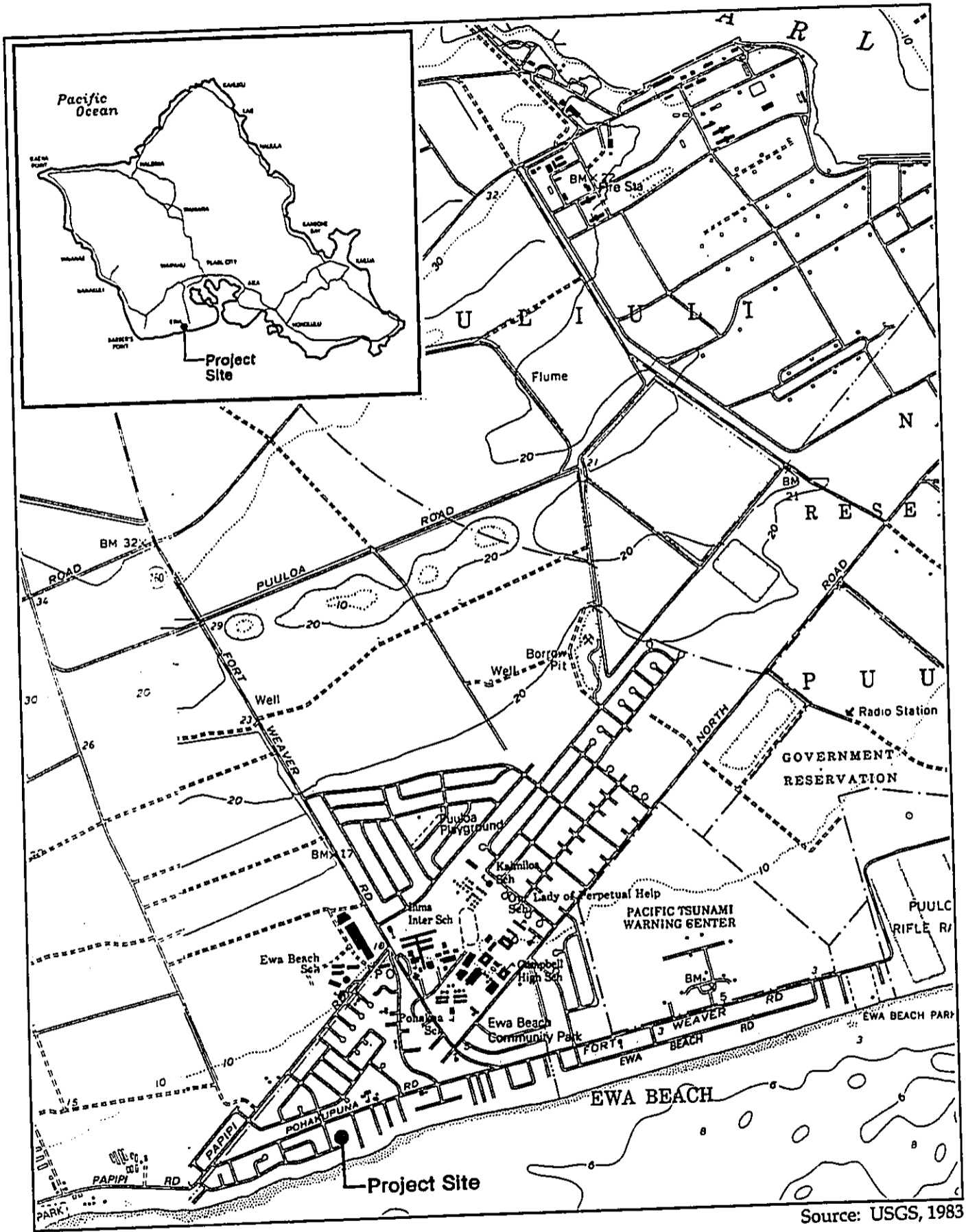
The Mitsuyasu family plans to develop up to 26 units of elderly housing on this property, of which 12 units are planned to be occupied by senior members of the family. A 17,380 sq. ft. landscaped shoreline park area is planned. This area will include two small common buildings including tea house/pavilion and furo with gardens. Improvements within the 40 foot shoreline setback area include landscape plantings and a low level concrete reinforced material (CRM) landscape wall to be positioned about 10 to 20 feet inland from the certified shoreline. The project elements and further descriptions are provided in Section 2.2.1.

##### 2.1.2 RELATION OF THE PARCEL TO THE SMA

The project site is located entirely within the Special Management Area (SMA) as shown in Figure 2-3. The SMA boundary in the Ewa Beach area generally follows Fort Weaver Road and Pohakupuna Road.

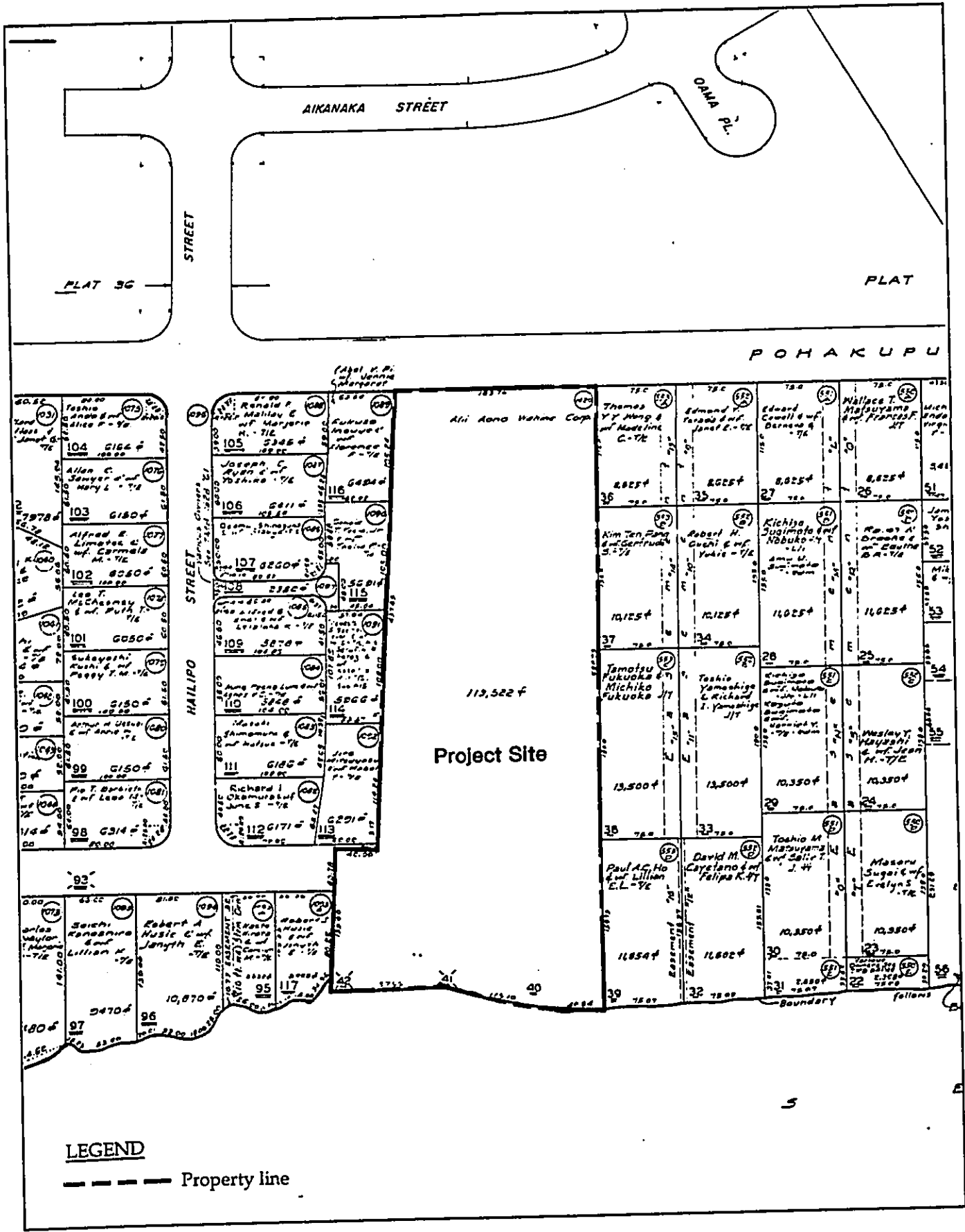
##### 2.1.3 LOCATION OF THE SMA

The proposed elderly housing is located in Ewa Beach, approximately 2,500 feet west of the intersection of Fort Weaver Road and Pohakupuna Road. Ewa Beach is located approximately 10 miles west of Honolulu in the Ewa District of Oahu. A location and property boundary map is shown in Figure 2-1 and an SMA map is shown in Figure 2-3. The Special Management Area in Ewa Beach includes a narrow band along the coast, extending inland around the harbor of the new development at Ewa Marina.



Location Map  
 Pau Hana Hale Elderly Housing

Figure 2-1



TMK 9-1-28

Pau Hana Hale Elderly Housing

Approx. Scale

Figure 2-2



Special Management Area  
 Pau Hana Hale Elderly Housing

Figure 2-3

• Pau Hana Hale, Mitsuyasu Trust, Ewa Beach, Oahu •  
Draft Environmental Assessment, SMA Use Permit & Shoreline Setback Variance

#### 2.1.4 LAND USE APPROVALS GRANTED OR REQUIRED

This section includes a description of the government approvals and permits needed to develop the proposed elderly affordable housing units.

##### 1) Special Management Area Use Permit (SMP)

Approval of an SMP is required because the project site lies within the Special Management Area extending along the shoreline area in Ewa Beach. Processing and approval of the SMP involves the Department of Land Utilization (DLU), Planning Commission, and City Council.

Prior to the DLU's acceptance of the SMP application, the acceptance of a Final Environmental Assessment (EA)/Negative Declaration is required.

##### 2) Shoreline Setback Variance

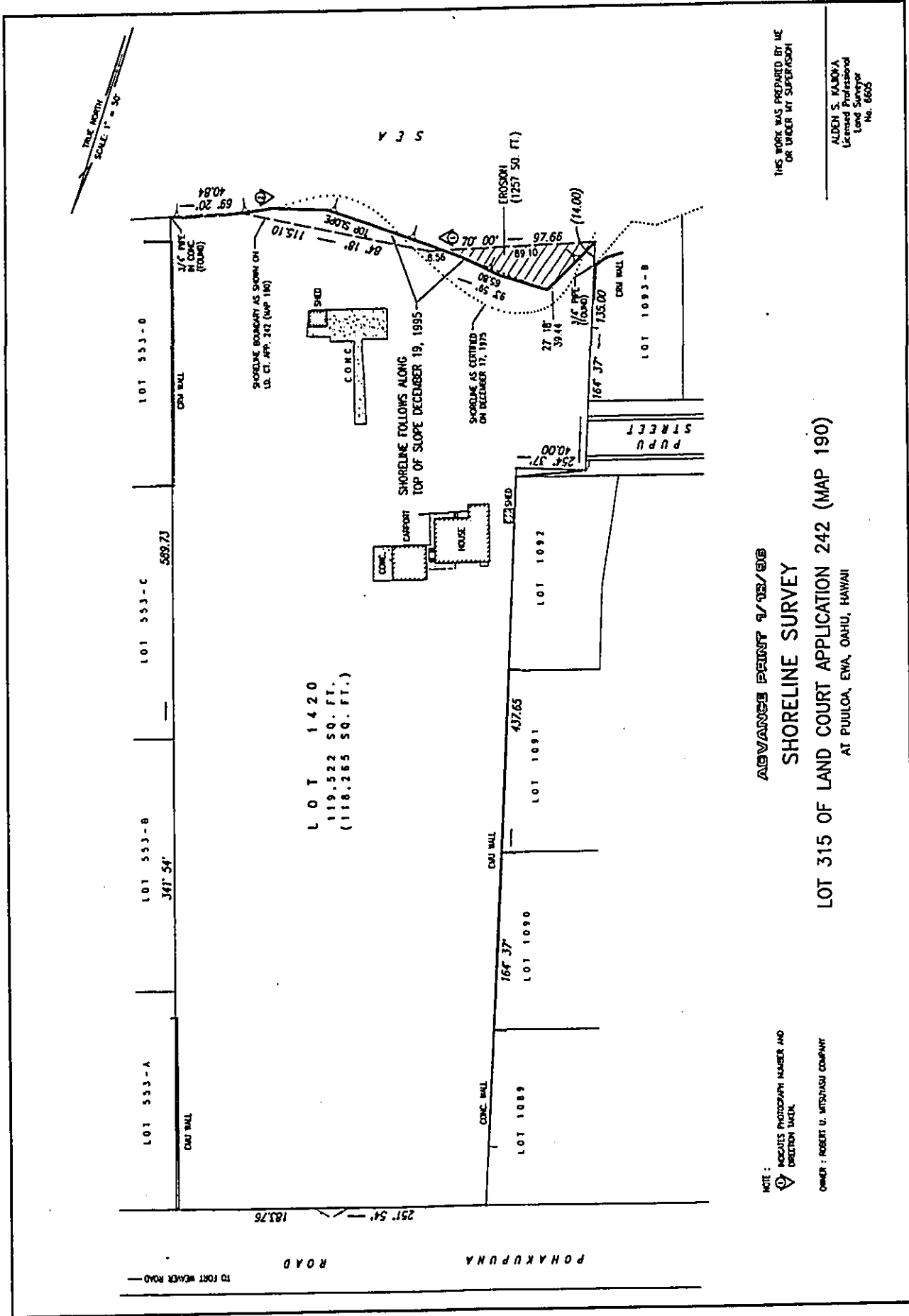
The project site contains a portion of shoreline area extending approximately 250 feet. The shoreline setback area extends 40 feet inland of the Certified Shoreline, which is pending certification by the Chairman of the Board of Land and Natural Resources. The shoreline survey map is shown in Figure 2-4.

Approval of a Shoreline Setback Variance is required for project to allow the planned landscaping and construction in the 40 foot shoreline setback area, including a low-level CRM landscape wall and concrete walkway. The Department of Land Utilization (DLU) is responsible for review and approval of the Shoreline Setback Variance. The Environmental Assessment has also been prepared to satisfy the requirements for the requested variance.

##### 3) Cluster Housing

The elderly housing is planned as a Cluster Housing project. The cluster development approach is appropriate for this project since the average unit size is relatively small (1,200 sq. ft. with garage). The cluster provision allows for efficiencies in housing design and layout, and particularly to encourage open space areas within a development. Pau Hana Hale will provide for a quality housing environment with a shoreline common landscaped area.

The project site is located in a R-5 Residential zoning district, as shown in Figure 2-5. In an R-5 district, the City's Land Use Ordinance (LUO) allows for a theoretical maximum of 31 units on this 2.74-acre parcel. The maximum unit count is derived using a division factor of 3,750 sq. ft. per cluster unit. This proposed cluster for elderly housing is planned to only include up to 26 units, which is 84 percent of the maximum number of units allowed. Instead of developing the entire parcel to its maximum, there is a significant allocation of open space landscaped area provided within the cluster layout.



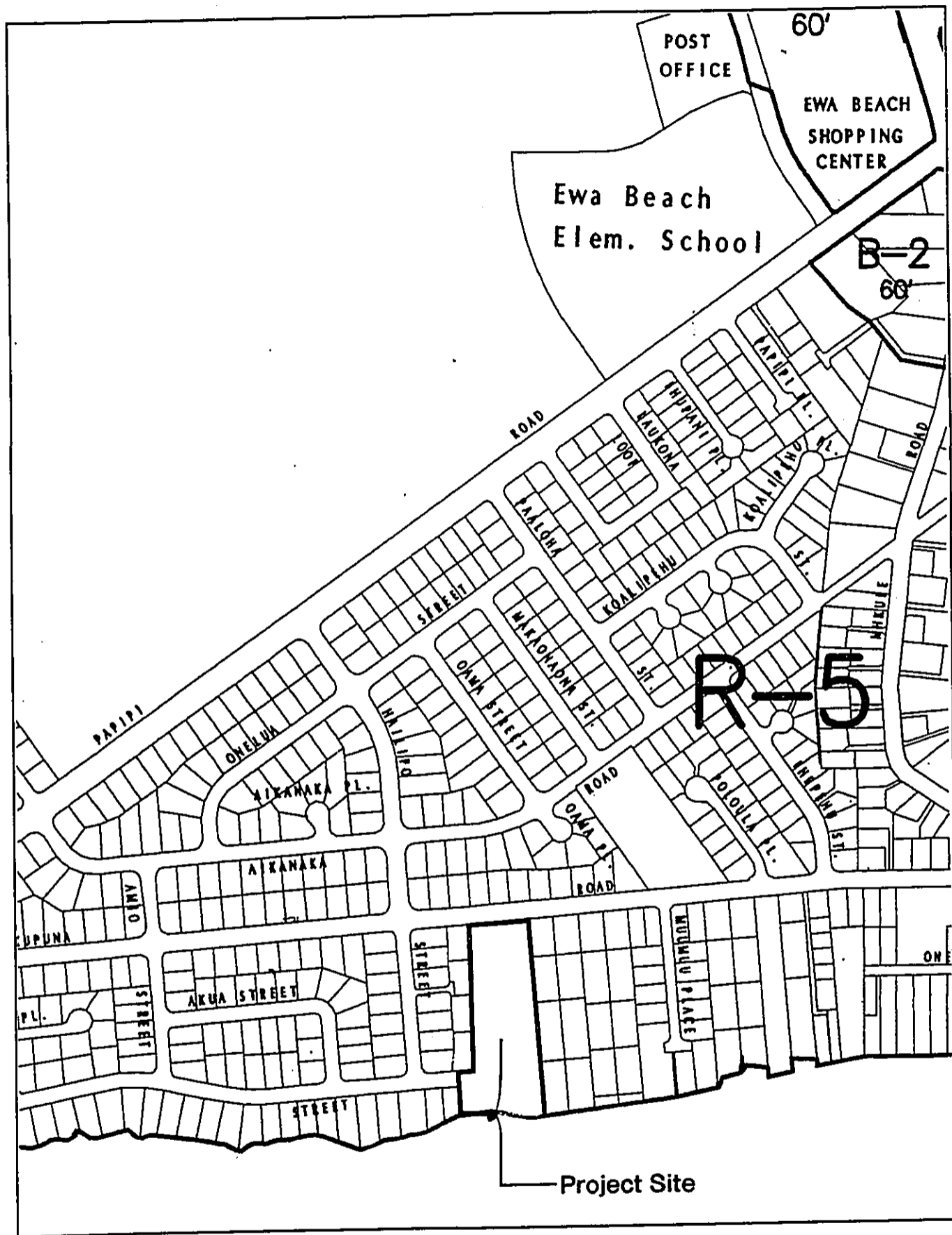
Source: CONTROLPOINT Surveying Inc., January 1996

Approx. Scale: 1"=80'

Figure 2-4

Shoreline Survey

Pau Hana Hale Elderly Housing



Zoning Map  
 Pau Hana Hale Elderly Housing

Figure 2-5

• Pau Hana Hale, Mitsuyasu Trust, Ewa Beach, Oahu •  
Draft Environmental Assessment, SMA Use Permit & Shoreline Setback Variance

4) Required Permits for Construction

Several other approvals will be required from the City and County of Honolulu and State of Hawaii to implement the proposed action, including the following:

- Building Permit for Buildings, Electrical, Plumbing, Sidewalk/Driveway Work (City and County Building Department)
- Grading, Grubbing and Stockpiling Permit (City/County Dept. of Public Works)
- Water System (Board of Water Supply)
- Sewer Connection (City/County Dept. of Wastewater Management)
- Sign Permits (City/County Dept. of Land Utilization, Building Dept.)
- Driveway Connections to Pohakupuna Road and Pupu Street (City and County Department of Transportation Services)

2.2 TECHNICAL CHARACTERISTICS

2.2.1 USE CHARACTERISTICS

The proposed elderly housing will be entirely contained within the SMA. Access roadways, parking, utilities, and drainage facilities required for the project will also be developed within the SMA.

The existing driveway to the site off Pohakupuna Road will be improved and used as the main two-way driveway. The connection to Pupu Street will provide a secondary access to the housing area. As depicted in the Conceptual Site Plan, shown as Figure 2-6 and discussed below, development of Pau Hana Hale will occur in a single construction phase. Construction could start by mid-1997, with occupancy in 1998.

The property will be condominiumized among the 26 unit owners with a community association of the owners owning and managing the common areas.

Housing. The elderly housing units will range in size from 850 to 1,050 sq. ft. in total floor area. Approximately 13 units, or one-half of the project, will be single-story two bedroom homes (850 sq. ft.). The other half of the project will consist of 13 two story, three bedroom units of 1,050 sq. ft. Each unit will also include a parking garage and storage area of approximately 300 sq. ft. Figures 2-7 and 2-8 include elevation views and floor plans of the proposed housing units.

The intent of the new housing is to provide elderly couples and elderly households with independent living arrangements as clustered single-family homes. Various members of the Mitsuyasu family will live at the new housing, occupying as many as 12 units.



← CONCEPT SECTION B

POHAKUPUNA ROAD

MAIN GATE

Property line

←

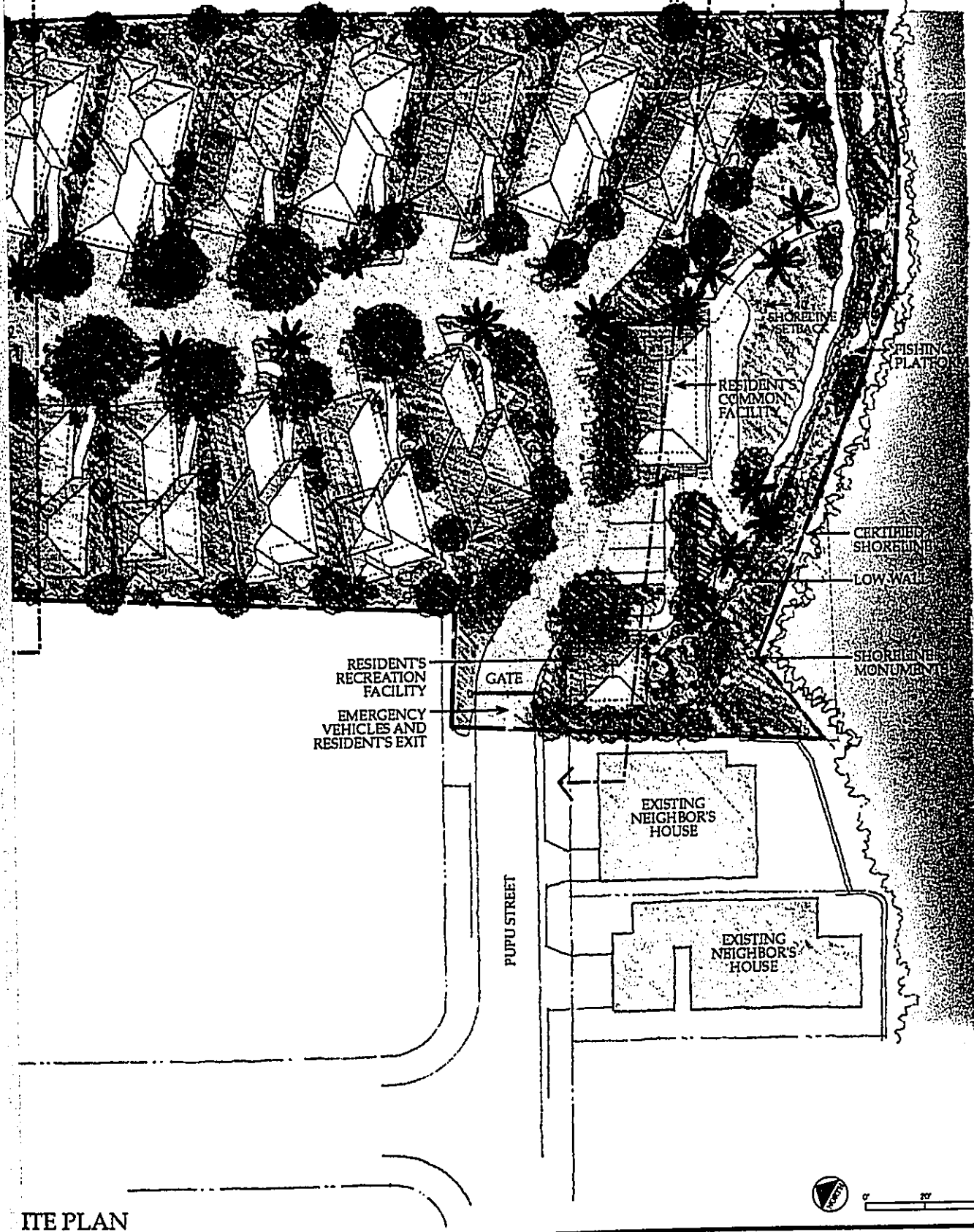
HAILIPO STREET

CONCEPT SITE PLAN

# PAU HANA HALE ELDERLY HOUSING

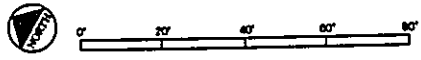
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ON

CONCEPT  
SECTION



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CITY & COUNTY OF HONOLULU

SITE PLAN



**GROUP 70**  
INTERNATIONAL

12 APRIL 1996

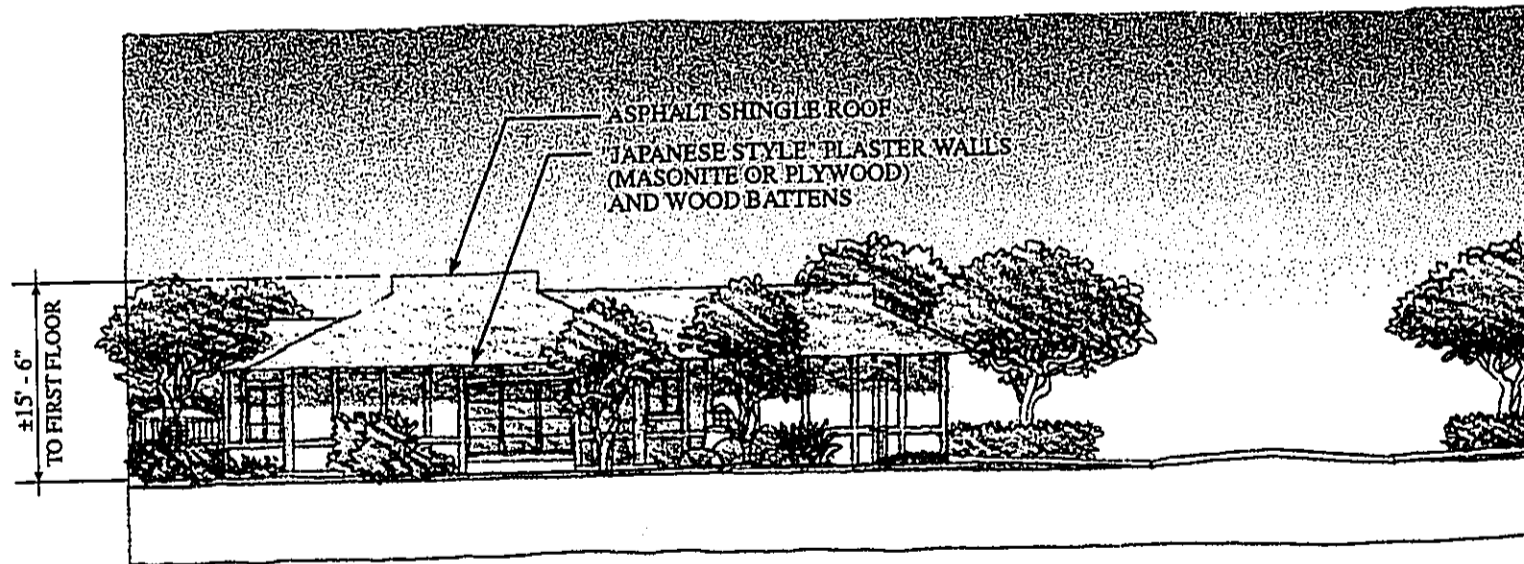
Figure 2-6



FURO & GARDENS

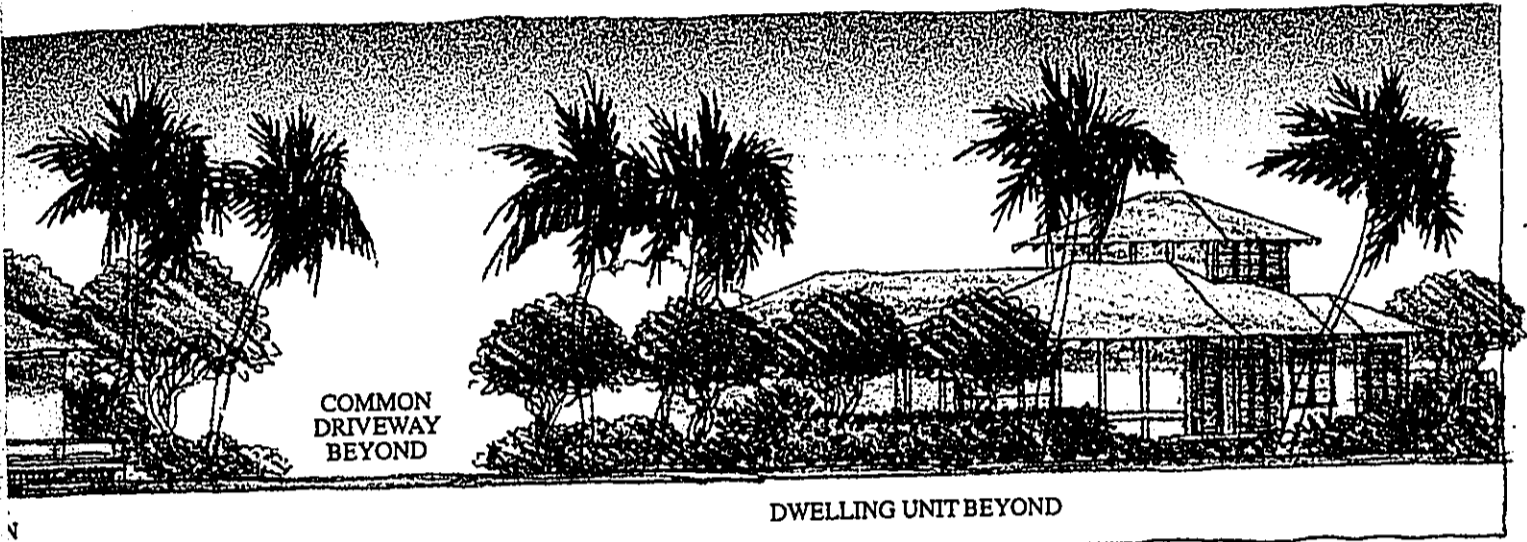
TEAHOUSE/PAVILION

CONCEPT SECTION A (SHORELINE COMM)



CONCEPT SECTION B (TYPICAL)

PAU HANA HALE ELDERLY HOUSING

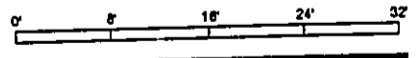


ORELINE COMMON AREA)



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 CITY & COUNTY OF HONOLULU

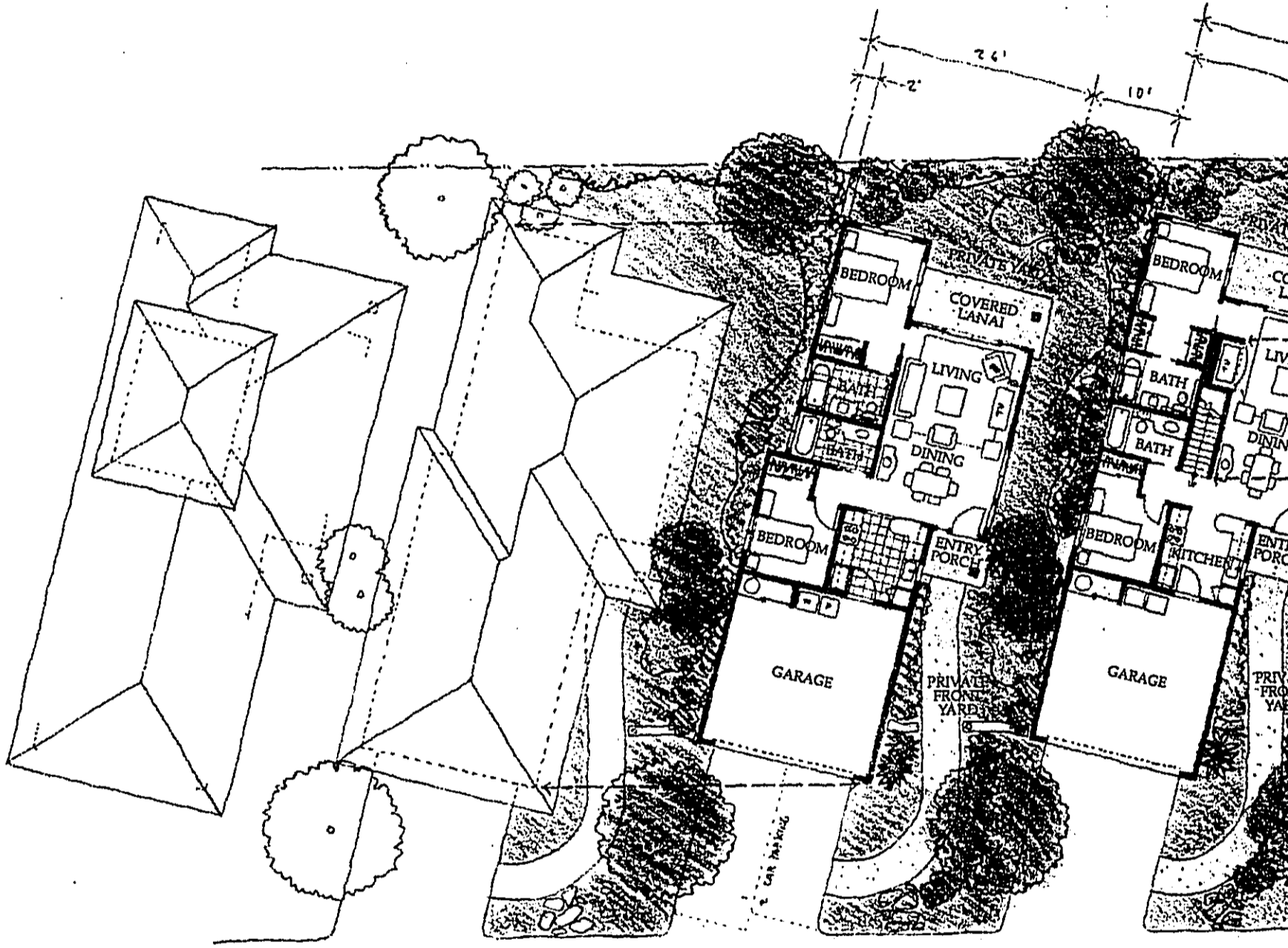
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**GROUP 70**  
 INTERNATIONAL

12 APRIL 1996

Figure 2-7

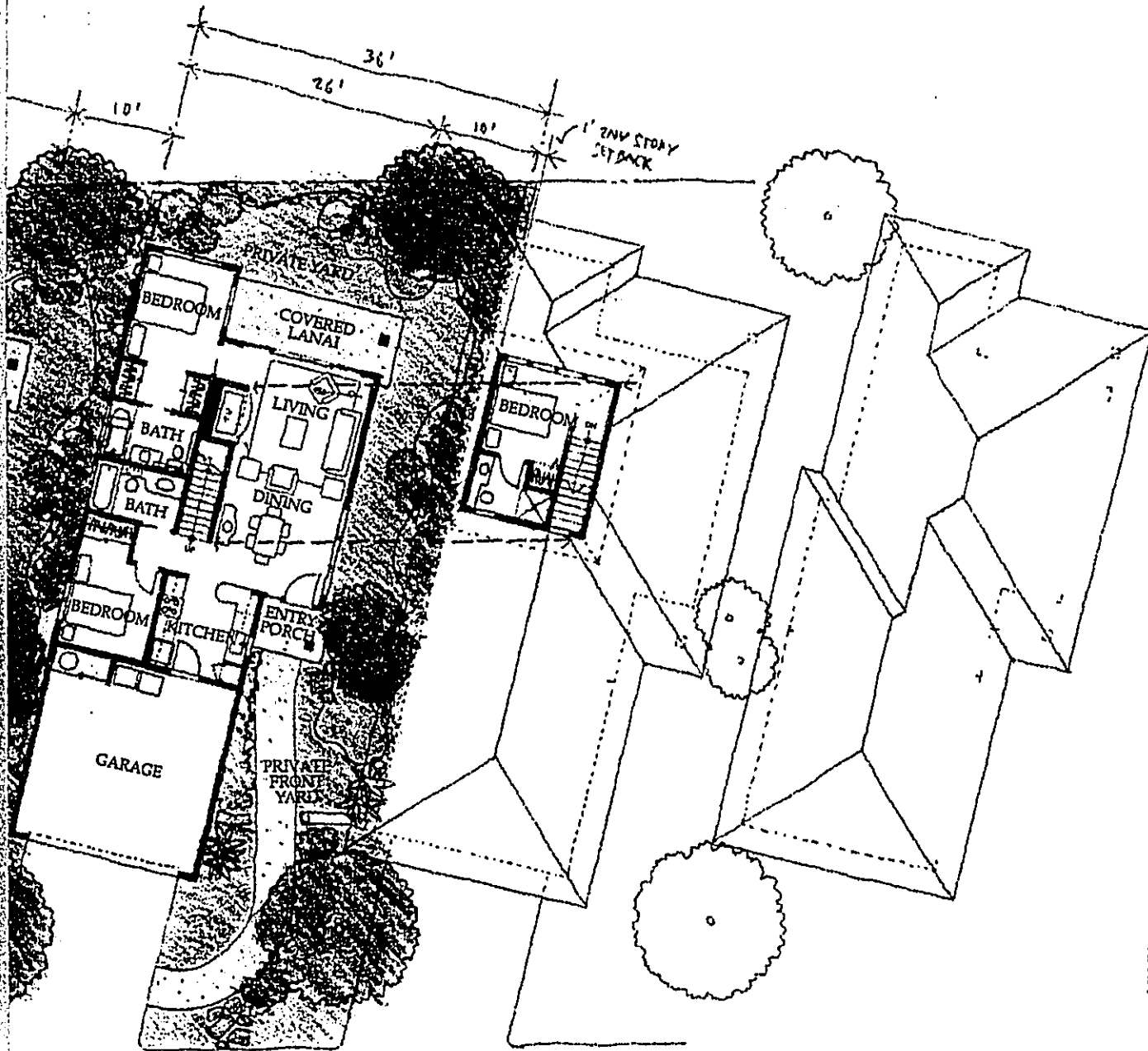


**ONE STORY - 2 BEDROOM**  
 INTERIOR FLOOR AREA ± 807 SF  
 GARAGE ± 400 SF

**1-1/2 STORY - 3 BED**  
 GROUND LEVEL  
 2ND LEVEL  
 INTERIOR FLOOR AREA  
 GARAGE

**DETACHED DWELLING CONCEPT**

**PAU HANA HALE ELDERLY HOUSING**

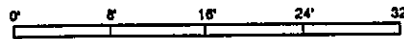


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 CITY & COUNTY OF HONOLULU

1-1/2 STORY - 3 BEDROOM  
 GROUND LEVEL ± 874 SF  
 2ND LEVEL ± 200 SF  
 INTERIOR FLOOR AREA ± 1074 SF  
 GARAGE ± 400 SF

AVERAGE UNIT SIZE  
 OVER ± 26 DWELLING UNITS  
 ± 941 SF  
 GARAGE  
 ± 400 SF

LLING CONCEPT



**GROUP 70**  
 INTERNATIONAL

12 APRIL 1996

Figure 2-8

• Pau Hana Hale, Mitsuyasu Trust, Ewa Beach, Oahu •  
Draft Environmental Assessment, SMA Use Permit & Shoreline Setback Variance

Common Open Space and Facilities. In addition to the housing elements, the project will provide common space amenities including a 17,380 sq. ft. (0.4 acre) landscaped open space area at the shoreline. The open space area will include pavilions, landscaping, pathways, benches, shoreline fishing stations and parking for three vehicles. The two common area buildings include a 960 sq. ft. tea house/pavilion and a 400 sq. ft. furo and gardens. All residents of the elderly housing project will have access to these areas and facilities.

Landscape Wall and Shoreline Area. The shoreline common area will include a low elevation rock wall situated 10 to 20 feet inland of the shoreline. The alignment of this wall relative to the certified shoreline and section view are shown in Figure 2-9. Preliminary construction plans are enclosed in Exhibit 2. The wall will be approximately two feet above grade, extending approximately 260 feet in a curvilinear alignment, with a concrete pathway following the inland side of the wall. The purpose of this low elevation landscape wall is to protect and retain the interior landscaped area of this coastal lot. The wall provides a transition from the landscaped grounds to the limestone scarp and coral/limestone rubble at the shoreline. The landscaped area will include an irrigation system.

Along the makai side of the wall, two or three shoreline fishing sites are planned, with several fishing pole and umbrella pole holders to be set into the ground. In addition, small concrete monuments, approximately 6 to 12 inches high, are also planned to be placed every 50 feet along the shoreline boundary to clearly identify the certified shoreline and property limits without building a major structure or fence.

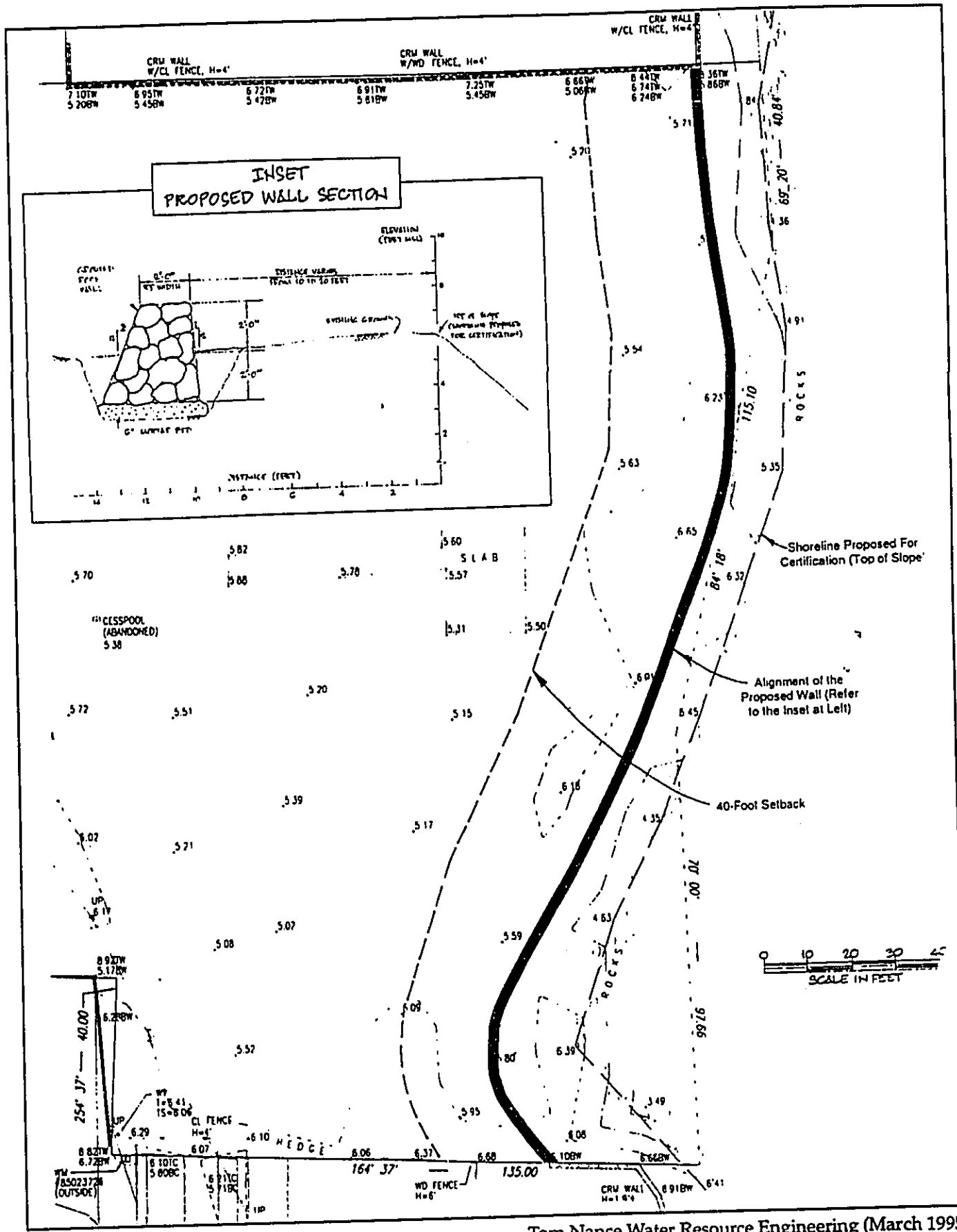
Within 1,000 feet in both directions along this coast there are 38 lots fronting the shoreline. All but six of these 38 lots have similar low elevation walls set at varying distances inland of the shoreline to protect the interior of the lots from storm wave run-up and ocean spray, and to contain upland fill and landscaping.

#### 2.2.2 PHYSICAL CHARACTERISTICS

Development of the elderly housing on this site will include up to 26 units in one and two story structures. Open space, parking, landscaping and driveways will also be developed. The total amount of lot coverage by residential units and common area buildings will be approximately 32,560 sq. ft., or little over 27 percent of the 2.74-acre lot. Figure 2-5 shows the extent of the planned residential structures, drives, parking and landscaped open space.

#### 2.2.3 CONSTRUCTION CHARACTERISTICS, INCLUDING DEMOLITION

The site is generally vacant of structures except for the single residence located near the Pupu Street connection. Development of the elderly housing will involve vegetation clearing, grading, excavation (cut and fill), general construction, and planting and landscaping. A brief description of each element is provided below.



Tom Nance Water Resource Engineering (March 1995)

Low Level Wall Plan/Section  
 Pau Hana Hale Elderly Housing

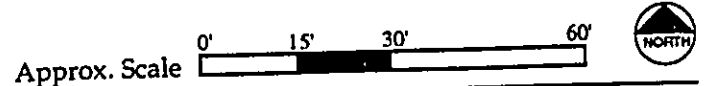


Figure 2-9



• Pau Hana Hale, Mitsuyasu Trust, Ewa Beach, Oahu •  
Draft Environmental Assessment, SMA Use Permit & Shoreline Setback Variance

**Vegetation Clearing, Grading and Grubbing**

The proposed elderly housing will utilize approximately 2.74 acres land. Most of the primarily flat site is covered by low weedy types of grasses and other scrub vegetation. These level lands will be completely cleared, grubbed, and graded to develop new facilities and landscaped open areas.

**Excavations (Cut and Fill)**

The site is generally level, however, the topography will be modified in some sections to accommodate the new construction. Earthwork on-site will generally consist of fine adjustments to site grades to allow for construction of buildings, roadways and pathways, drainage swales and open spaces. Fill will be placed and earth layers will be cut, as required, to allow construction to progress. Grading operations will balance the existing material on-site, and there is no significant requirement for import or export of material anticipated at this point.

**General Construction**

The general construction of elderly housing will include the formation and placement of concrete footings and foundations, roadway base course and paving, the installation of mechanical equipment, the installation of electrical wiring and equipment, plumbing, general carpentry work, painting, and the many other trades and work associated with construction projects.

**Planting and Landscaping**

Landscaping will be incorporated into the new elderly housing site. The site has few trees in its current condition, and many trees will be imported to landscape the housing area and open space area. New landscaping will provide some visual buffering between the housing and surrounding residential areas. Extensive new landscaping is included in the common area at the shoreline and along the internal roadway.

**2.2.4 UTILITY REQUIREMENTS**

**Water Supply Facilities**

A. **Existing Conditions:** The Honolulu Board of Water Supply (BWS) currently provides potable water for the project site. The existing BWS distribution system includes a 12-inch water main along Pohakupuna Road and 6-inch at Puppu Street.

B. **Potential Impacts and Mitigative Measures:** The total water demand for the project is estimated to be 13,000 gallons per day (gpd)(500 gpd/unit x 26 units). Additional water consumed for irrigation of landscaping and ground maintenance is assumed to be approximately 2,500 gpd. There is adequate capacity in the existing BWS system to serve fire pressure and service requirements of the project. Specific storage and distribution requirements of the new elderly housing will be addressed with the BWS as part of the planning and design process.

• Pau Hana Hale, Mitsuyasu Trust, Ewa Beach, Oahu •  
Draft Environmental Assessment, SMA Use Permit & Shoreline Setback Variance

The BWS has confirmed the current availability of water for the project but no commitments will be made until the building permit stage. Water System design will ensure that cross connections and backflow prevention devices will be properly designed and installed.

Potential nuisances such as dust, noise and traffic disturbances will be minimized during construction of the water system connection.

Liquid Waste Disposal

A. Existing Conditions: There is currently a municipal wastewater line servicing the site. There is a 12-inch sewer main within Pohakupuna Road which runs east to the intersection with Fort Weaver Road. This main connects to a 24-inch Ewa Interceptor Sewer, which transmits wastewater to the Honouliuli Treatment Plant Facility.

B. Potential Impacts and Mitigative Measures: The maximum average daily wastewater flow expected to be generated by the proposed elderly housing is estimated to be approximately 8,320 gpd (4 persons/unit x 26 units x 80 gpd). The actual occupancy is projected at two persons per household, generating about one-half of this projected wastewater total. The Department of Wastewater Management indicates that this development can be accommodated at the Honouliuli facility on or after March 1997. The 13.0 mgd secondary treatment facilities at the plant are currently under construction, and are expected to be completed by this date.

Potential nuisances such as dust, noise and traffic disturbances will be minimized during construction of the sewer lateral connection.

Electrical Supply and Telephone Services

A. Existing Conditions: Hawaiian Electric Company's (HECO) overhead electrical distribution line extends along Pohakupuna Road. Power to these lines is supplied by the Ewa Beach Substation, Circuit 1.

B. Potential Impacts: The project will require the installation of on-site electrical and communications utilities. The existing HECO distribution system has adequate capacity to serve the anticipated demand from the project, estimated at 80 KVA.

C. Mitigative Measures: The project will coordinate its electrical supply needs with HECO to avoid service disruption to local customers. According to current plans, underground utilities will be installed at the new housing site.

• Pau Hana Hale, Mitsuyasu Trust, Ewa Beach, Oahu •  
Draft Environmental Assessment, SMA Use Permit & Shoreline Setback Variance

Solid Waste Disposal

A. **Existing Conditions:** There is solid waste generated on the project site by the single residence. Waste collection is provided by the City and County of Honolulu. Solid waste collected in Ewa Beach is disposed at the City's refuse-to-energy plant at the Campbell Industrial Park.

B. **Potential Impacts:** It is anticipated that about 52 people will live at this elderly housing project. Each person will generate approximately 2.3 to 4.0 pounds of refuse each day, for a total of 208 pounds of solid waste each day. Solid waste will be collected by private collection companies and disposed of at the City's refuse-to-energy facility.

C. **Mitigative Measures:** A recycling program will be promoted at the project to collect recyclable materials.

**2.2.5 ACCESS TO SITE AND TRAFFIC CONDITIONS**

A. **Existing Conditions:** Access to the project site is provided by Pohakupuna Road, a 50 feet wide right-of-way with 20 feet wide asphalt concrete pavement. Pupu Street also provides access to the property, with a 44 feet wide right-of-way with 26 feet wide pavement, including concrete rolled curbs on both sides. There are no sidewalks for both roads.

*(Note: Although traffic conditions are not a special management area issue under Chapter 25, ROH, existing and future traffic conditions are addressed for this assessment.)*

Traffic conditions are generally light on Pohakupuna Road and the other neighborhood streets surrounding the project site. The beach front community between Papipi Road and the ocean contains several hundred homes, which are served by the two collector streets of Papipi Road and Pohakupuna Road. Traffic conditions are busiest during the weekday commuter periods of early morning and late afternoon. There is a regular weekend traffic period consisting of vehicles traveling to and from Oneula Beach Park.

B. **Potential Impacts and Mitigative Measures:** A planned 20 feet wide internal roadways will include concrete curbs, and will be adequate for all modes of traffic including service vehicles, refuse collection trucks, fire trucks and other emergency vehicles. This relatively small elderly housing type of development will not affect peak hour traffic conditions in the surrounding area. The volume of trips which would be generated by this 26 unit cluster development is minimal.

**2.3 ECONOMIC CHARACTERISTICS**

**Development Schedule:** Development approvals could potentially be in place to allow for site work to begin in June 1997.

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**Development Cost:** Costs for full development of the proposed housing and supporting infrastructure is estimated to be approximately \$4.0 million (1996 dollars). There are no economic impacts on the immediate community. Construction employment and material expenses will produce general excise tax and income tax revenues to the State. The County will benefit from increased real property tax revenues when the project is complete.

Without the low level landscaping wall, the property frontage area 10 to 20 feet inland of the shoreline could be affected by wave run-up and spray during high surf events that could ultimately result in damage to the new landscaping. The property owner could potentially lose the value of a portion of their improvements if the inland landscape wall is not constructed.

## 2.4 ENVIRONMENTAL CHARACTERISTICS

### 2.4.1 SOILS

A. **Existing Conditions:** Soil types or classifications for the project area are based on soil surveys by the USDA Soil Conservation Service (SCS)(1972). The soils at the project site are classified as coral outcrop (CR). This soil type predominates the Ewa Beach shoreline areas.

B. **Potential Impacts:** Preparation of the land for construction will involve clearing and limited grading operations. Clearing and grubbing activities during construction will temporarily disturb the soil retention values of the existing vegetation and expose the soils to erosion forces. Despite construction site watering programs, wind erosion will cause some limited soil loss. Precipitation events during construction will cause the erosion of soils over disturbed areas, and silt runoff will be captured in an on-site drainage system of swales, depressions, and detention ponds.

Once construction is complete, ground cover plantings and other landscaping will be in place, effectively ending the soil loss. As compared to the existing undeveloped site, with its exposed soils, the proposed project is anticipated to reduce the amount of soil erosion and silt runoff from the site.

C. **Mitigative Measures:** Mitigative measures will be implemented to reduce short-term soil erosion during construction. The impact of construction activities and long-term operations on soils will be mitigated by several measures, as listed below:

(1) **Construction Erosion Control:** Construction activities will follow strict erosion control measures specified in the reports and regulations of the City and County of Honolulu, State Department of Health, U.S. Department of Agriculture - Natural Resources Conservation Service, and U.S. Environmental Protection Agency. Typical erosion control measures that will be applied at this project include the use of cut-off ditches and detention ponds to slow runoff, temporary ground cover vegetation, and application of various soil stabilization and protection materials.

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(2) Dust Control: A watering program will be implemented to minimize soil loss through fugitive dust particulate emission levels from construction sites. Other control measures include good housekeeping at the job-site, and pavement or planting of bare soil areas as quickly as possible after construction to avoid dust generation.

(3) Landscaping and Long-term Erosion Control: New ground cover plantings and other landscaping will generally re-establish the soil retention value of the removed vegetation. The project will have plantings throughout its grounds. Continuous, long-term management of the property will reduce erosion from existing conditions.

#### 2.4.2 TOPOGRAPHY

A. Existing Conditions: The topography of the site is shown in Figure 2-10. The site is generally level, ranging in elevation from 4.5 to 6.5 feet in the shoreline area to 6.5 to 8.3 feet near Pohakupuna Road. There are no unique topographic features on the project site.

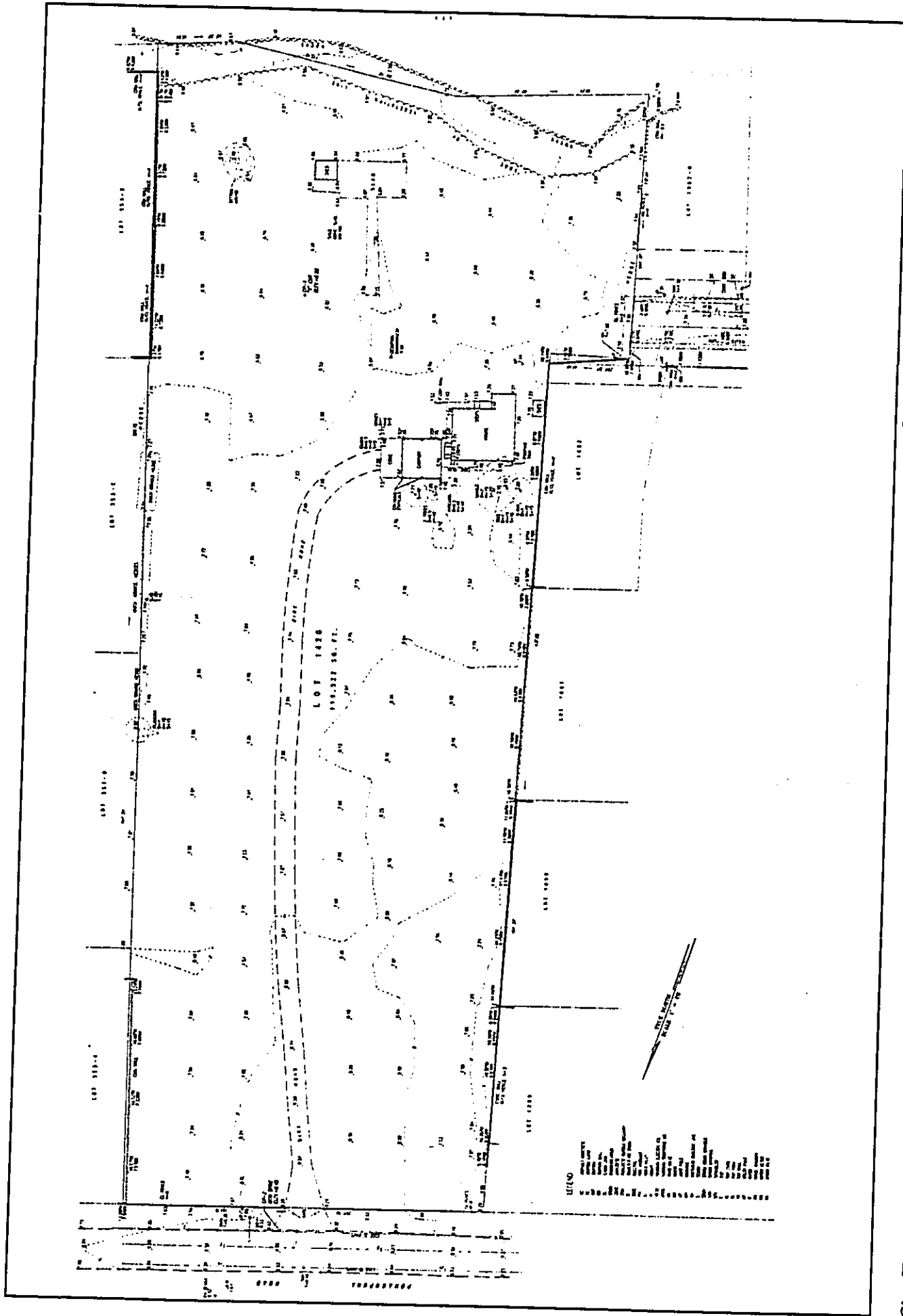
B. Potential Impacts: To the extent possible, the elderly housing will be designed to minimize changes to topography. Limited earthwork will be required to perform essential modifications to site grades and fine adjustments to accommodate construction of the new homes and support infrastructure. Topsoil fill is required to establish new landscaping. Approximately 1 foot of topsoil will be imported for landscaping and site leveling (4426 cubic yards). Excavation will be required to install utilities. Final elevations will generally be within one to two feet of existing grade.

C. Mitigative Measures: Grading operations will primarily be used to balance the existing material on-site and will avoid the transportation of existing material off-site and the importation of material to the site. Strict City Grading permit and State NPDES permit requirements will be adhered to by the contractor.

#### 2.4.3 SURFACE RUNOFF, DRAINAGE AND EROSION HAZARD

A. Existing Conditions: The project site lies within the Ewa plain area which has extremely permeable coral soils. There are no unique topographic features on the project site and it is relatively level. The predominant portion of the project site drains toward the ocean by overland sheet flow. There are no provisions for drainage along Pohakupuna Road. There is some ponding along Pohakupuna Road at the site during heavy rainfall periods. This will be accommodated in the site drainage and grading plans. Pupu Street has a concrete rolled curb which drains to a catch basin, and discharges to the ocean via an 18-inch drain pipe.

B. Potential Impacts and Mitigative Measures: Clearing and grubbing of vegetation of the site and some grading will occur. The general pattern of on-site drainage flow will remain similar to existing conditions. The elderly housing project will increase the amount of impermeable surface area at this site. Added runoff generated by impermeable surfaces will be controlled on-site by constructing a



Site Topography  
 Pau Hana Hale Elderly Housing  
 Source: CONTROLPOINT Surveying Inc., January 1996  
 Approx. Scale: 1"=65'

Figure 2-10

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stormwater detention basin at the makai landscaped portion of the site. The driveway runoff will be directed toward the existing Pupu Street drainage system. The drainage conditions and system are described in greater detail in Exhibit 5.

After development of the site is completed, the total amount of erosion and sediment transport presently occurring can be expected to decrease. Bare subsoil areas presently found on the site will be covered with a layer of topsoil and planted with landscaping, thereby eliminating areas exposed to erosion forces. In order to minimize the potential for transport or eroded soils while vegetation on the site is becoming established, storm water runoff will be collected on-site in a sediment/water retention pond.

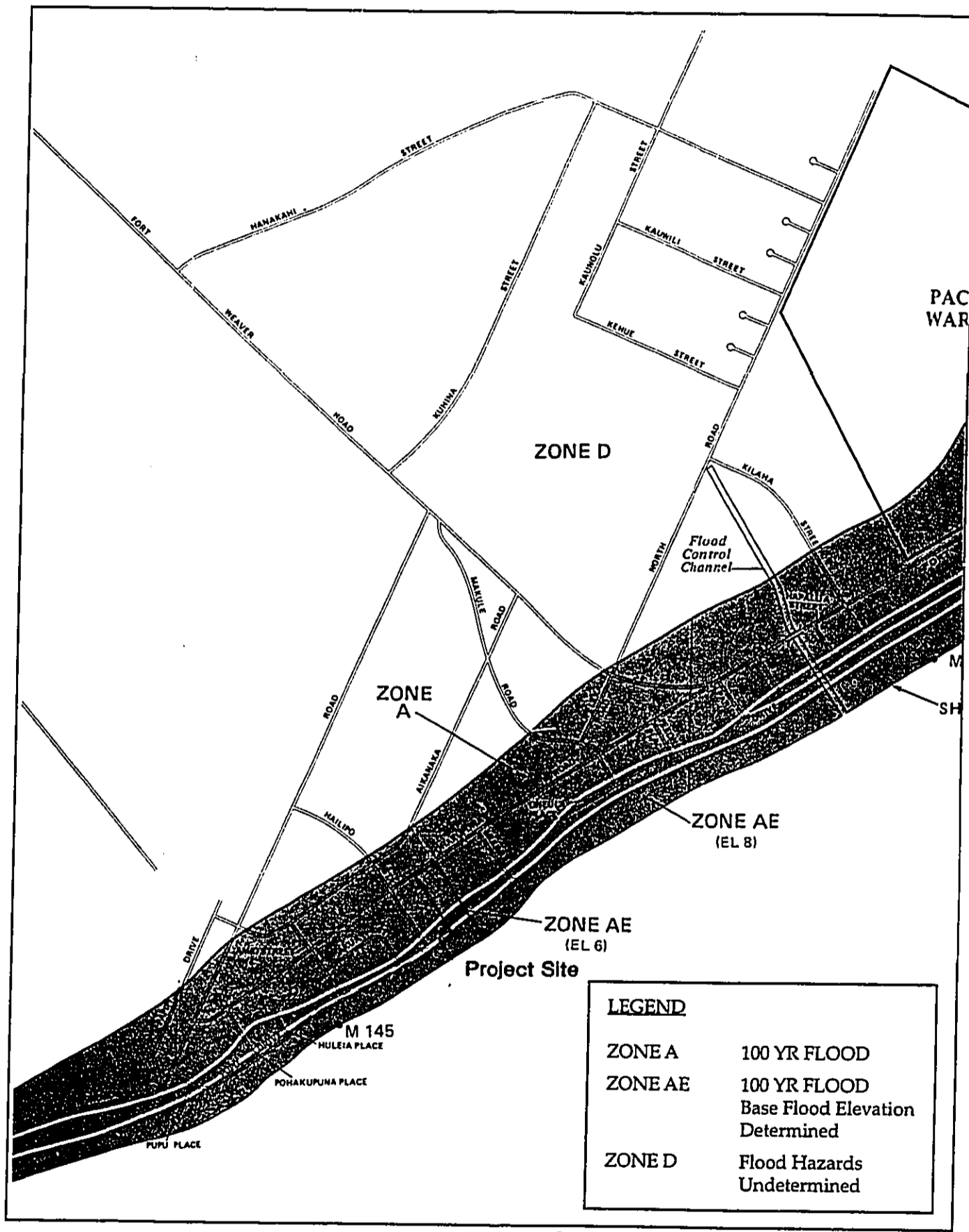
Construction activities associated with the low-level landscaping wall is not anticipated to affect ocean water quality. Fill material and construction activities will be limited to areas far above high water, 10 to 20 feet inland of the shoreline boundary. No adverse short-term or long-term effects to water quality are anticipated.

#### 2.4.4 FEDERAL FIRM ZONE, LUO FLOOD HAZARD DISTRICT, OTHER GEOLOGICAL HAZARDS

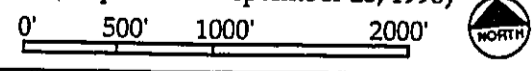
The entire site is designated within the 100-year flood hazard area on the Flood Insurance Rate Map (FIRM), as shown in Figure 2-11. The map indicates three different zones on this property, including Zone AE (Elevation 8) in the shoreline area, a narrow band of Zone AE (Elevation 6) in the central site area, and Zone A in the mauka half of the site. Flood elevations for the Zone A areas were calculated by Ed Noda and Associates at an average of 5.5 feet above mean sea level (see Exhibit 4).

Development of the new elderly affordable housing units will be designed to comply with Building Code requirements for structures within the flood zone. Habitable spaces are not allowed below an elevation 8 feet above sea level at the makai portion of the property, which requires construction of the homes at approximately two feet above existing grade.

During discussions with community organizations concerns about the safety of Pau Hana Hale residents was raised. Recognizing that the people would be elderly, issues about evacuation during hurricane or tsunamis were raised along with concerns for physical safety from natural and criminal elements. Additionally, the gated nature of the community heightened concerns about the availability of a quick evacuation exit during emergencies of various sorts. The gate systems will be designed for manual or emergency override should be electronic systems fail. Additionally, the condominium association will devise an evacuation in the event of an emergency. The more likely issues that needs to be resolved is the adequacy of Fort Weaver Road for a mass exodus of the entire Ewa Beach Community. That discussion is beyond the Scope of the environmental assessment.



Source: Flood Insurance Rate Map 1500010135C  
(Map revised September 28, 1990)



Flood Hazard Areas  
Pau Hana Hale Elderly Housing

Figure 2-11



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**2.4.5 OTHER INFORMATION PERTINENT TO THE SMA AND SHORELINE SETBACK AREA**

The project will enhance public views along this shoreline through the establishment of landscaping in the shoreline frontage area.

The low-level landscaping wall constructed inland of the shoreline boundary will not cause any change in the shoreline area and coastal processes, as compared to pre-existing conditions. The landowner would necessarily experience hardship if the low-level wall is not constructed, with a likely loss of landscaping materials during periodic high wave storms. For these reasons, and based on the documentation provided, this landowner requests approval of a variance from the shoreline setback ordinance.



## SECTION 3.0

### AFFECTED ENVIRONMENT

This section addresses the potential environmental impacts of the construction of Pau Hana Hale Elderly Housing, and the effects of its long-term operation on the site and surrounding area. Man-made features such as existing park areas, utilities and infrastructure are addressed, as are natural factors such as flora and fauna. The project's consistency with applicable land use policies set forth in the General Plan and Development Plan are also discussed.

**3.1** *Described below is a brief description of the site in relation to the surrounding area as well as a description of the surrounding area; including considerations and information on existing land uses; general plan and development plan land use designations; and zoning.*

#### **3.1.1** Description of site in relation to surrounding area

The site is bordered on its northern side by Pohakupuna Road. The existing residential subdivision of Ewa Beach surrounds the site to the north, east and west. A total of nine residential lots directly border the site. The site fronts the ocean on its southern boundary for a total length of approximately 255 feet.

#### **3.1.2** Description of surrounding area

The project site is situated on the shoreline at Ewa Beach. Ewa Beach lies within the Ewa region of Oahu. From north to south, the Ewa region extends from the southern crest of the Waianae mountain range to the coastline. From west to east, Ewa extends from Kahe Point to the West Loch of Pearl Harbor.

Ewa Beach is primarily a residential community with support commercial and public facilities. Fort Weaver Road is the main thoroughfare in Ewa Beach. The project site located along Pohakupuna Road approximately one-half mile to the west of its intersection with Fort Weaver Road.

#### **3.1.3** Considerations and information on existing land uses

The site is currently occupied by a single residence. The site also contains several discarded automobiles and trucks, and a variety of other construction materials and debris. The concrete foundation of a previous residence located near the shoreline currently is also present. The site has been owned and occupied by members of the Mitsuyasu family since the 1930's.

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**3.1.4 Considerations on Existing Plans and Policies**

**A. General Plan for the City and County of Honolulu**

The following discussion provides an assessment of how the proposed project conforms to and implements the objectives and policies of the General Plan. Relevant objectives and policies of the General Plan pertaining to the proposed action are outlined below.

**Population**

*Objective C. To establish a pattern of population distribution that will allow the people of Oahu to live and work in harmony.*

*Policy 2. Encourage development within the secondary urban center at Kapolei and the Ewa and Central Oahu urban-fringe areas to relieve developmental pressures in the remaining urban-fringe and rural areas and to meet housing needs not readily provided in the primary urban center.*

**Discussion:** The proposed action will be consistent with this objective and policy by developing up to 26 units of elderly housing in the Ewa Development Plan area.

**Natural Environment**

*Objective A. To protect and preserve the natural environment of Oahu.*

*Policy 4. Require development projects to give due consideration to natural features such as slope, flood and erosion hazards, water-recharge areas, distinctive land forms, and existing vegetation.*

*Objective B. To preserve and enhance the natural monuments and scenic views of Oahu for the benefit of both residents and visitors.*

*Policy 1. Protect the Island's well-known resources: its mountains and craters; forests and watershed areas; marshes, rivers and streams; shoreline, fishponds and bays; reefs and offshore islands.*

**Discussion:** The proposed action will respect the existing natural shoreline area by minimizing development activities in this area. The low level wall proposed to extend across the near shore frontage will be 10 to 20 feet inland of the certified shoreline. Coastal water quality will be protected drainage and runoff controls to be developed on the property. This issues are discussed further in Sections 2 and 3.

**Housing**

*Objective A. To provide decent housing for all the people of Oahu at prices they can afford.*

*Policy 13. Encourage the provision of affordable housing designed for the elderly and the handicapped.*

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Discussion: The proposed project is designed entirely for elderly housing, and will make appropriate provisions for the handicapped. The price of units at the project will match market levels for Ewa Beach, which is one of the more affordable residential areas of Oahu.

Physical Development and Urban Design

*Objective A. To coordinate changes in the physical environment of Oahu to ensure that all new developments are timely, well-designed, and appropriate for the areas in which they will be located.*

*Policy 2. Coordinate the location and timing of new development with the availability of adequate water supply, sewage treatment, drainage, transportation, and public safety facilities.*

*Policy 4. Require new developments to provide or pay the cost of all essential community services, including roads, utilities, schools, parks and emergency facilities that are intended to directly serve the development.*

*Objective E. To create and maintain attractive, meaningful and stimulating environments throughout Oahu.*

*Policy 4. Require the consideration of urban design principles in all development projects.*

*Policy 5. Require new developments in stable, established communities and rural areas to be compatible with the existing communities and areas.*

*Policy 7. Promote public and private programs to beautify the urban and rural environments.*

Discussion: The proposed action will be served by established public infrastructure systems (water, sewer and roads) which have the capacity to accommodate the planned uses. The applicant will be installing on-site improvements to connect with the existing infrastructure systems. Urban design principals are considered in the planning and design of the project to ensure its compatibility with the surrounding area. Landscaping program will be established to beautify the project site.

**B. Ewa Development Plan**

The following discussion provides an assessment of how the proposed action will conform to and implement the Development Plan for Ewa.

Development Plan Common Provisions

*Section 4, General Urban Design Principles and Controls*

- (1) *Public Views - The design and siting shall reflect the need to maintain and enhance available views of significant landmarks. No development shall be permitted that will block important public views.*

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- (2) *Open Space* - The City's mountains, hills, shoreline and streams shall be considered as major scenic, open space and recreational resources. Adequate public access to these resources shall be incorporated as part of developments adjacent to them. Existing natural streambeds and drainage ways shall be retained wherever possible. Where further channelization must occur, materials that are harmonious with the setting, such as stone, shall be used whenever feasible.
- (3) *Vehicular and Pedestrian Routes* - Landscaping shall be provided along major vehicular arterials and collector streets as a means to increase the general attractiveness of the community and the enjoyment of vehicular travel for visitors and residents.

Discussion: The proposed action will not impact existing views. Building heights will be compatible with surrounding developments. The existing topography and drainage patterns will not be substantially modified. Landscaping will be provided at the entrance, interior and perimeter of the site.

Ewa Development Plan Special Provisions

*Section 24-3.2 Urban Design Principles and Controls for Ewa*

- (a) (1) *Open Space.* The visibility, preservation, enhancement and accessibility of open space areas as defined in Section 24-1.4 of the Development Plan Common Provisions shall be given high priority in the design of adjacent and nearby developments in Ewa, and particularly along the shoreline at West Beach.
- (2) *Public Views.* In order to promote pleasing and attractive living environments and in existing and new neighborhoods, mauka and makai views, and views of central Honolulu shall be protected whenever possible.

Discussion: As discussed previously, the proposed action will not detract from open space and public views, and will create an attractive environment for the residents through the project landscaping and common open space areas and facilities.

**Zoning Designations:** The existing zoning for the entire property is Residential (R-5) which allows for development of the proposed elderly housing project. A Cluster Housing development approval will be sought to achieve the project objectives.

**Unique Features:** The project site has no unique physical features which are recognized as a public resource. Most of the site lies out of view from the public thoroughfares. The location of the property is somewhat unique in terms of its 255 feet of shoreline frontage, in an area of primarily small residential subdivision lots.

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3.2 *Description of the project site in relation to publicly owned or used beaches, parks and recreation areas; rare, threatened, or endangered species and their habitats; wildlife and wildlife preserves; wetlands, lagoons, tidal lands and submerged lands; fisheries and fishing grounds; other coastal/natural resources.*

3.2.1 Project site in relation to publicly owned or used beaches, parks and recreation areas;

The site is located about one mile from Oneula Beach Park and two miles from Ewa Beach Park. The narrow rocky shoreline fronting the project site is occasionally used by the public for fishing and gathering. Public access to the shoreline is presently available via existing shoreline access right-of-way connections. Two pedestrian access right-of-ways are located at 40 and 120 feet to the east of the property. These access points are found at the end of two private roads serving eight lots each. These two shoreline access connections are used by local residents besides those residing on the private roads. Approximately 900 feet to the west of the project site is a public shoreline access connection, located off Pupū Street at the end of Pohakupuna Place.

3.2.2 Project site in relation to rare, threatened, or endangered species and their habitats; wildlife and wildlife preserves; wetlands, lagoons, tidal lands and submerged lands; fisheries and fishing grounds; other coastal/natural resources.

Physical Marine Environment

Shoreline conditions are summarized in this section, based on the assessment provided by Tom Nance Water Resource Engineering (March 1996)(Exhibit 3).

The shoreline in this area of Ewa Beach consists of a three to six-foot high beachrock (limestone) scarp. Small pockets of sand occur at the bottom of the scarp in some areas of Ewa Beach, however, no sand occurs in the rubble fronting the project site. The intertidal area is typically a solid flat limestone platform, that extends into the near shore waters mixed with coralline and limestone rubble.

The project site sits on a low-lying, flat coral and limestone rubble platform that is generally about five to six feet above mean sea level across the entire lot. The shoreline of the parcel is comprised of coral rubble and boulders set on a 1:1 to 2:1 slope. Some of these boulders are in excess of one ton in size, but most are 100 to several hundred pounds. Some of these stones were apparently put in place for shoreline protection a number of years ago.

The current lot is a consolidation of three historic lots. The 1/3 section of the lot on the Barbers Point Side was previously owned by the U.S. Military. According to members of the Mitsuyasu Family, there were bunkers on this lot. After World War II, the military decided that this was excess property and put it up for sale. They demolished the bunkers and bulldozed the rubble to the beach. Mr. Robert Mitsuyasu bought this

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surplus land after the military cleared it. Some of this rubble surfaces periodically during heavy surf and the Mitsuyasu family have periodically hauled the concrete pieces away. Some of these pieces have rusting rebars in them.

The offshore area, extending out for a distance of 500 feet is comprised of a hard, coralline substrate set on an extremely flat slope that is on the order of 100:1. Most of the substrate is cemented, but loose boulders are scattered on its surface. The few interruptions to this otherwise flat bathymetry are comprised of boulders and dead coral heads. These features provide a couple of feet of vertical relief at the most. Sand is virtually absent, even at the shoreline indentation in front of the property, where sand would most likely accumulate. The only sand is found in small depressions and in other, localized wave-protected areas. The sand is typically very coarse and is entirely coralline in origin. There is no evidence of significant longshore transport of sand occurring in front of the parcel or to either side. This is demonstrated clearly by the lack of sand on either side of a projecting coral rubble jetty which is located 600 feet to the east of the subject parcel.

The shoreline survey map (Control Point Survey, Inc.) documents three shoreline surveys, as follows:

- an undated shoreline which is incorporated in a January 1970 Land Court Map;
- a December 17, 1975 certified shoreline; and
- the December 19, 1995 certified shoreline survey.

Although there is an obvious difference between the 1975 and 1995 surveys, it is not due to shoreline instability. Aerial photographs from the 1960's show a relatively stable shoreline. Additionally, conversations with the Owners indicate the majority of the rubble is part of a clearing action by the military in the post World War II years.

For the development which is contemplated for the interior of the parcel, over-topping of the shoreline by waves and wave-tossed coralline rubble during periods of high tides and waves presents a problem. The top of the shoreline slope is just 5.6 to 6.7 feet above mean sea level. When wave run-up overtops this escarpment, and ocean water can wash inland affecting land and improvements in the near shore inland area. The coral rubble is scattered inland by such wave activity.

**Potential Impacts and Mitigative Measures.** The proposed project will not affect the physical marine environment and coastal processes along this shoreline. Construction of a low level wall inland of the shoreline scarp will be completely removed from the physical shoreline environment. The shoreline in this area of Ewa Beach is not dynamic, rather it has remained basically similar to today's position and character over the past 30 years.

Placement of the new wall and landscaping inland of the shoreline scarp will help to contain topsoil and runoff from the inland area, thereby protecting the shoreline area from silt runoff.



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Marine Biota

A. **Existing Conditions.** The adjoining shoreline and near shore ocean waters support benthic invertebrates, algal assemblages and some reef fish. Findings from Marine Research Consultants (1991) studies for Ewa Marina are generally applicable to the shoreline area fronting the project site.

Relatively few macroinvertebrates are present in the nearshore waters off Ewa Beach. The smooth limestone bottom affords little shelter, except for the occasional pocket in the limestone shelf. Among those present, reef-building corals were most abundant, along with colonial soft corals and various species of encrusting sponges. The most common macroinvertebrates are species that inhabit the interstitial spaces within the carbonate reef framework. Coral cover is relatively low due to wave energy and some scouring. Coral cover in the shallower depths is very low.

Benthic algae is found in the greatest abundance in the intertidal region, decreasing with distance from the shoreline and depth. Algal species diversity is relatively low. Beyond the intertidal area, the number and diversity of fish is low due to limited relief of the ocean bottom. The most common fishes are triggerfish and hawkfish, with small numbers of juvenile surgeon fish, some wrasse, goatfish and butterfly fish. Heavy fishing pressure limits the "food fish" population.

The threatened Green sea turtle is known to inhabit the waters off Ewa Beach. None were observed in the near shore waters during visits to the project site. A sunken barge east of Oneula Beach Park provides sheltered habitat in waters of about 30 feet. No turtle nesting is known to occur in the area. The endangered humpback whale has been sighted in the offshore area, however, this is one of the lowest density sighting areas in the State.

B. **Potential Impacts and Mitigative Measures.** The proposed project will not affect the shoreline or near shore coastal waters. All development and operational activities will occur inland of the shoreline. Runoff and erosion controls will limit the input of stormwater and silt from the project site. Measures will be taken during construction to minimize silt runoff from the site. Landscaping of the site will reduce the erosion of soils over the long-term, as compared to the current site conditions.

Terrestrial Biota

A. **Existing Conditions:** There are no endangered, candidate endangered or threatened terrestrial plant or animal species present at the project site.

**Flora.** The project site has a variety of introduced vegetation species that form a grassy ground cover with low shrubs and two mature trees (mango and a money tree). No native vegetation exists on the project site. The site has been disturbed by past agricultural and residential uses, with existing use being a single-family residence and

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open space. Several small koa haole trees are found around the site perimeter, and dry land field grasses and weed species are found throughout the open areas of the site.

Terrestrial Fauna: Birds. Various species of introduced birds exist in the vicinity of the project site. Among these species are the cattle egret, pigeon, rock dove, barred dove, spotted dove, cardinal, house finch, melodious laughing-thrush, red-vented bulbul, white-rumped shama, Indian myna and the Japanese white-eye. None of these birds are endangered species and some are considered to be pests.

Indigenous birds are native to Hawaii but also exist in other parts of the world. The shoreline area fronting the project site is rocky and lacks a beach. Although not observed, it is possible that indigenous shoreline birds may pass through the adjoining shoreline area, such as the Pacific golden plover, ruddy turnstone, sanderling and wandering tattler.

Terrestrial Fauna: Mammals, Reptiles and Amphibians. No endemic mammals were found on the proposed school site or adjacent area. Introduced species such as the roof rat, Norway rat, Polynesian rat, house mouse, small Indian mongoose as well as domestic dogs and cats are reasonably assumed to be present in the area. Reptiles and amphibians assumed to be present include the house gecko, tree gecko, mourning gecko, metallic skink and giant neotropical toad.

In summary, no endangered bird, mammal, reptile and amphibian species, nor any critical habitat, exist at the project site. Marine fauna in the adjoining shoreline and near shore area will not be affected by the project.

**B. Potential Impacts:**

Flora. Clearing and grubbing activities during construction will temporarily disturb the existing vegetation and expose the soils to erosion forces. Steps will be taken during the construction phase to reduce erosion tendencies. Landscaping will be incorporated to provide visual buffering between the new homes and surrounding residences and along Pohakupuna Street. A new landscaped area will be created in the shoreline section of the property.

Fauna. Although there will be temporary disturbance during construction, no significant impact is expected to occur to any wildlife species on the projects site. Several measures will be implemented that will minimize effects on wildlife due to project development. These will include extensive re-vegetation and landscaping planting, and control of biocide application in landscape maintenance.

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C. Mitigative Measures:

(1) Re-Vegetation of Cleared Areas: Re-vegetation of many cleared areas will occur, with areas replanted with natural ground cover and landscaping vegetation. Extensive ornamental and native landscape vegetation species will be planted and will serve as habitat areas for some wildlife.

(2) Biocide Controls: Use of biocides (herbicides, insecticides, fungicides) will be strictly limited and controlled on the site. Only those compounds which are allowed by law will be applied and, where applicable, alternatives to biocide use will be considered.

3.3 *the project in relation to historic, cultural and archaeological resources.*

A. Existing Conditions: The project site does not contain any known historical or archaeological resources. The site has been disturbed by former agricultural and residential activities, and no cultural resources have been identified on-site.

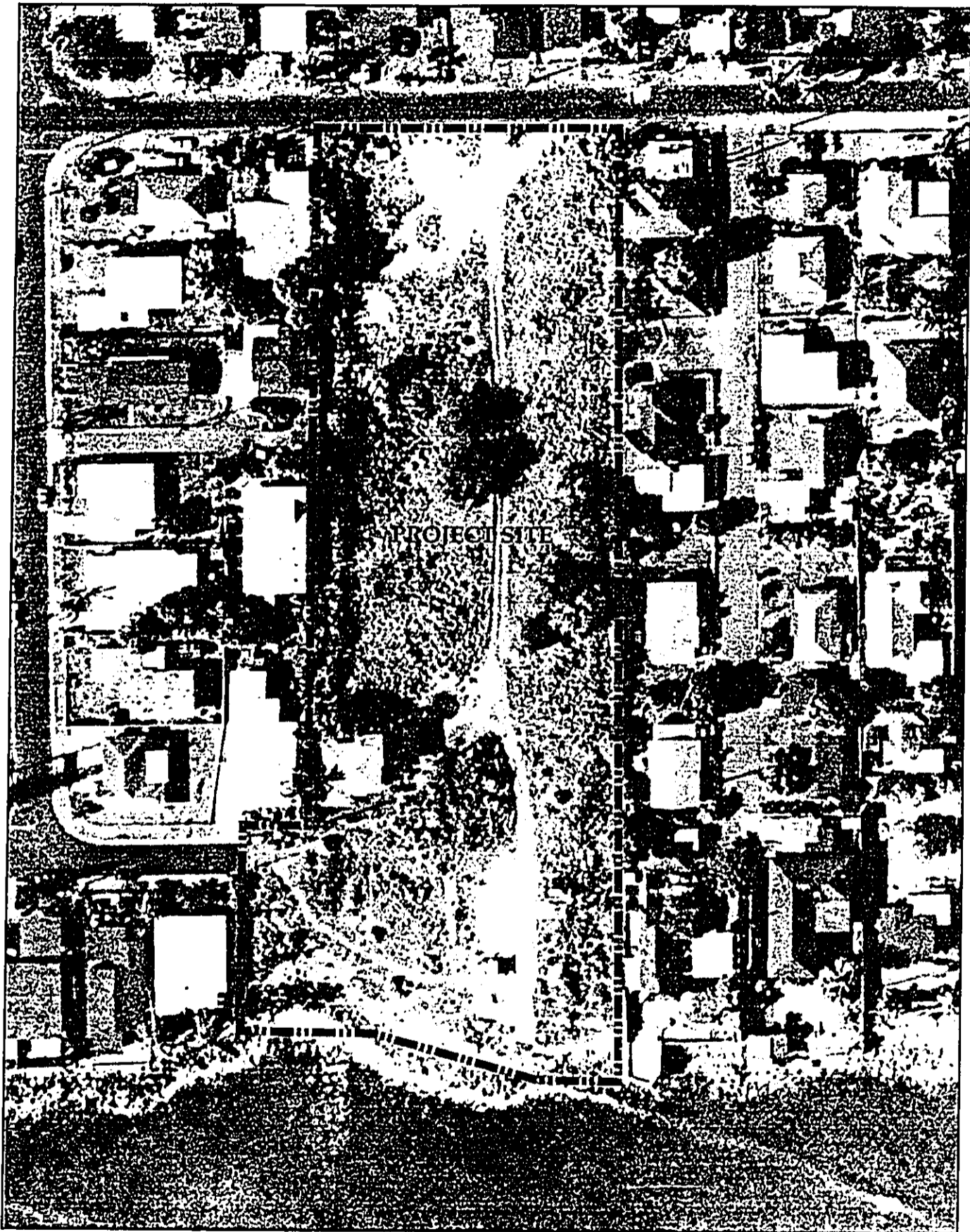
B. Potential Impacts and Mitigative Measures: The project will have no impact on cultural, historical or archaeological resources. There is always the possibility that grading and excavation activities during construction could possibly encounter buried artifacts and remains. In the event that cultural deposits are encountered during construction, all work in that area will cease and the State Department of Land and Natural Resources, Historic Preservation Division will be contacted for direction on these matters.

3.4 *Description of coastal views from surrounding public viewpoints and from the nearest coastal highway across the site to the ocean or to a coastal landform.*

A. Existing Conditions: The Coastal View Study, prepared by the City's Department of Land Utilization in 1987, does not identify the project site in its inventory of significant coastal views in the Ewa Beach area. It does, however, recognize significant stationary views from Oneula Beach Park and Ewa Beach Park.


The project site is visible from adjoining residential properties, Pohakupuna Road, Puppu Street and the shoreline area. An aerial photograph of the property (November 1990) is shown in Figure 3-1, showing the extent of residential development adjoining the parcel and along the shoreline. Photographs of the site are presented in Figures 3-2 (A-H). The existing residential development and lack of topographic variation shields most public views of the project site.

B. Potential Impacts and Mitigative Measures: Development of the elderly housing will not affect topographic features on the property. Grading operations will make fine adjustments to the existing grades to construct the proposed housing. Landscaping will be enhanced to serve as a visual buffer between the campus and surrounding roads. Views from roads and other public areas will generally not be affected by development of the new housing. Structures will be carefully designed and



Source: R.M. Towill Corp. (Nov. 1990)

Aerial Photograph

Approximate scale: 1 in. = 85 ft. 

Pau Hana Hale Elderly Housing

Figure 3-1



A. View of Shoreline at TMK 9-1-28:40 Looking East

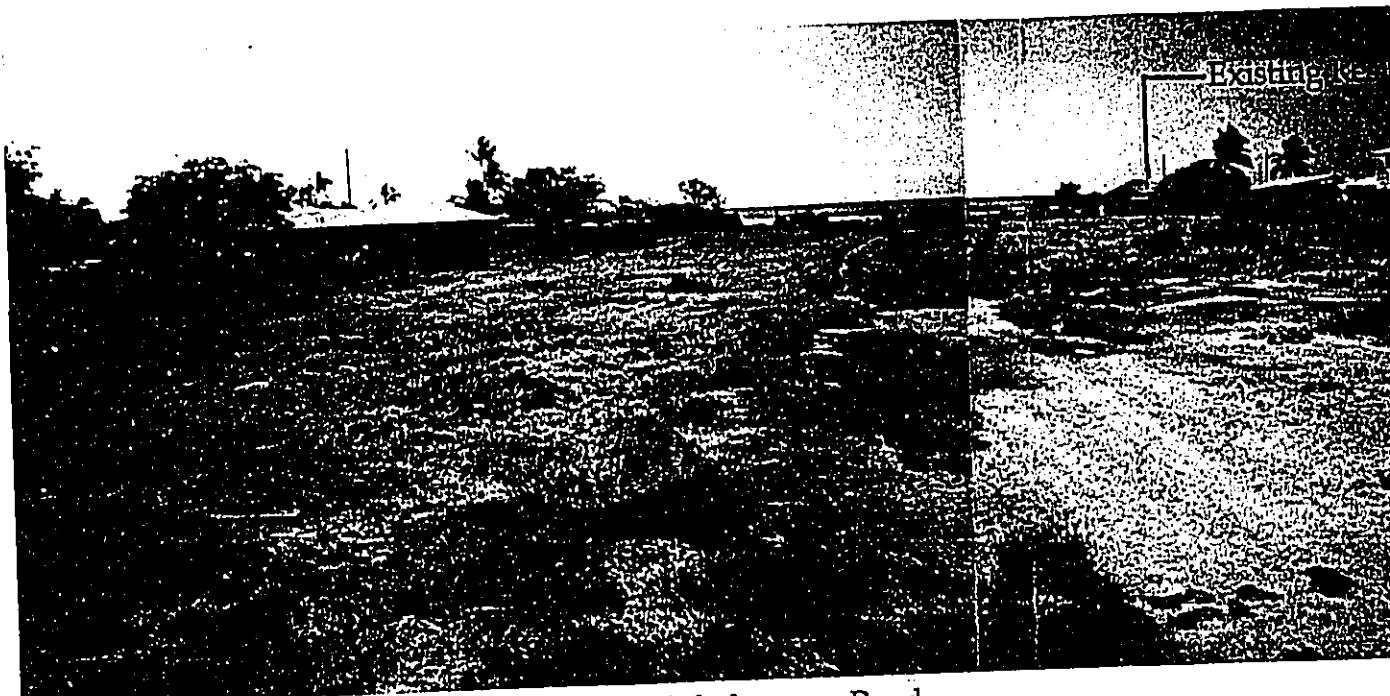


B. View of Shoreline at TMK 9-1-28:40 Looking West

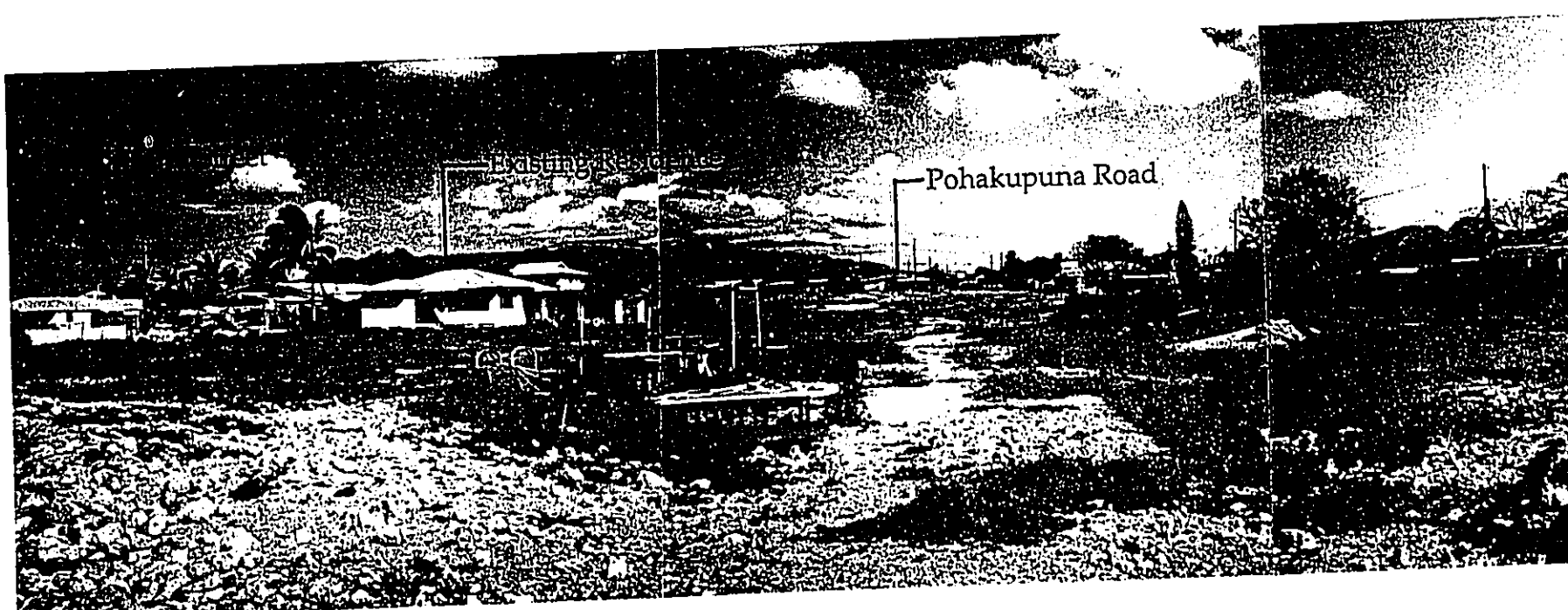
Site Photographs

Pau Hana Hale Elderly Housing

Figure 3-2(A,B)



C. View of Project Site Looking Makai from Pohakupuna Road



D. View of Project Site Looking Mauka from Shoreline Area

Site Photographs  
Pau Hana Hale Elderly Housing

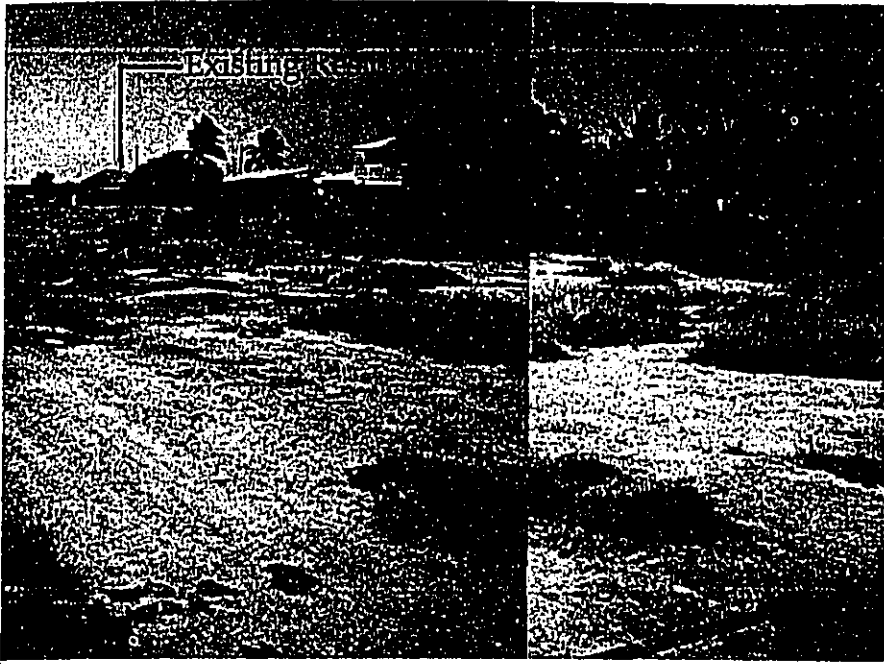
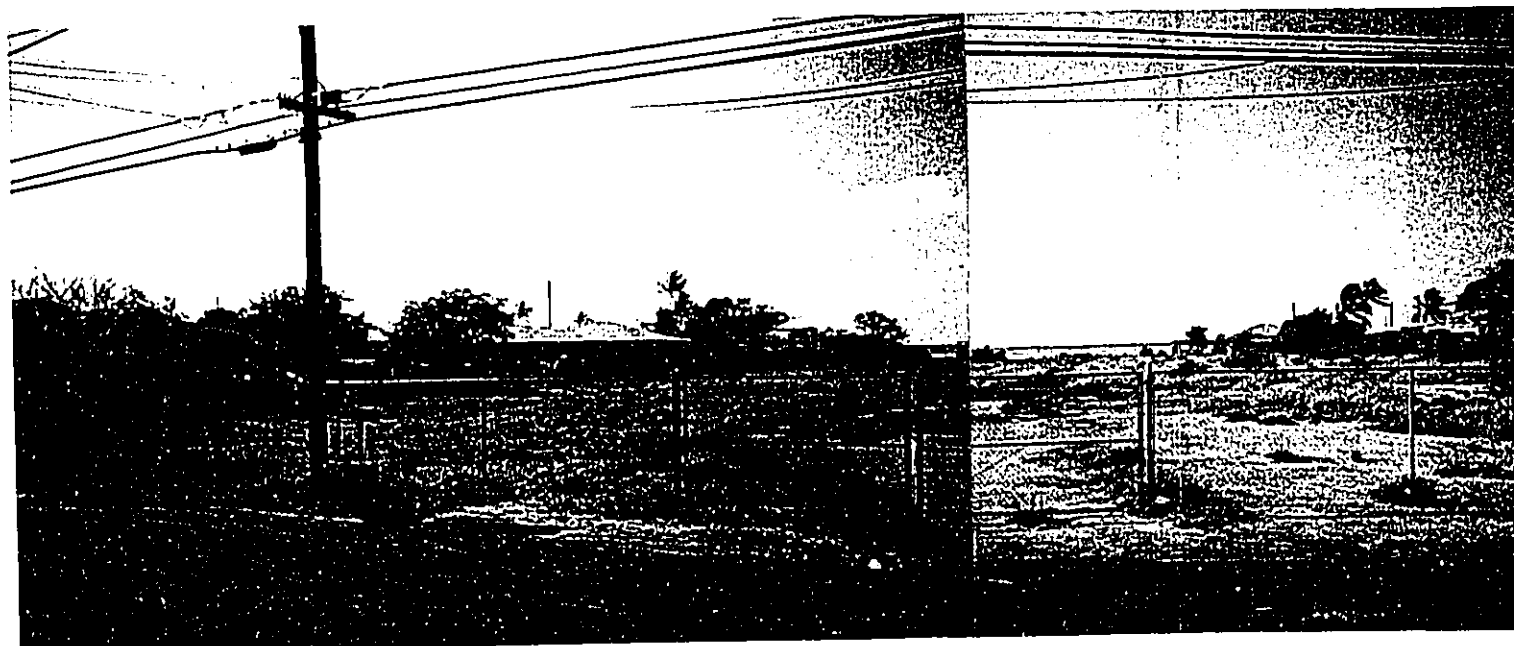
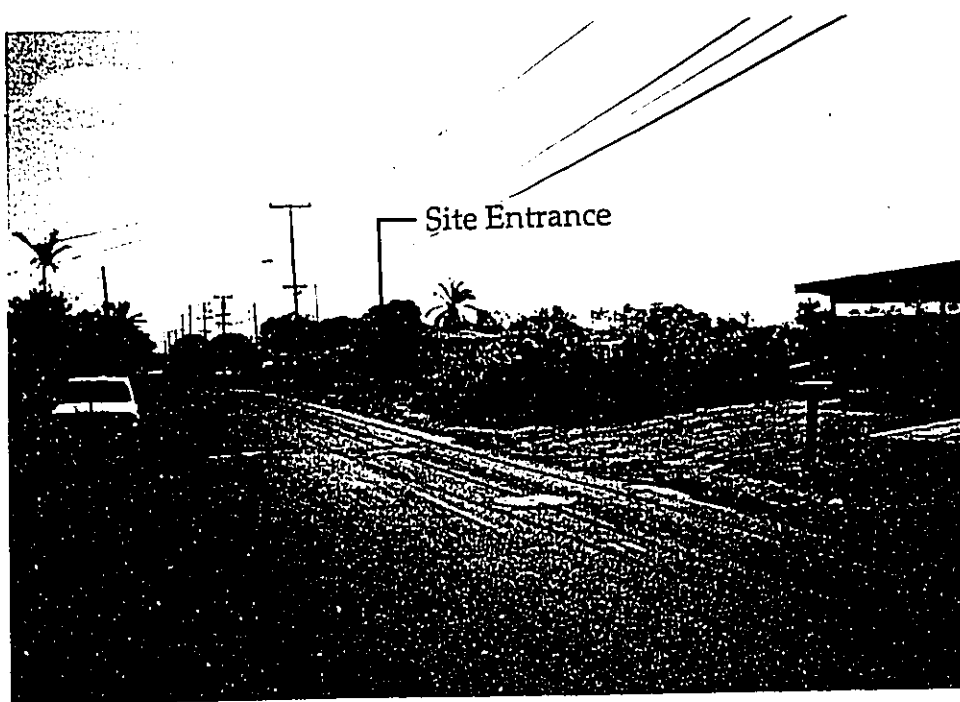


Figure 3-2(C,D)



E. Pohakupuna Road Frontage of TMK 9-1-28:40



F. Pohakupuna Road Looking East



G. Pohakupuna Road Looking West

Site Photographs  
Pau Hana Hale Elderly Housing

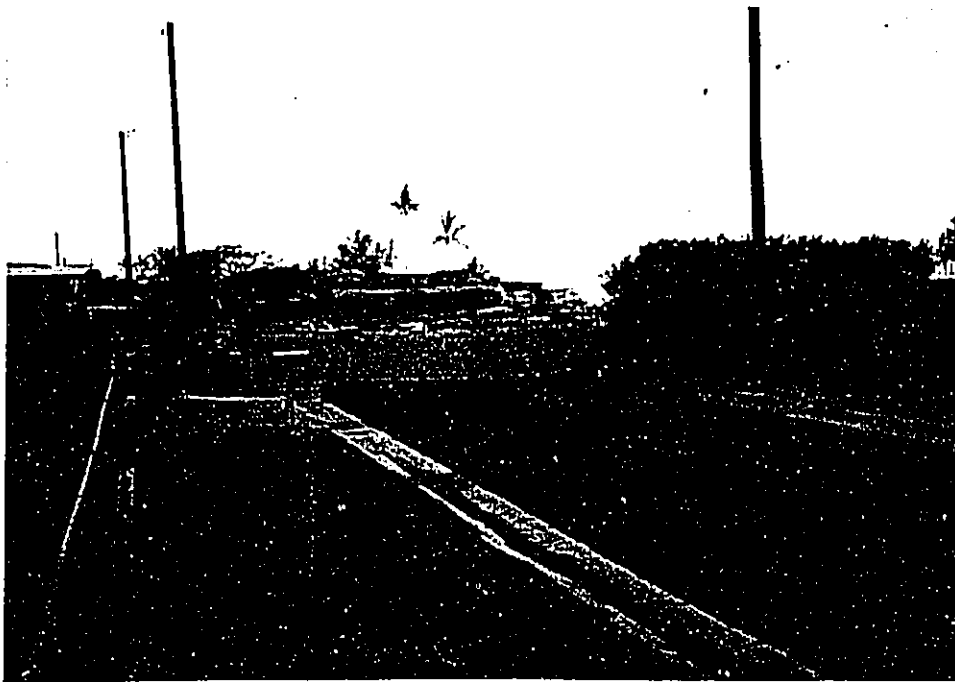




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CITY & COUNTY OF HONOLULU



West



H. Access Connection to Pupu Street

Figure 3-2(E,F,G&H)

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to minimize visual effects to the surrounding areas. The new buildings will average in height between 16 to 20 feet, and will be well-designed and aesthetically pleasing. Night lighting of the housing will be sensitive to spill-over light and glare potential at adjoining properties.

3.5 *Description of the quality of receiving waters and groundwater (including potable water) resources. Description of potential effects on the groundwater recharge cycle within the groundwater control area; show existing and proposed well locations with pumping estimates. Description of potential effects on receiving waters - streams and ocean waters.*

3.5.1 Description of potential effects on the groundwater recharge cycle within the groundwater control area

Two important aquifers occur in the Ewa region. The uppermost stratum of limestone caprock contains brackish water and is referred to as the caprock aquifer. The second aquifer is in the basalt that underlies the limestone caprock. This basalt aquifer is the island's principal source of fresh water, with several hundred feet of impermeable caly separating the two aquifers, preventing significant exchange between them.

The project site is located on the shoreline. Rainfall which infiltrates the site enters the caprock aquifer. Caprock groundwater at this site primarily flows laterally into the ocean. Long-term operation of the housing project is not expected to create adverse impacts on groundwater quality. Use of biocides in landscape maintenance will be carefully controlled on the site by a trained grounds manager. Only those compounds which are allowed by law will be applied, and alternatives to biocide use for landscape maintenance will be instituted, as practicable.

3.5.2 Show existing and proposed well locations with pumping estimates

No wells are planned at the project site. Water will be supplied by the existing Board of Water Supply system.

3.5.3 Potential effects on receiving waters - streams and ocean waters

A. Existing Conditions: Storm water runoff from the project site (in its current condition) travels overland by sheet flow and is conveyed the shoreline area and ocean waters via sheet flow across the property. Runoff from the site currently contains soil particles due to erosion and organic debris. Water quality in the receiving waters varies according to the intensity of rainfall events in the watershed. Large events typically cause erosion from the inland areas, evident by the discoloration of coastal waters following such events. Suspended sediment is the primary water quality concern in the receiving waters at this location.

B. Potential Impacts and Mitigative Measures: Clearing and grubbing activities during construction will temporarily disturb the soil retention values of the existing

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vegetation and expose the soils to erosion forces. Despite construction site watering programs, wind erosion may also cause some limited soil loss. Erosion and silt runoff during the construction site may result in short-term effects on water quality draining from the site. In addition, construction activities must comply with permit conditions regulated by City and State authorities.

In order to minimize the potential for suspended sediment transport during and following construction, while vegetation on the site is becoming established, storm water runoff will be diverted through grassed swales and sedimentation/water detention features. A watering program will be implemented to minimize soil loss through fugitive dust particulate emission from the construction site. Other control measures will include good housekeeping on the job-site and landscaping of bare soil areas as quickly as possible after construction. A discussion of construction phase mitigative measures is presented in Section 2.

The input of silt runoff to the ocean resulting from the proposed project will be relatively insignificant. The project site will institute measures to carefully manage construction site drainage and earthwork operations. The grading activities will be subject to City DPW review and monitoring. Silt runoff must be controlled on-site to comply with permit requirements.

The long-term effect on receiving waters resulting from the project is expected to be a positive improvement over current conditions. Bare subsoil areas presently found on the site will be covered with a layer of topsoil and planted with landscaping, thereby eliminating areas exposed to erosion forces.

### 3.6 *Shoreline Setback Zone Improvements*

All buildings have been set back beyond the 40 foot shoreline setback line. Within the 40 foot zone, there will be a low landscape moss rock wall, landscaping, walkways, fishing platforms (slab on grade) and 6-8 shoreline monuments.

#### 3.6.1 Landscape Wall

This wall is a two foot moss rock wall above grade and two additional feet buried below the surface. The bottom of the footing of the wall will be about four feet above mean sea level. It has four main functions. First, it retains and protects top soil and landscape material on the mauka section. It reduces the effect of salt spray from the ocean and keeps ocean rubble on the makai side. Secondly, it serves as a retaining wall for the on-site drainage system by preventing storm-water runoff from directly discharging into the ocean. Thirdly, it defines a transition edge between the upland and the littoral zone. Finally, it serves as a subtle protective barrier. It would be a reminder that this is private property. Also, it would prevent wheelchairs from rolling past this point. Deleting this wall would make landscape maintenance more difficult and reduce security on the property.

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**3.6.2 Top Soil and Landscaping**

There is very little soil on the site. Top soil will be imported to facilitate the survival of the landscape plants and to shape the ground. While the specific plant material has not been identified, they will be a combination of xeriscape, endemic and indigenous materials and some Polynesian and immigrant introductions that will be compatible with the architecture and climate. Salt tolerant grasses, and shrubs will be considered. The area around the furo will be an oriental garden. We do not feel these material and design will have a negative impact on the Coastal Zone. The greenery will be an improvement over the current unlandscaped space .

**3.6.3 Walkways**

The walkways will be of concrete, asphalt, brick or stone. It would be a hard surface that meets Americans with Disabilities Act (ADA) Standards for accessibility. It will provide strolling paths safe for wheelchairs and blind people. It encourages the use of the outdoor space. It fosters an active outdoor lifestyle for the elderly by encouraging strolling along a beautiful landscaped area.

**3.6.4 Fishing Platform**

There will be flat, graded areas just makai of the landscape wall. They would provide safe areas where the residents could cast their lines and/or relax on outdoor chairs to watch the ocean. The platform will minimize tripping and falling.

**3.6.5 Shoreline Monuments**

We envision between 6 - 8 short posts or stone Japanese lanterns placed strategically at the seaward edge of the property. Candles could be placed on the monuments. There are two reasons for these features. First, they give a clear demarcation between the edge of the property and the public beach area. It is hoped this will discourage trespassing and enhances security enforcement. It would do this in a visually subtle way. Secondly, it would create a pleasing aesthetic edge to the shoreline area that matches the architecture and use of the common facilities near the shore.

**3.6.6 Potential Impacts**

We feel our features in the shoreline setback area will not have any significant negative impact on coastal processes. The wave dynamics and coastal process is unaffected because all features are mauka of the certified shoreline and elevated above the mean sea level by a limestone bench. There will be positive impacts from a better aesthetically landscaped edge, controlled storm runoff and improved usage of a vacant piece of property.

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**3.7 Potential Cumulative Impacts**

The Ewa Beach area has several known major development projects which have been approved. The closest development to the project site is the 1,100-acre Ewa Marina project by HASEKO (Hawaii), Inc., which is a planned 120-acre marina and 4,850 residential unit community integrated with golf courses, visitor accommodations, and commercial and marina support areas. Several other residential developments are under construction in the inland areas of Ewa along Fort Weaver Road. With thousands of new homes being developed in the Ewa region, the small number of homes being developed at this site is relatively insignificant.

The elderly housing at this shoreline parcel will not generate significant environmental effects. Traffic generated by the project, although not a coastal management issue, will be minimal and will not add substantially to area traffic congestion. Ocean water quality will be protected by the runoff controls at this site, therefore not adding to a cumulative effect along this coast. Public and scenic views of this site will be enhanced by the project, with quality residential design and new landscaping, to create a cumulative positive effect.

**SECTION 4**  
**Project Impacts**

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## SECTION 4

### PROJECT IMPACTS (CONFORMANCE TO THE COASTAL ZONE MANAGEMENT PROGRAM)

This section discusses the potential impacts of the project relative to the Coastal Zone Management objectives and policies (Section 205A-2, HRS) and the Special Management Area guidelines (Section 25-3.2, ROH). A summary of potential short-term and long-term impacts is provided.

#### 4.1 *Hawaii Coastal Zone Management Program, Section 205A, HRS*

The objectives and policies of the Hawaii Coastal Zone Management Program are to protect valuable and vulnerable coastal resources such as coastal ecosystems, special scenic and cultural values and recreational opportunities. The objectives of the program are also to reduce coastal hazards and to improve the review process for activities proposed within the coastal zone.

Described below are the seven objectives of the Hawaii Coastal Zone Management Program and a brief assessment of the project impacts relative to the CZM objectives and policies.

##### (1) Recreational Objective

*"Provide coastal recreational opportunities accessible to the public."*

**Discussion:** The new elderly housing project will continue to provide coastal recreational opportunities on-site for its residents and guests. Recreational opportunities at the coastline area fronting this parcel will not be affected by the project, and likely enhanced by the new landscaping along the makai boundary. Shoreline fishing sites will be integrated in the landscape treatment inland of the certified shoreline boundary.

##### (2) Historic Resources Objective

*"Protect, preserve and, where desirable, restore those natural and man made historic and pre-historic resources in the coastal zone management area that are significant in Hawaiian and American history and culture."*

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**Discussion:** There are no known natural or man made historic resources on the subject property. If subsurface remains are uncovered during development of new elderly housing, work in the area of such remains would be suspended immediately and the Historic Sites Office of the State Department of Land and Natural Resources would be notified to determine the appropriate course of action.

(3) Scenic and Open Space Resources Objective

*"Protect, preserve and, where desirable, restore or improve the quality of coastal scenic and open space resources."*

**Discussion:** Construction of the new elderly housing will preserve and enhance the views of the property. Structures will be designed and sited to minimize visual effects to the surrounding areas. Landscaping will be enhanced to serve as a visual buffer between the new homes and surrounding properties.

(4) Coastal Ecosystems Objective

*"Protect valuable coastal ecosystems from disruption and minimize adverse impacts on all coastal ecosystems."*

**Discussion:** The project will have no adverse effect on coastal ecosystems. Runoff will be controlled at the project site. Mitigative measures to reduce runoff for the short-term construction and long-term use of the site are discussed in detail in Sections 2 and 3.

(5) Economic Uses Objective

*"Provide public or private facilities and improvements important to the State's economy in suitable locations."*

**Discussion:** The subject property has minimal economic activity at present. The proposed action will generate short-term economic benefits from construction activity. Total project cost is estimated at approximately \$4.0 million. Long-term economic benefits from will result from enhanced property tax revenues as a result of the project. There will be net economic benefits to the City and State from the new elderly housing.

(6) Coastal Hazards Objective

*"Reduce hazard to life and property from tsunami, storm waves, stream flooding, erosion and subsidence."*

**Discussion:** The project is entirely within the 100-year flood hazard areas as defined by the Federal Emergency Management Agency, Flood Insurance Rate Map (refer to Figure 2-11). The design and development of new habitable structures on this site will comply with building requirements for this particular flood zone area.



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Drainage patterns after development of the site are expected to remain similar to existing conditions. Mitigative measures to reduce erosion and runoff for the short-term construction and long-term use of the site are discussed in detail in Sections 2 and 3.

(7) Managing Development Objective

*"Improve the development review process, communication, and public participation in the management of coastal resources and hazards."*

**Discussion:** The Mitsuyasu family is committed to open discourse with citizens, public agencies, and private organizations concerning its plans for the new elderly housing. Representatives of the Mitsuyasus are in the process of informing the following community groups, agency representatives and elected officials:

- City and County of Honolulu, Department of Land Utilization
- Council Chair John DeSoto, District IX Representative
- Councilmember Donna Mercado Kim, Zoning Committee Chair
- Ewa Beach Neighborhood Board
- Ewa Beach Community Association
- Neighboring Landowners
- Senator Brian Kanno
- Representative Paul Oshino

4.2 *SMA Guidelines (Section 25-3.2, ROH)*

The review guidelines of Section 25-3.2 of the Revised Ordinances of Honolulu (ROH) are used by the Department of Land Utilization and the City Council for the review of developments proposed in the Special Management Area (SMA). These guidelines are derived from Section 205A-26 HRS. The consistency of the proposed project with the guidelines is discussed below.

(1) *All development in the special management area shall be subject to reasonable terms and conditions set by the Council in order to ensure that:*

- (a) *Adequate access, by dedication or other means, to publicly owned or used beaches, recreation areas, and natural reserves is provided to the extent consistent with sound conservation principles;*
- (b) *Adequate and properly located public recreation areas and wildlife preserves are reserved;*
- (c) *Provisions are made for solid and liquid waste treatment, disposition, and management which will minimize adverse effects upon special management area resources; and*
- (d) *Alterations to existing land forms and vegetation, except crops, and construction of structures shall cause minimum adverse effect to water resources and scenic and recreational amenities and minimum danger of floods, landslides, erosion, siltation or failure in the event of earthquake.*

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**Discussion:** The proposed action will involve roadway and drainage facilities construction, utilities installation, and educational facilities development within the SMA. The project will generally be consistent with this policy because no public areas or wildlife preserves are affected by the project. Water and scenic resources will not be adversely affected.

Existing and proposed use of utilities are discussed in detail in Section 2. Existing electrical, solid waste disposal, and liquid waste disposal systems have adequate capacity to service the new elderly housing.

The potential impacts of development on soils and water quality are discussed in Sections 2 and 3. Fine adjustments to the site grades are required for construction of the new campus. Measures will be taken during construction and operation of the school to minimize soil erosion and effects to water quality. Erosion on-site will decrease due to the runoff controls and provision of landscaping over existing bare soil areas.

(2) *No development shall be approved unless the Council has first found that:*

- (a) *The development will not have any substantial, adverse environmental or ecological effect except such adverse effect is minimized to the extent practicable and clearly outweighed by public health and safety, or compelling public interests. Such adverse effect shall include, but not be limited to, the potential cumulative impact of individual developments, each one of which taken in itself might not have a substantial adverse effect, and the elimination of planing options;*
- (b) *The development is consistent with the objectives and policies set forth in Section 25-3.2 and area guidelines contained in Section 205A-26, Hawaii Revised Statutes; and*
- (c) *The development is consistent with the County General Plan, Development Plans, Zoning and subdivision codes and other applicable ordinances.*

**Discussion:** Unavoidable short-term environmental effects will occur in the SMA during construction, including soils disturbance, erosion, limited clearing, wildlife disturbance, construction noise, dust and exhaust emissions, and views of construction. Following construction, these short-term impacts will cease, and there will be beneficial long-term impacts such as a reduction in runoff and enhancement of landscape vegetation.

The consistency of the proposed action with the objectives and policies of the Hawaii State Plan, County General Plan and Ewa Development Plan are described earlier in Section 3. Upon receipt of the requested zone change and subdivision approvals, the applicant will observe the regulations of the Land Use Ordinance, Subdivision Code and other applicable ordinances.

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(3) *The Council shall seek to minimize, where reasonable:*

- (a) *Dredging, filling or otherwise altering any bay, estuary, salt marsh, river mouth, slough or lagoon;*
- (b) *Any development which would reduce the size of any beach or other area usable for public recreation;*
- (c) *Any development which would reduce or impose restrictions upon public access to tidal and submerged lands, beaches, portions of rivers and streams within the special management area and the mean high tide line where there is no beach;*
- (d) *Any development which would substantially interfere with or detract from the line of sight toward the sea from the State highway nearest the coast; and*
- (e) *Any development which would adversely affect water quality, existing areas of open water free of visible structure, existing and potential fisheries and fishing grounds, wildlife habitats, or potential or existing agricultural uses of land.*

**Discussion:** For the most part, these review guidelines do not apply to the proposed action. The project will reduce bare surfaces from existing conditions, and control runoff with an on-site system of depressions and swales. With planned erosion controls, the projects will not adversely affect water quality. Sections 2 and 3 discuss these issues.

#### 4.3 *Summary of Potential Short-term Impacts*

The development of the new elderly housing units could have some minor short-term effects on vegetation, water quality, views and noise conditions at this site.

**Vegetation:** Some landscaping vegetation (exotic grass and bushes) will be removed by the construction activity, which will be replanted following construction.

**Soils:** During construction, there is always the potential for soils to erode from the upland area and cause silt runoff to ocean waters. Soils will be protected on-site to avoid runoff to the ocean. Dust generation will occur, but will be controlled by good job site housekeeping including a watering program.

**Views:** During construction, parts of the project will be visible from adjoining residences, the roadways and the coastal area. Construction site barriers will be installed to provide security, minimize dust loss from the site, and to screen views of the construction site.

**Noise:** Construction noise may have been noticeable to residents at neighboring properties. Construction activity took place during allowed daytime periods for construction and did not cause excessive noise levels off-site.

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**4.4 Potential Long-term Impacts**

The development of the new elderly housing units will result in positive long-term effects at this site and the surrounding area.

Shoreline Processes. There will be no effect upon coastal processes as a result of the elderly housing development. The new inland low-level landscape wall to be constructed parallel to the shoreline will not cause an adverse effect to shoreline processes. The new wall will contain upland topsoil and landscaping materials from spreading into the shoreline area, particularly during storm wave conditions. Coral rubble will be kept in the littoral process as a result of the low level landscape wall. On this site, this material has typically been trapped upland following storm wave periods.

Aesthetics. The new development will be noticeable from the shoreline area and surrounding properties. New project landscaping will shield and soften the views of the site from the shoreline and surrounding areas. The design of the housing units and the materials and colors used will be aesthetically pleasing.

Utilities and Infrastructure. The new elderly housing will use potable water and generate sewage. Existing and planned facilities for the area will be adequate to accommodate the proposed housing. The project will also create some new traffic as a new residential source, but will not add substantially to local roadway congestion.

**4.5 Potential Cumulative Impacts**

Potential cumulative impacts are considered under Section 3.5.

**SECTION 5**  
**Mitigative Measures**

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## SECTION 5.0

### MITIGATIVE MEASURES

This section includes a summary presentation of mitigative measures planned to be implemented at the project site to minimize potential impacts. The issues addressed are relevant to SMA issues, and additional mitigation is planned to offset other impacts that are not SMA-related.

#### 5.1 *Potential short-term adverse impacts and mitigative measures*

Project development activities will involve the construction of housing units, utilities, landscaping and roadways. Short-term construction related impacts on the environment will be generated by the project, and mitigative measures will be implemented to minimize these impacts.

Potential short-term adverse impacts and mitigative measures are listed below.

1. Soils will be disturbed for grading and excavation, and some short-term soil erosion will occur. An Erosion Control and Sedimentation Plan for the construction will be prepared for the project, and must be approved by the City and County of Honolulu Department of Public Works as part of the Grading, Grubbing and Stockpiling Permit. Proposed mitigation will include soils management measures and drainage controls that will substantially minimize soil erosion. A drainage detention basin will be constructed prior to clearing and grading to control runoff during the construction period. Planting programs will be implemented immediately following construction to minimize soil erosion.
2. There is anticipated to be a slight increase in suspended sediments in storm runoff as a result of some unavoidable soil erosion during the construction period. Proposed soil management measures and drainage controls will minimize soil erosion and subsequent addition of suspended sediments to storm water runoff, as per State Department of Health (DOH) recommended techniques including Best Management Practices and Coastal Non-point Pollution Control programs.
3. Various introduced types of plant and wildlife species occur in areas of the project site will be affected by construction. Wildlife will generally be displaced temporarily during the construction period. Landscape plantings, are expected to provide replacement habitat for common birds and mammal species.

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4. Noise will be generated by construction activities on the project site. Construction operations must comply with State DOH regulations and the City and County of Honolulu Noise Ordinance, which limits construction operations and resultant noise to daytime hours and specific maximum levels.
5. Air quality will be affected by the generation of fugitive dust, and construction equipment and worker vehicle emissions. Dust conditions will be controlled by frequent watering of roadways, and other soil management measures. Equipment will be maintained in proper working order to minimize emissions.
6. Construction activities may be visible at the edge of the project site, along Pohakupuna Road and Pupu Street. Views of the construction operations on the site will be minimized by proper equipment and materials storage, sensitive site planning and building design, and expedient re-vegetation after construction.

**5.2 *Potential long-term adverse impacts and mitigative measures***

Once the new housing is completely developed, some long-term effects will have occurred or will continue to occur. Mitigative measures will be implemented to minimize the long-term adverse effects of the project.

Potential long-term adverse impacts and mitigative measures are listed below.

1. Limited grading will be completed to make fine adjustments to the project site grades for construction.
2. It is possible that minor contributions of fertilizer constituents and biocides may enter storm water runoff generated on the project site. The on-site drainage system will collect and transport some of this runoff during peak precipitation periods. Fertilizers and biocides will be carefully controlled in amounts applied to landscaped areas.
3. Water for the site will be derived from the City Board of Water Supply system. Wastewater generated on-site will be conveyed to the City's treatment facility. HECO electrical service and private solid waste collection will be required at the site.
4. Limited vegetation clearing will be necessary for development. The open land will be re-vegetated with grasses, trees, and other plants as soon as possible after clearing. No significant vegetation or native plants will be affected by the development of the new elderly housing.

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5. The existing 2.74-acre grass/scrub vegetation habitat for birds and other wildlife species in the SMA will be affected. Some wildlife species will be displaced from this area and relocate in adjacent areas. Landscape plantings at the site will re-establish urban area landscaping habitat for wildlife.
6. With the project completed, the concentration of suspended sediments in runoff from the property is expected to be lower than current levels. Small amounts of fertilizer and biocide constituents in runoff from the maintenance operations may be carried off-site. Drainage controls will minimize the introduction of these potential contaminants.
7. Parts of the new elderly housing may be visible from Pohakupuna Road, Puppu Street, the shoreline area and adjoining homes. Landscaping and appropriate site planning and design will produce an aesthetically pleasing perspective of the housing area from off-site areas.



**SECTION 6**  
**Alternatives**

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## SECTION 6.0

### ALTERNATIVES TO THE PROPOSED ACTION

There are several issues which must be considered in the evaluation of hardship for the Mitsuyasu Trust application for Shoreline Setback Variance to permit the construction of the low-level landscape wall in the Shoreline Setback Area.

In addition to the No-action alternative, three alternative development scenarios are contemplated under the existing R-5 residential zoning. With the proposed action including an inland low-level landscape wall, alternative approaches to protecting and containing the landscaping in the shoreline area of the elderly housing site are possible, including another No-action option. The alternatives include:

- (a) No-action
- (b) Standard Subdivision at Maximum Density.
- (c) Cluster Project at Maximum Density.
- (d) Planned Development Housing at Maximum Density.
- (e) Proposed Action without a low-level landscape wall.
- (f) Proposed Action with a vertical seawall.
- (d) Proposed Action with a sloping revetment.

These options are discussed individually in terms of their potential impacts, including hardship to the applicant.

#### (a) No action

The no action alternative would result in no housing development at the Mitsuyasu property in Ewa Beach. Short-term and long-term impacts resulting from the elderly housing, both beneficial and adverse impacts, will not be generated in the project is not built.

There is demonstrated need for new elderly housing units in the Ewa District of Oahu. There is an anticipated high demand for these units because of the design quality and location near the shoreline. Without the proposed project, many members of the Mitsuyasu Family would continue to live apart from their family's property in Ewa Beach.

The 2.74-acre property would continue to be under-utilized with only one dwelling unit, while its current R-5 Residential zoning developed as a cluster allows up to 40 housing units. Real property taxes are assessed to this owner without them gaining any offsetting income from the property.

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**(b) Standard Subdivision**

Development of a standard subdivision alternative at the existing R-5 Residential zoning would yield approximately 17 to 18 elderly housing units with 5,000 sq. ft. house lots. This number of units is slightly lower than the proposed 26-unit cluster project, however, this type of project would likely be occupied by families. Given family occupancy of these homes, the subdivision would generate roughly comparable or greater population, traffic, water use and sewage in comparison to the proposed project.

Effects upon coastal resources could be greater with the subdivision than with the proposed project, particularly since the coastal land would be maximized for house lots instead of a common open space landscaped area. In comparison to the 26-unit cluster proposed, the standard subdivision would result in larger individual housing units (family homes) that would sell for higher market prices. Public views from the shoreline area would experience dwellings and yard areas versus the landscaped open space planned in the 26-unit elderly housing cluster project.

**(c) Cluster Development at Maximum Density**

A cluster development at maximum density would allow up to 31 units. This number of cluster units would limit the area available for open space and landscaping. This number of units is slightly higher than the proposed 26-unit cluster project, and would create slightly more population, traffic, water use and sewage in comparison to the proposed project.

Effects upon coastal resources could be greater with the maximum cluster than with the proposed project, particularly since the coastal land would be maximized for housing instead of a common open space landscaped area. Public views from the shoreline area would experience dwellings and yard areas versus the landscaped open space planned in the 26-unit elderly housing cluster project.

**(d) Planned Development Housing at Maximum Density**

A PDH approval is another option for development of this parcel under the R-5 Residential zoning. For lots in the R-5 zoned areas, a Floor Area Ratio (FAR) of .35 is the allowed maximum building coverage. With the same size units as planned for the proposed project (average of 1,200 sq. ft. with garage), up to 34 units could be developed on this site. In a multi-family configuration using duplex units, over 40 units could be developed on this parcel at maximum density.

The project consisting of 34 to 40 units would also limit the area available for open space and landscaping. The potential number of units would be much higher than the proposed 26-unit cluster project, and would create more population, traffic, water use and sewage in comparison to the proposed project.

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Effects upon coastal resources could be greater with the PDH alternative than with the proposed project, particularly since the coastal land would be maximized for housing instead of a common open space landscaped area. Public views from the shoreline area would experience dwellings and yard areas versus the landscaped open space planned in the 26-unit elderly housing cluster project.

**(e) Proposed Action Without a Low-Level Wall**

This alternative would involve development of the landscaping for the project without a low-level landscape wall to provide protection from sea spray and periodic exposure to storm wave run-up. The new landscaping and topsoil fill would extend to within 10 feet of the shoreline boundary. These materials would be exposed to erosion forces along the makai edge, and could potentially be washed away during moderate storm wave activity. The introduction of these materials into the coastal environment would be undesirable.

Without the low-level wall on the project site, other low-level rock wall structures fronting parcels on either side of the subject lot could be affected by the back-cutting energy of wave run-up during storms. The proposed low-level wall would retain fill and landscaping that would otherwise eventually spread into the shoreline area.

**(f) Proposed Action with a Vertical Seawall**

A vertical seawall could be developed along the shoreline boundary to protect the inland portion of the property. In general, vertical seawalls are undesirable because of the reflective energy generated and its resulting erosion action. With the shoreline composed of a consolidated limestone scarp and coral and limestone boulders, there is no need for extensive new structures to provide shoreline protection at this property. Wave run-up and ocean spray during storm events can affect the area immediately inland of the shoreline, however, these events do not substantially alter the configuration of the shore. There are no sand deposits along this shoreline, and there is no evidence of significant shoreline erosion.

The vertical seawall would provide significant protection to the inland portion of the lot, however, it is not necessary given the existing physical condition of the shoreline. Nearly all of the adjoining lots possess low-level walls set back from the shoreline edge. These walls are very effective in containing upland fill and landscaping materials and do not affect coastal processes along this shoreline.

**(g) Proposed Action with a Sloping Revetment**

Development of a sloping revetment structure could potentially be undertaken at this site instead of a vertical seawall or inland low-level landscape wall. The DLU's policy is to recommend sloping revetments in place of vertical seawalls because they tend to dissipate rather than reflect wave energy.

• Pau Hana Hale Elderly Housing, Ewa Beach, Oahu •  
Draft Environmental Assessment, SMA Use Permit & Shoreline Setback Variance

A sloped revetment would, however, require placement of stones of approximately two feet in diameter on a 2:1 slope. The sub-grade base of the sloped revetment would be at the certified shoreline. A sloped revetment would extend at least 20 feet mauka into the usable portion of this property.

The protection offered by the sloped revetment would be less than the vertical seawall but greater than the proposed low-level landscape wall. The owners would lose usable land on their lot. The usable land area lost from active use potential due to the sloping rock revetment is estimated at 5,000 sq. ft. This property has an estimated real estate market value of the shore line portion is at least \$35 per sq. ft. The loss of land value related to the revetment would amount to nearly \$175,000. The neighbors would also incur costs to protect their property side yards.

#### Conclusion

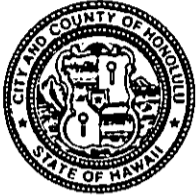
Of the development options available to the owners, the development of the 26 unit cluster project is reasonable as compared to the other alternatives. The no-action alternative would force the continued payment of real property taxes without an offsetting income. The standard subdivision would allow some development, but there would be fewer units (17 to 18) of larger size at higher market price. On the other hand, cluster and PDH developments at maximum density would create more units (31 to 40) than the site could reasonably accommodate along with appropriate amounts of open space and landscaped areas. The family's preference is to pursue the 26-unit elderly housing cluster option which involves smaller size and lower cost units which satisfy the requirements of their family and the elderly sector of the housing market. Each of the development alternatives evaluated have the potential to create greater environmental impacts than the proposed 26-unit cluster project.

With the proposed action, there are other options besides the low-level landscape wall available for protection of the landscaped seaward edge of the property. The no-action option is inadequate since some type of structural edge must be established near the shoreline boundary to contain the topsoil fill and landscaping materials. Options such as a vertical seawall or sloping rock revetment are not necessary for this protection, and they could have some effect on shoreline wave energy dispersion. The inland low-level wall would provide landscape protection without affecting coastal processes.

SECTION 7  
Letters & Comments

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

650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813  
PHONE: (808) 523-4414 • FAX: (808) 527-6743



JEREMY HARRIS  
MAYOR

PATRICK T. ONISHI  
DIRECTOR

LORETTA K.C. CHEE  
DEPUTY DIRECTOR

96/SMA-033 (ASK)

August 22, 1996

RECEIVED  
AUG 23 1996

GROUP 70

Mr. George Atta  
Group 70 International, Inc.  
925 Bethel Street, 5th Floor  
Honolulu, Hawaii 96813-4307

Dear Mr. Atta:

Draft Environmental Assessment (DEA) for  
Pau Hana Hale Elderly Housing  
Tax Map Key: 9-1-28: 40

We are forwarding our comments and those received during the 30-day public comment period for the above-referenced project.

In accordance with the provisions of Chapter 343, Hawaii Revised Statutes (HRS), you must respond in writing to these and any other comment which were received during the 30-day comment period which began with publication of a notice of availability of the DEA in The Environmental Notice on June 8, 1996. The final Environmental Assessment (FEA) must include these comments and response, as well as revised text, if appropriate.

The following are our comments on the DEA:

1. Shoreline Setback

The FEA should clearly describe and justify all of the structures within the 40-foot shoreline setback area. Figure 2-6 seems to portray landscaping makai of the CRM wall. Is the installation of top soil, irrigation and landscaping proposed in this area? Side yard walls and fences should be described. Provide a physical description of the shoreline monuments and their purpose.

2. Grading

The DEA indicates there is very little soil on the property but that there is no plan to import any "at this point" (pages 2-14 and 2-17). We are concerned that the existing

Mr. George Atta  
Page 2  
August 22, 1996

rocky coral condition will not easily support the proposed landscaping and that fill material will eventually have to be brought onto the site. We suggest that you evaluate the need for importing fill material and include any new information in the FEA.

3. Drainage

The location of the detention basins and shallow dry wells noted on page 2-18 of the DEA should be shown on the site plan.

The DEA indicates that the existing drainage patterns, where stormwater sheet flows toward the ocean, will be maintained (pages 2-18 and 3-14). We expect the proposed CRM wall, detention basins and wells will alter the drainage patterns. Please clarify the drainage information.

Page 2-18 states that driveway runoff will be directed toward the existing Pupu Street drainage system. Staff with the Department of Public Works (DPW) has preliminarily indicated that Pupu Street is not equipped with a standard drainage system. We recommend a preliminary drainage report be submitted to the DPW for their review and approval so that we can be reasonably assured that the proposed drainage system is a viable solution.

4. Urban Design

The property boundary should be labeled on the site plan.

Since the driveway depth provides sufficient area for guest parking, we recommend that the proposed guest parking shown near the common facilities be replaced with open space.

It appears the proposed action could be accomplished through a Cluster Housing, PD-H, Zero-Lot-Line or Subdivision process, however, the project layout resembles that of a standard subdivision.

You should be aware that the project can be exempted from the Subdivision Rules and Regulations as well as Land Use Ordinance development standards, provided affordability requirements for Chapter 201E, HRS are met.

The FEA should state if the project is intended to be subdivided, "condominiumized", rented or leased.



Mr. George Atta  
Page 3  
August 22, 1996

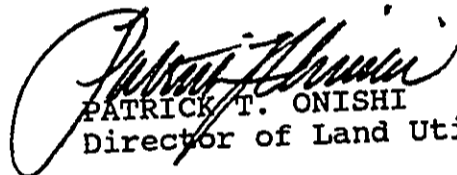
5. Flood Hazard

A portion of the project is within Flood Zone A which requires a flood determination to establish the flood elevation. A flood determination must be submitted to our department prior to acceptance of the SMP application to ensure flood hazard requirements can be met.

The FEA should describe the potential for damage in the event of a major hurricane.

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

Very truly yours,



PATRICK T. ONISHI  
Director of Land Utilization

PTO:am  
Encl.  
cc: Department of Public Works

g:pauh.ask  
a:pauh.as8



**GROUP 70**  
INTERNATIONAL

Francis S. Oda, AIA, AICP  
Norman G. Y. Hong, AIA  
Sheryl B. Seaman, AIA, ASID  
Hitoshi Hida, AIA  
Roy H. Nihei, AIA, CSI  
James I. Nishimoto, AIA  
Ralph E. Portmore, AICP  
Stephen H. Yuen, AIA

Paul P. Chorney, AIA  
Dean H. Kitamura, AIA  
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Stephen E. Callo, CPA  
Walter R. Bell, AIA, CSI, CCS  
Walter K. Muraoka  
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Michael A. Garni  
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Linda L. Chung, AIA  
Janet M. Bucholdt  
Ronald L. Proctor  
Charles F. Schriever, AIA  
Kathryn A. Tsukano  
Roy A. Inouye  
Mary J. O'Leary

13 September 1996

Mr. Patrick T. Onishi, Director  
Department of Land Utilization  
650 South King Street, 7th Floor  
Honolulu, Hawaii 96813

Subject: Draft Environmental Assessment (DEA) for Pau Hana Hale Elderly Housing

Dear Mr. Onishi:

Thank you for your letter of August 22, 1996 regarding our project. We are in the process of preparing responses to all the letters submitted during the comment period. With reference to your specific comments, we provide the following responses:

Shoreline Setback

The Final Environmental Assessment (FEA) will describe and justify all the structures in the 40 foot shoreline setback area. We are proposing some top soil irrigation and landscaping in this area. These will be described more fully in the FEA. Descriptions will also include the side yard walls and shoreline monuments.

Grading

The sections on landscaping and grading will be revised. We will import some top soil to support the new landscaping and prepare building sites. The information on quantities will be included in the FEA.

Drainage

The location of proposed dry wells will be shown on the site plan. A preliminary drainage report is being prepared and will be submitted to DPW for review to assess the viability of our proposed system. A more detailed description will be included in the FEA.

Urban Design

The property boundary will be labeled.

We feel the guest parking near the pavilion is a desirable feature. Occasionally we expect to have group events that involve larger numbers of guests and service vehicles such as catering trucks or performer supply vehicles when the events take place in the pavilion or furo/spa. It would be highly inconvenient if they could not park by the facility.

CC: LEIOLANI ABDULL  
HAWN TRUST  
HITOSHI HIDA  
GTO

While we agree that the project could be done through a number of processes, we feel the cluster provision best fits our plans. While people will essentially own their individual houses and a small yard around them, there are common areas and non-subdivision standard road dimensions that we feel are best accommodated through a cluster permit. We will work with your staff to choose the most appropriate procedure.

With regard to 201E exemptions, we have not yet finalized our prices and do not know if we will qualify for the program. We will consider those options if we feel we meet the program requirements.

The project will be condominiumized.

Flood Hazard

We will conduct a Flood Zone elevation determination for the Zone A areas of the property. This information will be included in the FEA.

Thank you for your comments. We hope we have addressed your concerns sufficiently. If you have any further questions, please feel free to call me at 523-5866.

Sincerely,  
GROUP 70 INTERNATIONAL, INC.

  
George I. Atta, AICP

GIA/mkm

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Group 70 International Inc. • Architecture • Planning • Interior Design • Environmental Services  
925 Bethel Street, Fifth Floor • Honolulu, Hawaii 96813-3977 • Phone (808) 523-5866 • FAX (808) 523-5874

**PAU HANA HALE ELDERLY HOUSING**

The Planning Committee of the Ewa Neighborhood Board No. 23 recommended approval of the Pau Hana Elderly Housing with the following conditions:

- The CRM wall fronting the beach shall not be a seawall. Also, some type of security measure may be needed to prevent unauthorized persons access to the housing area from the beach.
- The entry gate at Pohakupuna Road should be set back twenty feet from the travel lane. A storage lane for cars turning into the housing area is recommended.

Recommendations were based on the information provided during the June 13, 1996 Neighborhood Board meeting and during the June 26, 1996 Planning Committee meeting.

Alexander moved for the Planning Committee that the Ewa Neighborhood Board No. 23 support the Pau Hana Hale Elderly Housing with the proposed recommendations. Motion carried unanimously. 6-0.

Motion was approved at the Ewa Neighborhood Board No. 23's July 11, 1996 Regular Meeting.



13 September 1996

Mr. William C. Espero, Chairperson  
Ewa Neighborhood Board No. 23  
91-1002 Kuhina Street  
Ewa Beach, Hawaii 96706

Subject: Environmental Assessment for Pau Hana Hale Elderly Housing

Dear Mr. Espero:

Thank you for the Ewa Neighborhood's positive recommendation for our project. With reference to the conditions stated in the Board's approval, we make the following responses:

1. We reiterate that our wall is not a seawall. On average it is 10-15 feet behind the certified shoreline and the footing of the wall is about 2 1/2 feet above mean sea level; imbedded in a hard limestone coral outcrop. We will have no impact on wave energy dissipation or alongshore transport.
2. With regard to the safety issue and protection from the makai side of the property, we are cognizant of the issue. Japanese style stone lanterns along the shoreline are meant to define the edge of the property so people will know it is private property. The short wall will further reinforce the message. While we are aware these features will not prevent trespass by people who don't care, most people will respect them. To handle the security issue, we are considering security devices and designs on the buildings and the use of a guard service. The specific actions will be decided at a later date.
3. Regarding the 20 feet setback for the gate from Pohakupuna Road and a storage lane for the cars turning into the property, we will work with the Department of Transportation Services on these items and come up with appropriate designs to address these issues.

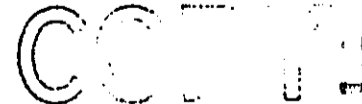
Thank you again for your board's recommendation. If you have any questions, please call me at 523-5866.

Sincerely,  
GROUP 70 INTERNATIONAL, INC.

George I. Atta, AICP  
Project Manager

GIÄ/mkm

cc: LEILOANI ABDUL  
HAWN TRUST  
HITOSHI HIDA  
B7D



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O'AHU GROUP  
SIERRA CLUB, HAWAII CHAPTER  
P.O. Box 2577, Honolulu, Hawaii 96803  
Phone: (808) 538-6616

June 24, 1996

RECEIVED  
JUN 25 1996

Mr. George Atta  
Group 70 International, Inc.  
925 Bethel Street, 5th Floor  
Honolulu, Hawaii 96813

GROUP 70

Dear Mr. Atta:

The O'ahu Group of the Sierra Club objects to features of the Pau Hana Hale Elderly Housing project. We object to the proximity of the houses to the shoreline and the proposed the landscape wall.

It has been well documented that construction too close to the shoreline has been a mistake. Hurricanes and stormwaves cause loss of life and property. Homeowners often construct seawalls which lead to loss of beaches. Numerous studies by the Office of State Planning's Coastal Zone Management Program have recommended that development be moved mauka to protect property and public safety. It is not prudent for development to be located too close to the shoreline given the threat posed by local and global sea-level rise. Sea-level rise will only exacerbate the threats posed by storm waves, tsunamis, hurricanes, etc. The draft environmental assessment itself points out that "waves and wave-tossed coralline rubble during periods of high tides and waves presents a problem. . . . When wave run-up overtops this escarpment, and [sic] ocean water can wash inland affecting land and improvement in the near shore inland area."

We point to the following policies articulated in HRS Chapter 205A in support of our position: HRS 205A-2(c)(3)(D) ("Encourage those developments which are not coastal dependent to locate in inland areas"); HRS 205A-2(c)(6)(B) ("Control development in areas subject to storm wave, tsunami, flood, erosion, hurricane, wind, subsidence, and point and nonpoint source pollution hazards"); HRS 205A-2(c)(9)(A) ("Locate new structures inland from the shoreline setback to conserve open space and to minimize loss of improvements due to erosion").

The Department of Land Utilization has the right to place conditions on any Special Management Area Permit to advance the objectives and policies of chapter 205A as well as to minimize adverse environmental effects. We suggest that DLU require that no structure be placed within one hundred and fifty feet of the shoreline. It is true that the houses near this lot are closer to the shoreline than the suggested buffer. The law, however, does

Mr. George Atta  
Group 70 International, Inc.  
June 24, 1996  
Page -02-

not empower the DLU to deny construction of a single family home fifty feet from the shoreline. But it does empower DLU to act in a situation such as this where the landowner's lot is large and where the landowner proposes a larger development.

The environmental assessment should clearly indicate how the large boulders were added to the shoreline and what impacts they have had.

It should also discuss what specific mitigation measures will be taken to prevent runoff and erosion. It should include a plan that describes the location of grass-swales and detention features since the control of nonpoint water pollution is an important objective of HRS chapter 205A.

We also object to the construction of a wall within the forty foot setback. The construction of a wall such as this is similar in nature to a seawall. The applicant must demonstrate hardship in order to obtain a shoreline setback variance. There is no evidence that the applicant will suffer hardship if the wall is denied. Legally, hardship does not entail the risk of loss of the value of improvements that have not yet been constructed.

Finally, we wonder what provisions will be made for public access to the shoreline. HRS 205A-2(c)(1)(B) calls for providing "adequate, accessible, and diverse recreational opportunities in the coastal zone management area by: . . . Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value; . . . and Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, county planning commissions; and crediting such dedication against the requirements of section 46-6." The draft environmental assessment suggests that access is provided along two private roads. Such access may be closed to the public, however. Adequate and guaranteed access should be provided to the public in this area in the event that access nearby is closed.

Very truly yours,



PHILIP D. BOGETTO  
Oahu Group Chair  
Hawaii Chapter  
Sierra Club



**GROUP 70**  
INTERNATIONAL

16 September 1996

Philip D. Bogetto, Oahu Group Chair  
Sierra Club, Hawaii Chapter  
P.O. Box 2577  
Honolulu, Hawaii 96803

Subject: Pau Hana Hale

Dear Mr. Bogetto:

Francis S. Oda, AIA, AICP  
Norman G. Y. Hong, AIA  
Sheryl B. Seaman, AIA, ASID  
Hitoshi Hida, AIA  
Roy H. Nihei, AIA, CSI  
James I. Nishimoto, AIA  
Ralph E. Portmore, AICP  
Stephen H. Yuen, AIA

With reference to your letter of June 24, 1996, we wish to provide the following responses:

The issue of coastal development is clearly a complex and difficult policy question. The hazards associated with tsunami and storm wave impacts raise issues of safety, property damage and environmental impact. It is precisely because of this complexity that we feel decisions need to be made in a case by case manner.

Paul P. Chorney, AIA  
Dean H. Kitamura, AIA  
Norma J. Scott, AIA  
Stephen E. Callo, CPA  
Walter R. Bell, AIA, CSI, CCS  
Walter K. Muraoka  
George I. Atta, AICP  
Jeffrey H. Overton, AICP  
Michael A. Garni  
Eric G. Crispin, AIA  
Linda L. Chung, AIA  
Janet M. Bucholdt  
Ronald L. Proctor  
Charles F. Schriever, AIA  
Kathryn A. Tsukano  
Roy A. Inouye  
Mary J. O'Leary

With regard to the setback issue, we wish to point out that we have all of our buildings sited behind the legal 40 foot shoreline setback area. Our variance request is for the landscape retention wall not for buildings. Your letter suggests that the setback should be 150 feet. We question your rationale for this distance. Is it based on scientific evidence about the wave regime in this section of the coastline or some stated public policy for coastal development in Ewa Beach? Without some adopted public policy, we feel such a requirement will be an arbitrary and capricious decision, since, as noted in your letter, other houses on adjacent properties are much closer. If the rationale is scientific then the basis should be explained. We know from the Poipu example with Hurricane Iniki that storm surge run-up can travel as far inland as 300 yards in some places. We are clearly seeking setbacks with some "reasonable" level of acceptable risk, not some magic number that avoids all risk since that is not possible.

The argument that it is okay to treat one landowner differently from another simply because of the size of his parcel or because other owners around him developed their lands earlier seems inherently unfair. This kind of thinking encourages a "rush to judgment" mentality which rewards fast track speculative developers who can avoid additional regulations and penalizes people who do things more slowly and deliberately.

The comment about larger lots and larger developments also needs to be addressed. First, one alternative to the present plan could be to place one large mansion or two large houses in a duplex set-up. By creating a private estate, we could avoid the SMA and also move the buildings 150 feet back as suggested. However, this option would limit the benefits of this property to a small number of individuals. The property is owned by many members of the Mitsuyasu family and such a plan would not even accommodate all the members of the family.

cc: LEOLANI ABDUL  
HAWN TRUST  
HITOSHI HIDA  
G70



MR. PHILLIP D. BORGETTO  
PAU HANA HALE  
16 SEPTEMBER 1996  
PAGE 2 OF 2

The second part of the comment about our plan being a larger development needs to be clarified. Our question is "larger than what?". What we have proposed is permissible within the existing zoning. It is not even the highest density that is permitted. While there are more units per acre than a standard R-5 subdivision, our units are smaller to accommodate the market for elderly residents. This property could be subdivided to provide 18 units in a standard subdivision fashion but, this would require residential structures up to the 40 foot setback line and there would be no common beach facilities. The units would probably have larger floor areas. The total floor area of such a project would probably be very similar to our proposal.

The placement of the boulders and their impact will be discussed more fully in the environmental assessment.

With reference to runoff and erosion, the level topography of the site and the nature of the soil (coral outcrop) limits runoff and erosion. A site drainage and erosion control plan will be developed with the detailed site plan for the cluster permit. Grass swales and detention basins will be considered. The rock wall was also intended to limit direct surface runoff into the ocean. Regulations related to nonpoint source discharges will be met.

The proposed wall within the 40 foot zone is a landscape retention wall; not a sea wall. On average it is located 10-15 feet inland of the certified shoreline on a limestone bench about 5 to 6 feet above sea level. The bottom of its footing is over two feet above sea level. It is placed on a hard coral outcrop and has no influence on wave energy dissipation. It has essentially no impact on the coastal marine environment. The comment in the report of occasional storm wave splash and rock movement refers to an action that is infrequent and not significant. If anything, the location of the short wall will probably keep more of the rocks and splash water in the active littoral zone by preventing it from going further inland and out of the zone.

With regard to the hardship issue we feel the hardship is in the maintenance of the grounds along the coastal area. Beyond aesthetic reasons for having the wall, it does set a transition zone for the landscaping that defines the areas requiring irrigation and the beginning of the salt tolerant environment by minimizing the splash from larger waves.

The issue of public access will be discussed with the Department of Land Utilization. If it is decided that this is an area where the public should have access from a policy standpoint, we will consider it in our site plan. It should be noted that the shoreline is rocky and narrow at this location. There are also no sandy beaches nearby.

Thank you for sharing your comments.

Sincerely,  
GROUP 70 INTERNATIONAL, INC.

*George I. Atta*

George I. Atta, AICP, CEI  
Director of Planning

GIA/mkm

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**BOARD OF WATER SUPPLY**

CITY AND COUNTY OF HONOLULU  
630 SOUTH BERETANIA STREET  
HONOLULU, HAWAII 96843  
PHONE (808) 527-6180  
FAX (808) 533-2714



June 28, 1996

JEREMY HARRIS, Mayor  
WALTER O. WATSON, JR., Chairman  
MAURICE H. YAMASATO, Vice Chairman  
KAZU HAYASHIDA  
MELISSA Y. J. LUM  
FORREST C. MURPHY  
KENNETH E. SPRAGUE  
BARBARA KIM STANTON

RAYMOND H. SATO  
Manager and Chief Engineer

**TO:** PATRICK T. ONISHI, DIRECTOR  
DEPARTMENT OF LAND UTILIZATION

**FROM:** ~~FOR~~ *Raymond H. Sato*  
RAYMOND H. SATO, ~~MANAGER AND CHIEF ENGINEER~~  
BOARD OF WATER SUPPLY

**SUBJECT:** YOUR MEMORANDUM OF JUNE 4, 1996 ON THE DRAFT ENVIRONMENTAL  
ASSESSMENT (DEA), CHAPTER 343, HRS, FOR THE PAU HANA HALE ELDERLY  
HOUSING PROJECT, EWA BEACH, OAHU, TMK: 9-1-28: 40

Thank you for the opportunity to review and comment on the DEA for the proposed elderly housing project.

We have the following comments to offer:

1. There is an existing 5/8-inch water meter serving the project site.
2. The existing off-site water system is presently adequate to accommodate the proposed elderly housing project.
3. The availability of water will be determined when the construction drawings are submitted for our review and approval. If water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission and daily storage.
4. The on-site fire protection requirements should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.
5. If a three-inch or larger water meter is required, the construction drawings showing the installation of the meter should be submitted for our review and approval.
6. Our cross-connection control and backflow prevention requirements will be determined when the building permit application is submitted for our review and approval.

If you have any questions, please contact Barry Usagawa at 527-5235.



16 September 1996

Mr. Raymond H. Sato, Manager and Chief Engineer  
Board of Water Supply  
City and County of Honolulu  
630 South Beretania Street  
Honolulu, Hawaii 96813

Subject: Pau Hana Hale Elderly Housing Environmental Assessment

Dear Mr. Sato:

With reference to your June 28, 1996 letter to Mr. Patrick T. Onishi, I wish to thank you for your response to the Draft Environmental Assessment (DEA) for our project. With regard to your comments, we provide the following:

1. We note the existence of the 5/8 inch meter serving the project site. There is currently one single family residence on the property.
2. We appreciate the verification of the present adequacy of the off-site water system to accommodate our project.
3. We understand the requirement to submit our plans to the Board of Water Supply (BWS) when we complete our construction drawings. We are also aware of the need to pay specific water charges at the appropriate times.
4. We will be coordinating our designs with the Fire Prevention Bureau of the Fire Department to ensure the compliance of our plans with applicable codes and standards.
5. We will submit our water plan to the BWS for review and approval.
6. Our cross connection and back flow prevention system will be designed to code and submitted to the BWS for approval.

Thank you for your comments. If you have any questions, please feel free to call me at 523-5866.

Sincerely,  
GROUP 70 INTERNATIONAL, INC.

*George I. Atta*

George I. Atta, AICP  
Project Manager

GIA/mkm

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Group 70 International, Inc. • Architecture • Planning • Interior Design • Environmental Services  
925 Bethel Street, Fifth Floor • Honolulu, Hawaii 96813-4307 • Phone (808) 523-5866 • FAX (808) 523-5874

CC: LEILOANI ABDUL  
HAWN TRUST  
HITOSHI HON  
G70

96-04433

BENJAMIN J. CAYETANO  
GOVERNOR OF HAWAII



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

MICHAEL D. WILSON  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

DEPUTY  
GILBERT S. COLOMA-AGARAN

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

JUL 11 1996

REF:LM-AJ

Honorable Patrick T. Onishi  
Director of Land Utilization  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

Dear Mr. Onishi:

FILE NO. A129

SUBJECT: Environmental Assessment, Chapter 343, HRS Projects Within the  
Shoreline Setback and Special Management Area Project Name:  
Pau Hana Hale Elderly Housing  
Location : 91-603 Pohakupuna Road, Ewa Beach  
Tax Map Key : 9-1-28: 40

We have reviewed the subject application and would like to  
offer the following comments:

Oahu District Land Office:

The Oahu District Office of Land Management has no objections to the  
proposed cluster housing project on private property as we feel the  
project will provide a much needed service to the community. However,  
we would require that the applicant obtain all required federal, state  
and county permits prior to construction.

Boating and Ocean Recreation:

Unobstructed pedestrian access must be provided along the shoreline.  
Should you have any questions, you may contact Al Jodar at 587-0424.

Aloha,

MICHAEL D. WILSON



16 September 1996

Mr. Michael D. Wilson, Chairperson  
Board of Land and Natural Resources  
P.O. Box 621  
Honolulu, Hawaii 96809

Subject: Pau Hana Hale Elderly Housing Environmental Assessment

Dear Mr. Wilson:

With reference to your letter to Mr. Patrick T. Onishi dated July 11, 1996, we wish to thank you for your concerns. With regard to the specific comments, we wish to provide the following responses:

Thank you for your comment about the need for projects providing the services we are planning. Regarding Federal, State and County permits, we will process all required permits prior to commencement of construction.

On the concern about unobstructed pedestrian access along the shoreline, we wish to emphasize that we have no plans for any facilities or developments makai of the certified shoreline. Also, none of our facilities are anticipated to have any significant impact on the ocean or ocean related uses.

Thank you again. If you have any further questions, please feel free to call me at 523-5866.

Sincerely,  
GROUP 70 INTERNATIONAL, INC.

George I. Atta, AICP  
Project Manager

GIA/mkm

Francis S. Oda, AIA, AICP  
Norman G. Y. Hong, AIA  
Sheryl B. Seaman, AIA, ASID  
Hitoshi Hida, AIA  
Roy H. Nihei, AIA, CSI  
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Eric G. Crispin, AIA  
Linda L. Chung, AIA  
Janet M. Bucholdt  
Ronald L. Proctor  
Charles F. Schriever, AIA  
Kathryn A. Tsukano  
Roy A. Inouye  
Mary J. O'Leary

CC: LEIOLANI ABDUL  
HANN TRUST  
HITOSHI HIDA  
G70

COPY

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**GROUP 70**  
INTERNATIONAL

16 September 1996

Francis S. Oda, AIA, AICP  
Norman G. Y. Hong, AIA  
Sheryl B. Seaman, AIA, ASID  
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Kathryn A. Tsukano  
Roy A. Inouye  
Mary J. O'Leary

Michael D. Wilson, Chairperson  
Board of Land and Natural Resources  
P.O. Box 621  
Honolulu, Hawaii 96809

Subject: Environmental Assessment for Pau Hana Hale Elderly Housing

Dear Mr. Wilson:

With reference to your July 11, 1996 letter to Mr. Patrick T. Onishi, we wish to thank you for your response. We appreciate the finding of "no effect" on archaeological or historic sites.

If you have any questions, please call me at 523-5866.

Sincerely,  
GROUP 70 INTERNATIONAL, INC.

George I. Atta, AICP  
Project Manager

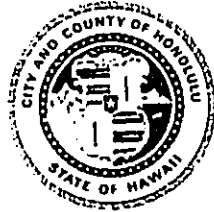
GIA/mkm

CC: LEIOLANI ABDUL  
HAWAII TRUST  
HITOSHI HIDA  
G70

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FIRE DEPARTMENT  
**CITY AND COUNTY OF HONOLULU**

3375 KOAPAKA STREET, SUITE H425  
HONOLULU, HAWAII 96819-1869



JEREMY HARRIS  
MAYOR

ANTHONY J. LOPEZ, JR.  
FIRE CHIEF

ATTILIO K. LEONARDI  
FIRE DEPUTY CHIEF

June 10, 1996

TO: PATRICK T. ONISHI, DIRECTOR  
DEPARTMENT OF LAND UTILIZATION

FROM: ANTHONY J. LOPEZ, JR., FIRE CHIEF

SUBJECT: ENVIRONMENTAL ASSESSMENT, CHAPTER 313, HRS  
PROJECTS WITHIN THE SHORELINE SETBACK AND  
SPECIAL MANAGEMENT AREA

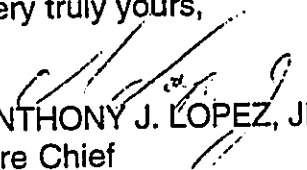
PROJECT NAME : PAU HANA ELDERLY HOUSING  
LOCATION : 91-603 POHAKUPUNA ROAD, EWA BEACH  
TAX MAP KEY : 9-1-28: 40  
STAFF PLANNER : ARDIS SHAW-KIM

The Honolulu Fire Department has reviewed the Draft Environmental Assessment Application for Special Management Area Use permit application for shoreline setback variance.

The current water system is adequate to meet the current fire flow requirements of the project. The project will not significantly impact the current fire protection services available to the Ewa Beach area.

If you need additional information, please contact Battalion Chief Charles Wassman of our Fire Prevention Bureau at 831-7778.

Very truly yours,

  
ANTHONY J. LOPEZ, JR.,  
Fire Chief

AJL/CW:bh



**GROUP 70**  
INTERNATIONAL

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Ronald L. Proctor  
Charles F. Schriever, AIA  
Kathryn A. Tsukano  
Roy A. Inouye  
Mary J. O'Leary

16 September 1996

Anthony J. Lopez, Jr., Fire Chief  
Fire Department  
City and County of Honolulu  
3375 Koapaka Street, Suite H425  
Honolulu, Hawaii 96819-1869

Subject: Environmental Assessment for Pau Hana Hale Elderly Housing

Dear Mr. Lopez:

With reference to your June 10, 1996 letter to Mr. Patrick T. Onishi, we thank you for your comments.

Your verification that the existing water system is adequate to meet current fire flow requirements helps us in our planning. We appreciate your statement that our project should have little impact on fire protection services for the Ewa Beach area.

Thank you again and please call me if you have any questions.

Sincerely,  
GROUP 70 INTERNATIONAL, INC.

George I. Atta, AICP  
Project Manager

GIA/mkm

CC: LEOLANI ABDUL  
HANA TRUST  
HITOSHI HIDA  
ETD

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BENJAMIN J. CAYETANO  
GOVERNOR



GARY GILL  
DIRECTOR

STATE OF HAWAII  
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

220 SOUTH KING STREET  
FOURTH FLOOR  
HONOLULU, HAWAII 96813  
TELEPHONE (808) 586-4186  
FACSIMILE (808) 586-4186

June 4, 1996

RECEIVED  
JUN 06 1996

GROUP 70

Patrick K. Onishi, Director  
Department of Land Utilization  
650 South King Street  
Honolulu, Hawaii 96813

Attention: Ardis Shaw-Kim

Dear Mr. Onishi:

RE: Draft Environmental Assessment (EA) for Pau Hana Hale Elderly Housing  
(Mitsuyasu Family), Ewa Beach; TMK 9-1-28: 40

Please include the following in the final EA:

1. Consult with the neighbors nearest to the project site and enclose documentation of your contacts, including any correspondence.
2. A map of the island showing the project location.
3. An analysis of shoreline processes according to the guidelines set forth in the attachment.

If you have any questions call Nancy Heinrich at 586-4185.

Sincerely,

A handwritten signature in cursive script, appearing to read "Gary Gill".

Gary Gill  
Director

enc.

c: Dee Spector Scrogam, Hawaiian Trust  
George Atta, Group 70

It is the policy of the State of Hawaii under HRS Chapter 205A to discourage all shoreline hardening that may affect access to, or the configuration of, our island beaches.

Any EA prepared in conjunction with an application to construct a seawall, revetment or similar structure should be accompanied by appropriate justification and detailed studies including, but are not limited to, the following:

1. A Historical Shoreline Analysis of coastal erosion and accretion rates. This should include a description of all movements of the neighboring shoreline over at least the past 30 years. This analysis should be based, at least in part, on aerial photographs available through government agencies and private vendors. The analysis should provide a detailed history of erosion and accretion patterns using all available evidence.
2. A description of the nature of the affected shoreline, whether sandy, rocky, mud flats or any other configuration. The history and characteristics of adjoining sand dunes and reefs should be included.
3. Site maps that clearly show the current certified shoreline, previous certified shorelines, the private property line and the location of the proposed structure. Any nearby public access right-of-way should also be depicted.
4. Beach profiles that extend off shore at appropriate intervals along the beach indicating the width and slope of both the submerged and dry portions of the beach.
5. An analysis of any existing nearby walls or revetments and their cumulative impacts on the shoreline.
6. A description of structures and improvements (such as homes or swimming pools) on the subject property, their distance from the property line and shoreline, and how they may be affected by the construction of the proposed hardening project.
7. A wave and storm frequency analysis for the area in question. This should include any relevant coastal processes such as longshore currents and seasonal wave patterns.
8. An analysis that predicts the location of future shorelines with and without the proposed wall at least 30 years into the future or over the expected life of the hardening project.
9. Photos of the site that illustrate past and present conditions and locate the proposed structure.
10. All alternatives to shoreline hardening should be thoroughly researched and analyzed. These alternatives should include beach replenishment, dune-scaping, retreat from the shoreline by moving existing structures inland, and a no action alternative.

The inclusion of this information will help make an Environmental Assessment complete and meet the requirements of Chapter 343, HRS. Only after thorough study and analysis should any permit for shoreline hardening be considered. If you have any questions please call us at 586-4185.



16 September 1996

Gary Gill, Director  
Office of Environmental Quality Control  
220 South King Street, Fourth Floor  
Honolulu, Hawaii 96813

Subject: Environmental Assessment for Pau Hana Hale Elderly Housing

Dear Mr. Gill:

With reference to your letter to Mr. Patrick T. Onishi regarding our project, we wish to provide the following responses:

Consultation with Neighbors

We have made two presentations to the Ewa Neighborhood Board and one presentation to the Ewa Beach Community Association. The Neighborhood Board's recommendation for approval will be included in the final EA and any further correspondence with community members will also be included in the report.

We wish to note that during the SMA process, all residents within 300 feet of the project will be notified and given an opportunity to present their opinions.

Project Location

An island map with project location will be included in the final EA.

Analysis of Shoreline Processes

Our project does not involve any hardening of the shoreline. Our ocean engineer has completed an analysis of the effect of our development on shoreline process. His conclusion is that except for high wave events our facilities would have no impact on shoreline events. His assessment is based on the stabilized coral boulder character of the shoreline and an analysis of the processes in the littoral zone and near shore environment. High wave events are infrequent and we feel the impact of our development would be insignificant. If anything, the effect of a low wall 15 feet (on average) behind the edge of the limestone bench may have a positive effect by retaining surface runoff and keeping rocks and boulders within the active littoral zone. We feel no further analysis is necessary for our project. A copy of the ocean engineer's report is located in the appendix of our report.

If you have any further questions please call me at 523-5866.

Sincerely,  
GROUP 70 INTERNATIONAL, INC.

*George I. Atta*

George I. Atta, AICP, CEI  
Project Manager

GIA/mkm

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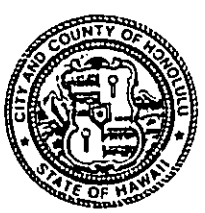
cc: LEILANI ADILL  
HANA TRUST  
HITOSHI HIDA  
G70

96-03912

DEPARTMENT OF PUBLIC WORKS  
**CITY AND COUNTY OF HONOLULU**

650 SOUTH KING STREET, 11TH FLOOR • HONOLULU, HAWAII 96813  
PHONE: (808) 523-4341 • FAX: (808) 527-5857

JEREMY HARRIS  
MAYOR



KENNETH E. SPRAGUE  
DIRECTOR AND CHIEF ENGINEER

DARWIN J. HAMAMOTO  
DEPUTY DIRECTOR  
ENV 96-148

June 19, 1996

MEMORANDUM:

TO: PATRICK T. ONISHI, DIRECTOR  
DEPARTMENT OF LAND UTILIZATION

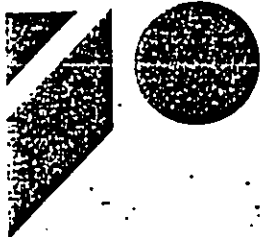
FROM: *for* KENNETH E. SPRAGUE  
DIRECTOR AND CHIEF ENGINEER *KES*

SUBJECT: ENVIRONMENTAL ASSESSMENT (EA)  
PAU HANA HALE ELDERLY HOUSING  
TMK: 9-1-28: 40

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

Frontage improvements and construction within the City's right-of-way should be in accordance with City and the American with Disabilities Act standards.

Should you have any questions, please contact Alex Ho, Environmental Engineer, at Local 4150.



**GROUP 70**  
INTERNATIONAL

16 September 1996

Francis S. Oda, AIA, AICP  
Norman G. Y. Hong, AIA  
Sheryl B. Seaman, AIA, ASID  
Hitoshi Hida, AIA  
Roy H. Nihei, AIA, CSI  
James I. Nishimoto, AIA  
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Ronald L. Proctor  
Charles F. Schriever, AIA  
Kathryn A. Tsukano  
Roy A. Inouye  
Mary J. O'Leary

Mr. Kenneth E. Sprague, Director and Chief Engineer  
Department of Public Works  
City and County of Honolulu  
650 South King Street, 11th Floor  
Honolulu, Hawaii 96813

Subject: Environmental Assessment for Pau Hana Hale Elderly Housing

Dear Mr. Sprague:

With reference to your June 19, 1996 letter to Mr. Patrick T. Onishi, I wish to thank you for your comments and provide the following response:

Frontage improvements and construction within the City's roadway rights of ways will be in accordance with City and Americans with Disabilities Act Standards.

If you have any questions, please call me at 523-5866.

Sincerely,  
GROUP 70 INTERNATIONAL, INC.

*George I. Atta*  
George I. Atta, AICP  
Project Manager

GIA/mkm

cc: LEIDIANI ABDUL  
HAWAII TRUST  
HITOSHI HIDA  
G70

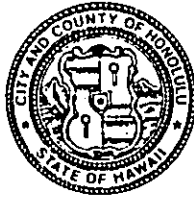
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Group 70 International, Inc. • Architecture • Planning • Interior Design • Environmental Services  
925 Bethel Street, Fifth Floor • Honolulu, Hawaii 96813-4307 • Phone (808) 523-5866 • FAX (808) 523-5874

76-03813

DEPARTMENT OF WASTEWATER MANAGEMENT  
**CITY AND COUNTY OF HONOLULU**  
850 SOUTH KING STREET  
HONOLULU, HAWAII 96813

JEREMY HARRIS  
MAYOR



FELIX B. LIMTIACO, P.E.  
DIRECTOR

CHERYL K. OKUMA-SEPE, ESQ.  
DEPUTY DIRECTOR

In reply refer to.  
WCC 96-71

June 17, 1996

MEMORANDUM

TO: MR. PATRICK ONISHI, DIRECTOR  
DEPARTMENT OF LAND UTILIZATION

FROM: FELIX B. LIMTIACO, DIRECTOR  
DEPARTMENT OF WASTEWATER MANAGEMENT

SUBJECT: ENVIRONMENTAL ASSESSMENT, CHAPTER 343, HRS  
PROJECTS WITHIN THE SHORELINE SETBACK AND  
SPECIAL MANAGEMENT AREA  
PAU HANA HALE ELDERLY HOUSING  
TMK: 9-1-28:040 (96/SMA-033-ASK, 96/SV-003-ASK)

Our response relating to the availability and adequacy of the municipal sewer system for the subject project is as follows:

- Municipal Sewer System Available and Adequate  
(This statement shall not be construed as confirmation of sewage capacity reservation. Sewage capacity reservation is contingent on submittal and approval of a "Sewer Connection Application" form.)
- Municipal Sewer System Not Available
- Municipal Sewer System Not Adequate
- Liable for Payment of a Wastewater System Facility Charge
- Other: Connection can be made after the construction of the Honouliuli Wastewater Treatment Plant 1A-Secondary Treatment Project is completed. This project is tentatively scheduled to be completed by February 1997.

Contact Person:  
Tessa Yuen, Ext. 4956

FELIX B. LIMTIACO  
DIRECTOR

6-29-96

96-04434

BENJAMIN J. CAYETANO  
GOVERNOR OF HAWAII



MICHAEL D. WILSON  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

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

DEPUTY  
GILBERT S. COLOMA-AGARAN

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

JUL 11 1996

REF:LM-AJ

Honorable Patrick T. Onishi  
Director of Land Utilization  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

Dear Mr. Onishi:

FILE NO. A129

SUBJECT: Environmental Assessment, Chapter 343, HRS Projects Within the  
Shoreline Setback and Special Management Area  
Project Name : Pau Hana Hale Elderly Housing  
Location : 91-603 Pohakupuna Road, Ewa Beach  
Tax Map Key : 9-1-28: 40

We have additional comments to offer:

Historic Preservation Division:

This is a Chapter 6E-42 review for proposed City & County SMA and SSV actions. The project proposes development of a cluster housing project for the elderly on 2.74 acres at Ewa Beach. Our review is based on historic reports, maps and aerial photographs maintained at the State Historic Preservation Division; no field inspection was made of the subject parcel. A review of our records shows that there are no known historic sites at the project location. Aerial photographs from the late 1970s show that this parcel has been cleared and partially developed with housing. Also, the DEA states that the vacant lot has been subject to past agricultural and residential uses. This past land alteration and previous development of the property make it unlikely that any surface or subsurface significant historic sites survive. Therefore we believe that this project will have "no effect" on historic sites.

Should you have any questions, you may contact Al Jodar at 587-0424.

Aloha,

*Gilbert S. Coloma-Agaran*  
for MICHAEL D. WILSON



16 September 1996

Felix B. Limtiaco, Director  
Department of Wastewater Management  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

Subject: Environmental Assessment for Pau Hana Hale Elderly Housing

Francis S. Oda, AIA, AICP  
Norman G. Y. Hong, AIA  
Sheryl B. Seaman, AIA, ASID  
Hitoshi Hida, AIA  
Roy H. Nihei, AIA, CSI  
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Janet M. Bucholdt  
Ronald L. Proctor  
Charles F. Schriever, AIA  
Kathryn A. Tsukano  
Roy A. Inouye  
Mary J. O'Leary

Dear Mr. Limtiaco:

With reference to your June 17, 1996 letter to Mr. Patrick T. Onishi, I wish to thank you for your comments.

We understand that your letter is not a confirmation of a sewage capacity reservation. We will be submitting a sewer connection application in the future and hope to receive the reservation at that time. We are pleased to hear that the construction of the Honouliuli Wastewater Treatment Plant 1A project will make capacity available. The completion of your project will be in advance of the completion of our project and we feel our schedules are compatible.

Thank you again for your response. If there are any further questions please call me at 523-5866.

Sincerely,  
GROUP 70 INTERNATIONAL, INC.

George I. Atta, AICP  
Project Manager

GIA/mkm

cc: LEIDIANI AOPUL  
HAWN TRU  
HITOSHI HIDA  
GTO

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SEP-24-96 TUE 8:44

LAND UTILIZATION

FAX NO. 8085276743

P. 02  
46-05456

BENJAMIN J. CAYETANO  
GOVERNOR OF HAWAII



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

1996 AUG 20 PM 2:34  
DEPT. OF LAND UTILIZATION  
CITY & COUNTY OF HONOLULU

MICHAEL D. WILSON  
CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES  
DEPUTY  
GILBERT S. COLOMA-AGARAN

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

AUG - 2 1996

REF: LM-AJ

Honorable Patrick T. Onishi  
Director of Land Utilization  
City and County of Honolulu  
650 South King Street  
Honolulu, Hawaii 96813

Dear Mr. Onishi:

FILE NO. A129

SUBJECT: Environmental Assessment, Chapter 243, HRS Projects Within the  
Shoreline Setback and Special Management Area Project Name:  
Pau Hana Hale Elderly Housing  
Location : 91-603 Pohakupuna Road, Ewa Beach  
Tax Map Key : 9-1-28: 40

We have additional comments to offer:

Water & Land Development, Land Division:

All structures must conform with City & County of Honolulu ordinance as well as FEMA specifications since the proposed project is within the flood hazard zone on the Flood Insurance Rate Map.

The following changes should be incorporated into the DEA:

1. On p. 2-21, Figure 2-11; the source should be changed from FEMA (1987) to "Flood Insurance Rate Map 150001 0135C (map revised September 28, 1990).
2. On p. 4-2, last paragraph; Figure 2-x should be changed to Figure 2-11.

Should you have any questions, you may contact Al Jodar at 587-0424.

Aloha,

*Gilbert S. Coloma-Agaran*  
for MICHAEL D. WILSON



26, September 1996

Michael D. Wilson, Chairperson  
Board of Land and Natural Resources  
P.O. Box 621  
Honolulu, Hawaii 96809

Dear Mr. Wilson:

Subject: Environmental Assessment for Pau Hana Hale Elderly Housing

Francis S. Oda, AIA, AICP  
Norman G. Y. Hong, AIA  
Sheryl B. Seaman, AIA, ASID  
Hitoshi Hida, AIA  
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Janet M. Bucholdt  
Ronald L. Proctor  
Charles F. Schriever, AIA  
Kathryn A. Tsukano  
Roy A. Inouye  
Mary J. O'Leary

With reference to your letter of August 2, 1996 to Mr. Patrick T. Onishi, Director of Land Utilization, we wish to thank you for your response to our project.

With regard to your specific comments we wish to provide the following responses:

1. All structures will comply with applicable codes for the City and County of Honolulu and FEMA regulations.
2. The source reference for Figure 2-11 will be changed to the correct citation.
3. Figure 2-x will be corrected to 2-11.

Thank you again and please call me if you have any further comments.

Sincerely,

George I. Atta, AICP  
Project Manager

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COPY

BENJAMIN J. CAYETANO  
GOVERNOR OF HAWAII



COPY

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

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  
WATER RESOURCE MANAGEMENT

APR 9 1996

Ref.: LM-PEM

Land Mgmt. Case No. OA-544

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

Dear Mr. Kajioka:

Subject: Shoreline Certification Request  
Applicant: ControlPoint Surveying, Inc.  
Property Owner: Robert U. Mitusvasu, Co.  
Location - Island: Oahu District: Ewa  
Tax Map Key: 9-1-28:40  
Property Description: Lot 315 of Ld Ct App 242  
(Map 190)  
Land Management Case No.: OA-544

This is to inform you that the subject shoreline certification request has been certified and no appeal has been received. Five (5) certified copies of the map are enclosed herewith.

Should you have any questions regarding this matter, please feel free to contact our Land Management Division at 587-0414.

Very truly yours,

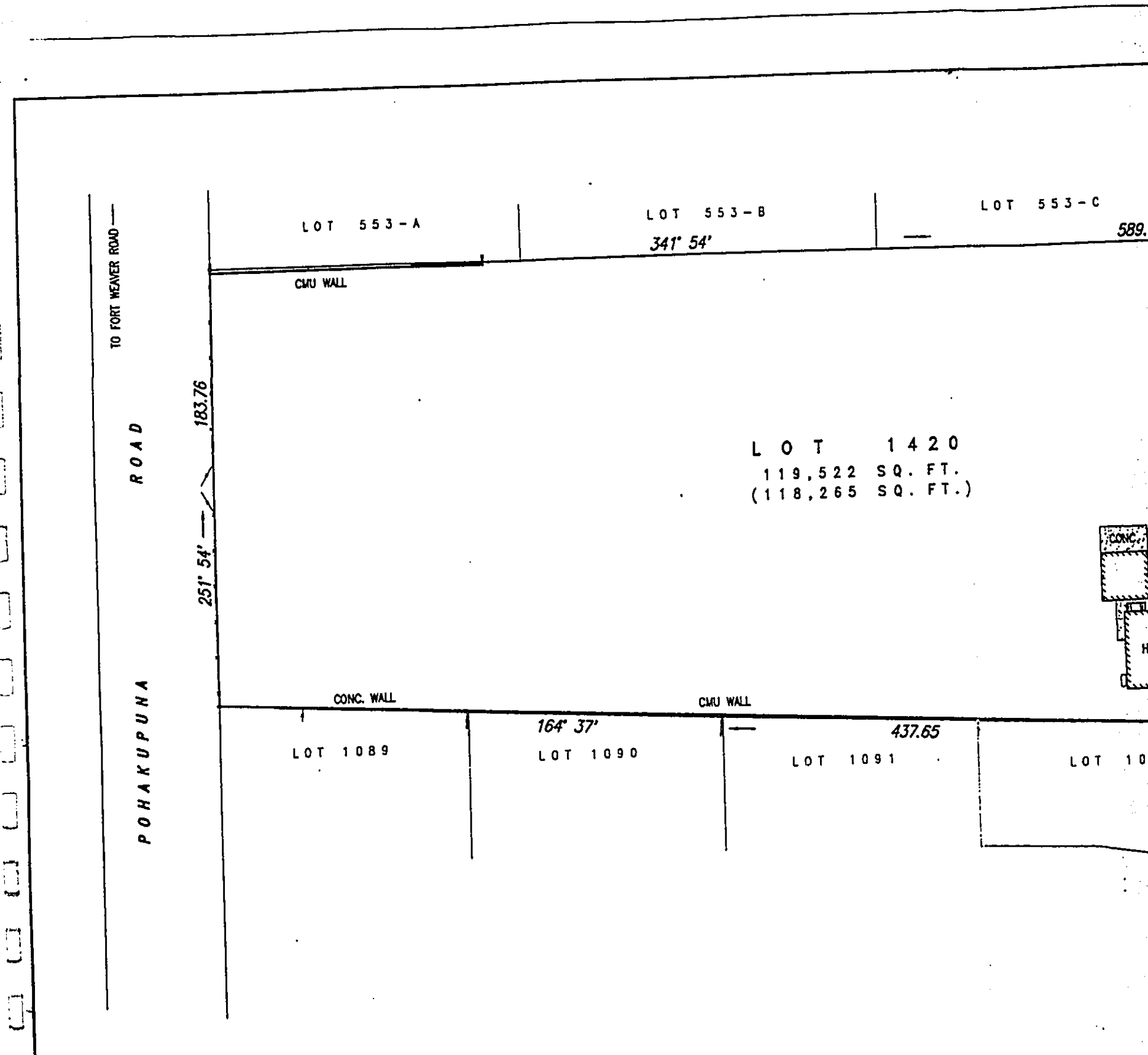
A handwritten signature in cursive script, appearing to read "Dean Y. Uchida".

DEAN Y. UCHIDA  
Administrator

cc: Oahu Land Board Member  
Survey Div., DAGS

**EXHIBIT 1**  
**Shoreline Survey Map**  
**Control Point Surveying, Inc.**

---



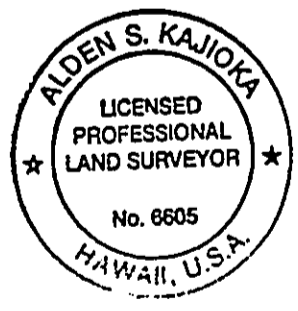
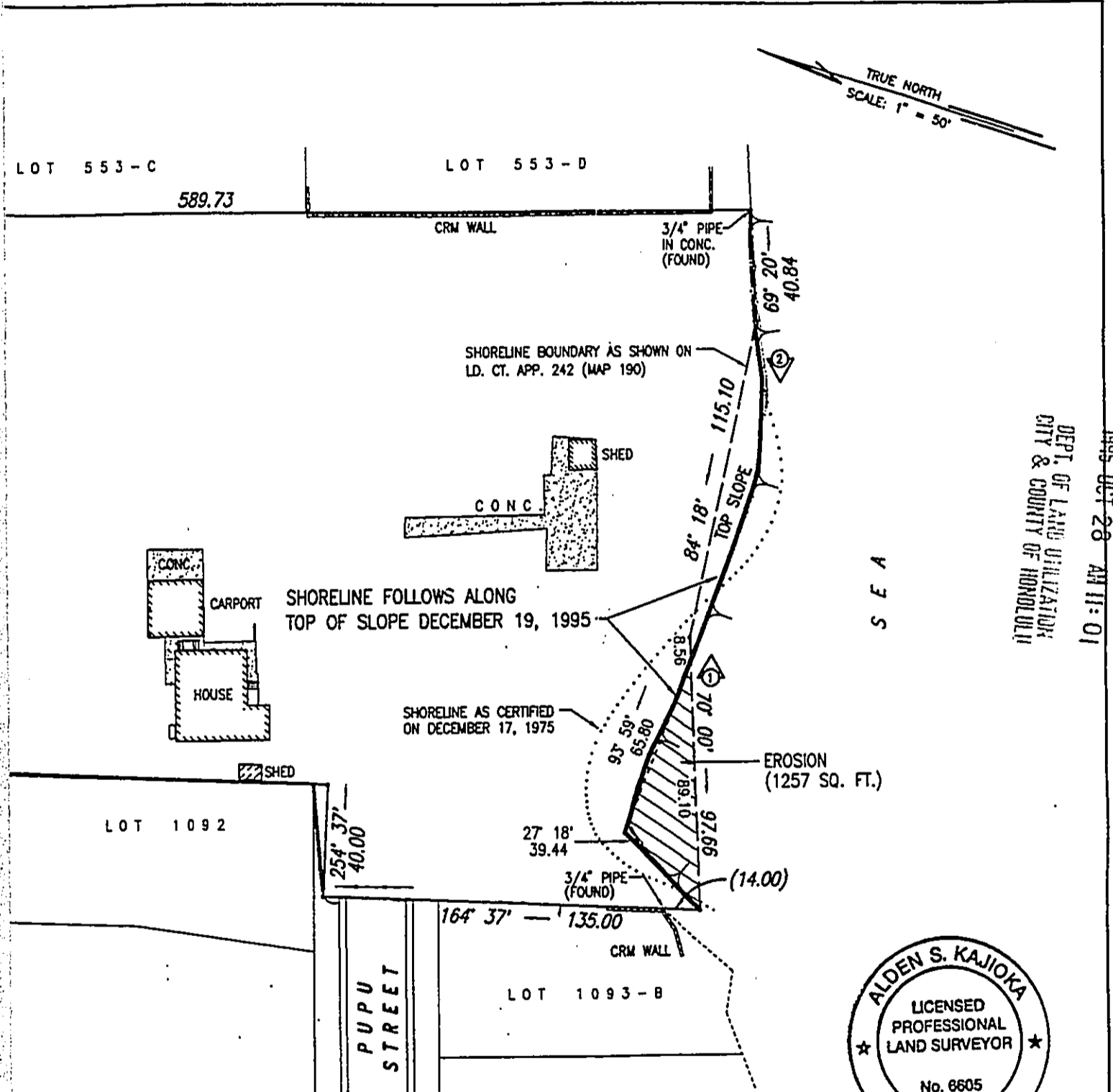
NOTE :  
 INDICATES PHOTOGRAPH NUMBER AND DIRECTION TAKEN.

OWNER : ROBERT U. MITSUYASU COMPANY

**SHORELINE SURVEY**  
 LOT 315 OF LAND COURT APPLICATION 2  
 AT PUULOA, EWA, OAHU, HAWAII

T.M.K. : 9-1-28:40  
 JANUARY 18 1966

CONTROLPOINT  
 SURVEYING INC.



1995 OCT 28 AM 11:01  
 DEPT. OF LAND UTILIZATION  
 CITY & COUNTY OF HONOLULU

**SURVEY**

APPLICATION 242 (MAP 190) *Rikawa*  
 OAHU, HAWAII

FEB 28 1996

*Alden S. Kajioka* for

THIS WORK WAS PREPARED BY ME  
 OR UNDER MY SUPERVISION

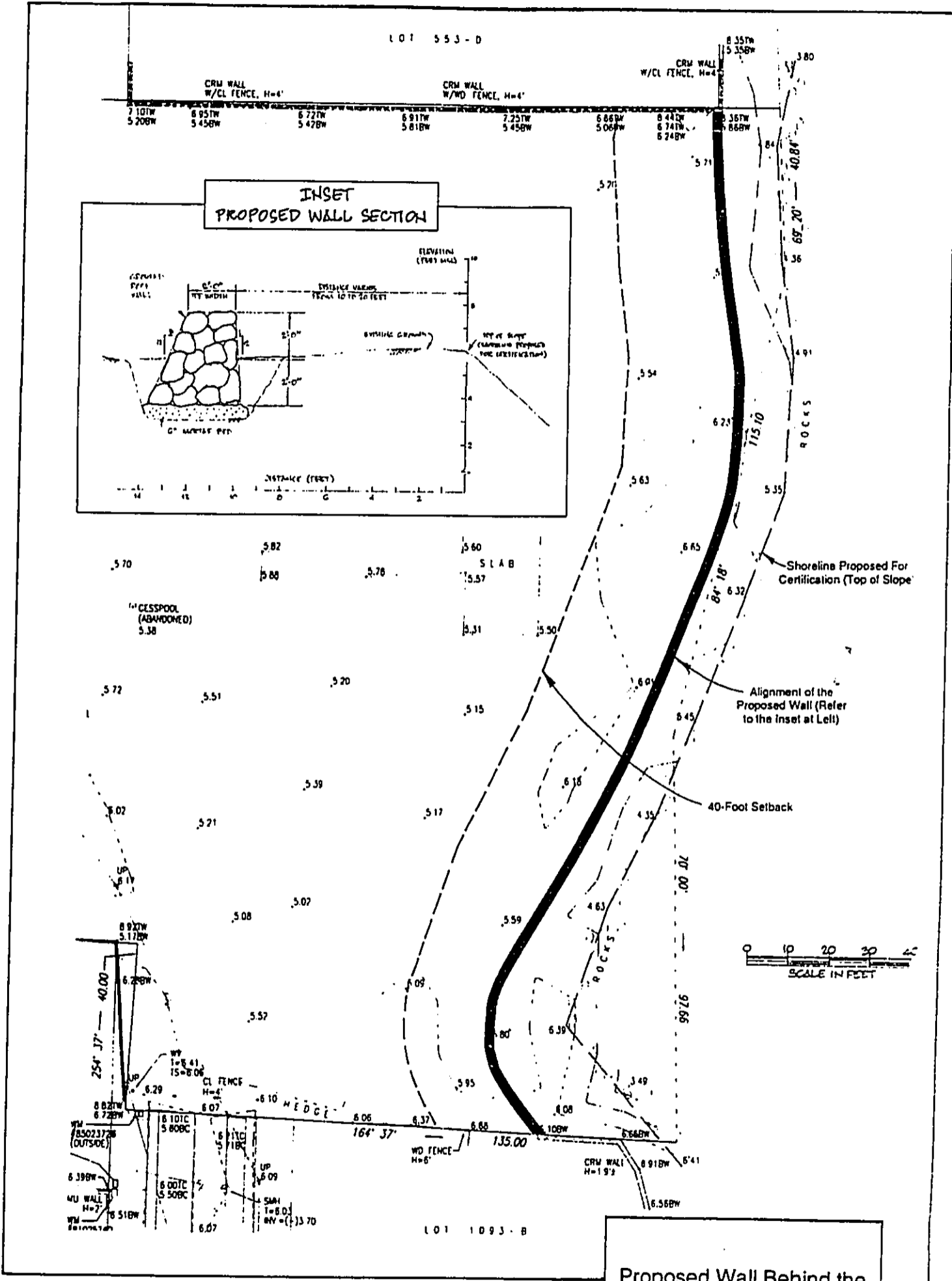
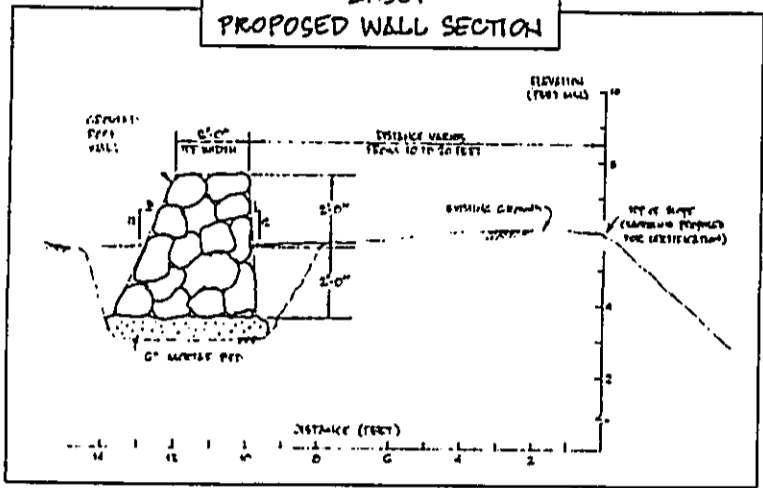
*Alden S. Kajioka*  
 ALDEN S. KAJIOKA  
 Licensed Professional  
 Land Surveyor  
 No. 6605

**EXHIBIT 2**  
**Preliminary Construction Plans (Low Level Wall)**  
**Tom Nance Water Resource Engineering**

---

LOT 553 - D

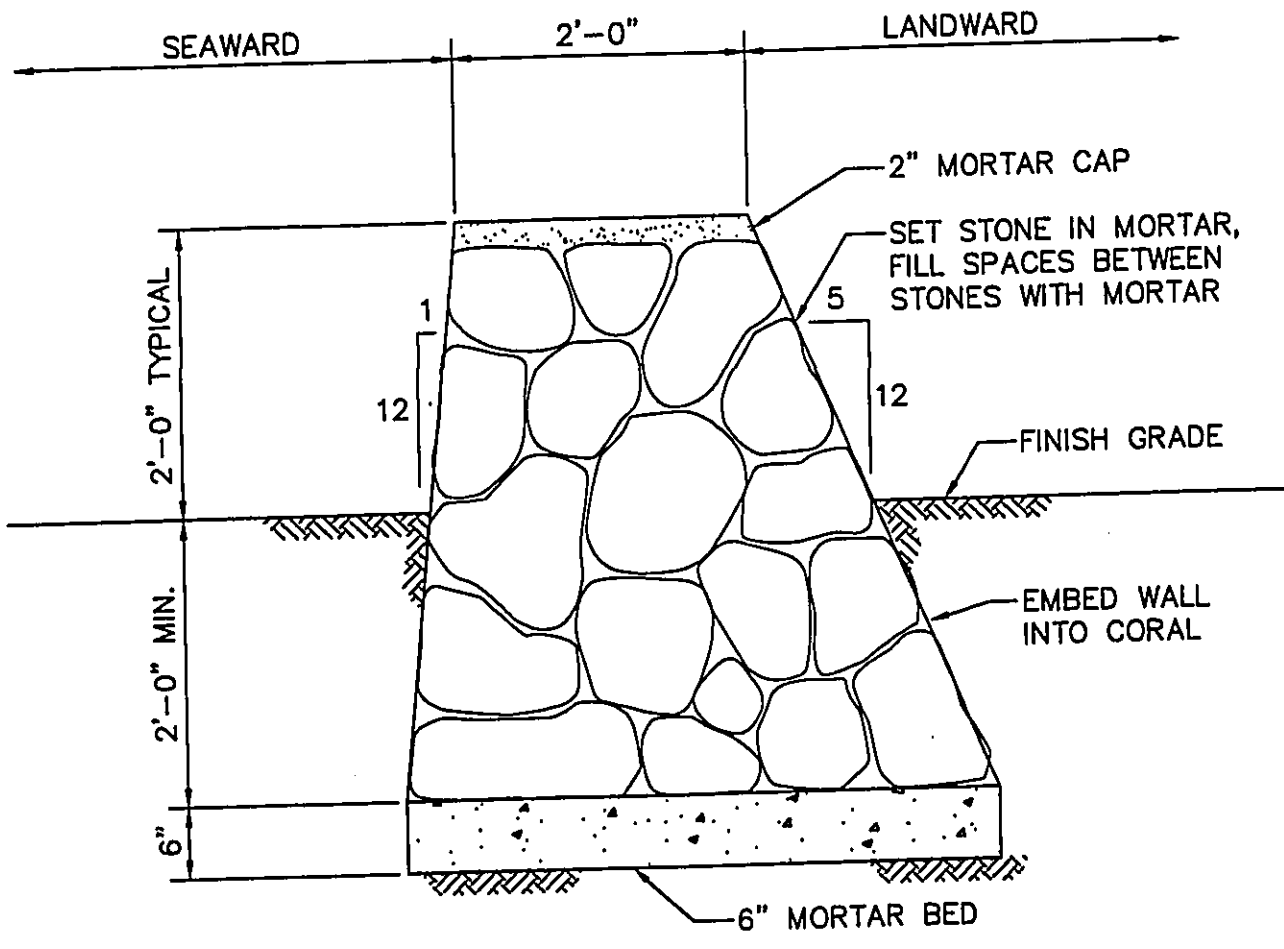
INSET  
PROPOSED WALL SECTION



Proposed Wall Behind the  
Shoreline of TMK 9-1-28:40

LOT 1093 - B





TYPICAL CRM WALL SECTION  
 SCALE: 3/4" = 1'-0"

SOURCE: TOM NANCE WATER  
 RESOURCE ENGINEERING

**LOW LEVEL LANDSCAPE WALL  
 AT PAU HANA HALE  
 TMK: 9-1-28:40**

**EXHIBIT 3**  
**Shoreline Evaluation and Recommendation**  
**Tom Nance Water Resource Engineering**

---

**Recommended Low  
Elevation Wall at  
TMK 9-1-28:40 in Ewa Beach**

*Prepared for*

**Group 70 International, Inc.  
925 Bethel Street  
Honolulu, Hawaii 96813**

*Prepared by*

**Tom Nance Water Resource Engineering  
680 Ala Moana Boulevard - Suite 406  
Honolulu, Hawaii 96813**

**April 1996**

## Introduction

This brief report provides an evaluation of shoreline conditions in front of TMK 9-1-28:40 in Ewa Beach and provides recommendations for construction of a wall to protect the development being planned for this 2.74-acre parcel. The location of the lot is shown on Figures 1 and 2 (USGS and tax maps, respectively).

## Existing Shoreline Conditions

TMK 9-1-28:40 sits on a low-lying, flat coral and limestone rubble platform that is generally about 5 to 6 feet above mean sea level across the entire 600-foot distance to the interior boundary of the lot (refer to Figure 3). The shoreline of the parcel is comprised of coral rubble and boulders set on a 1(H):1(V) to 2(H):1(V) slope (Photos 1 and 2 at the end of the report). Some of these boulders are in excess of one ton in size, but most are 100 to several hundred pounds. Many of these stones were apparently put in place for shoreline protection a number of years ago (Photo 3).

The offshore area, extending out for a distance of 500 feet (the maximum distance investigated for this report), is comprised of a hard, coralline substrate set on an extremely flat slope that is on the order of 100(H):1(V). Most of the substrate is cemented, but loose boulders are scattered on its surface. The few interruptions to this otherwise flat bathymetry are comprised of boulders and dead coral heads. These provide a couple of feet of vertical relief at the most. Sand is virtually absent, even at the shoreline indentation in front of the property where you might expect some sand to accumulate (Photos 4 and 5). The only sand is found in small depressions and in other, localized wave-protected areas. The sand is typically very coarse and is entirely coralline in origin. There is no evidence of significant alongshore transport of sand occurring in front of the parcel or to either side of it. This is demonstrated rather emphatically by the lack of sand on either side of a projecting coral rubble jetty which is located 400 feet to the east of the subject parcel (Photo 6). The jetty, which is now badly deteriorated, extends approximately 80 feet from the shoreline and would interrupt alongshore sand transport, if it were occurring. However, no sand has accumulated on either side of it.

A shoreline survey map done by Control Point Survey Inc. documents three shoreline surveys (Figure 4): (i) an undated shoreline which is incorporated in a January 1970 Land Court Map; (ii) a December 17, 1995 certified shoreline; and (iii) the December 19, 1995 shoreline survey which Control Point is now processing for certification. Although there is an obvious difference between the 1975 and 1995 surveys, it is not due to any shoreline instability which exists today. Large-sized boulders, including those that appear to have been added sometime between the 1975 and 1995 surveys, now provide a stable shoreline.

For the development which is contemplated for the interior of the TMK 9-1-28:40 parcel, overtopping of the shoreline by waves and wave-tossed coralline rubble during periods of high tides and waves presents a problem. The top of the shoreline slope is just 5.6 to 6.7 feet above mean sea level (refer back to Figure 3). When wave runup overtops this, saltwater washes 50 to 150 feet inland. On the west side of the lot where there is a shoreline indentation, overtopping water has reached as far inland as Pupu Street. The coral rubble scattered inland by such wave activity is shown on Photos 10 and 11.

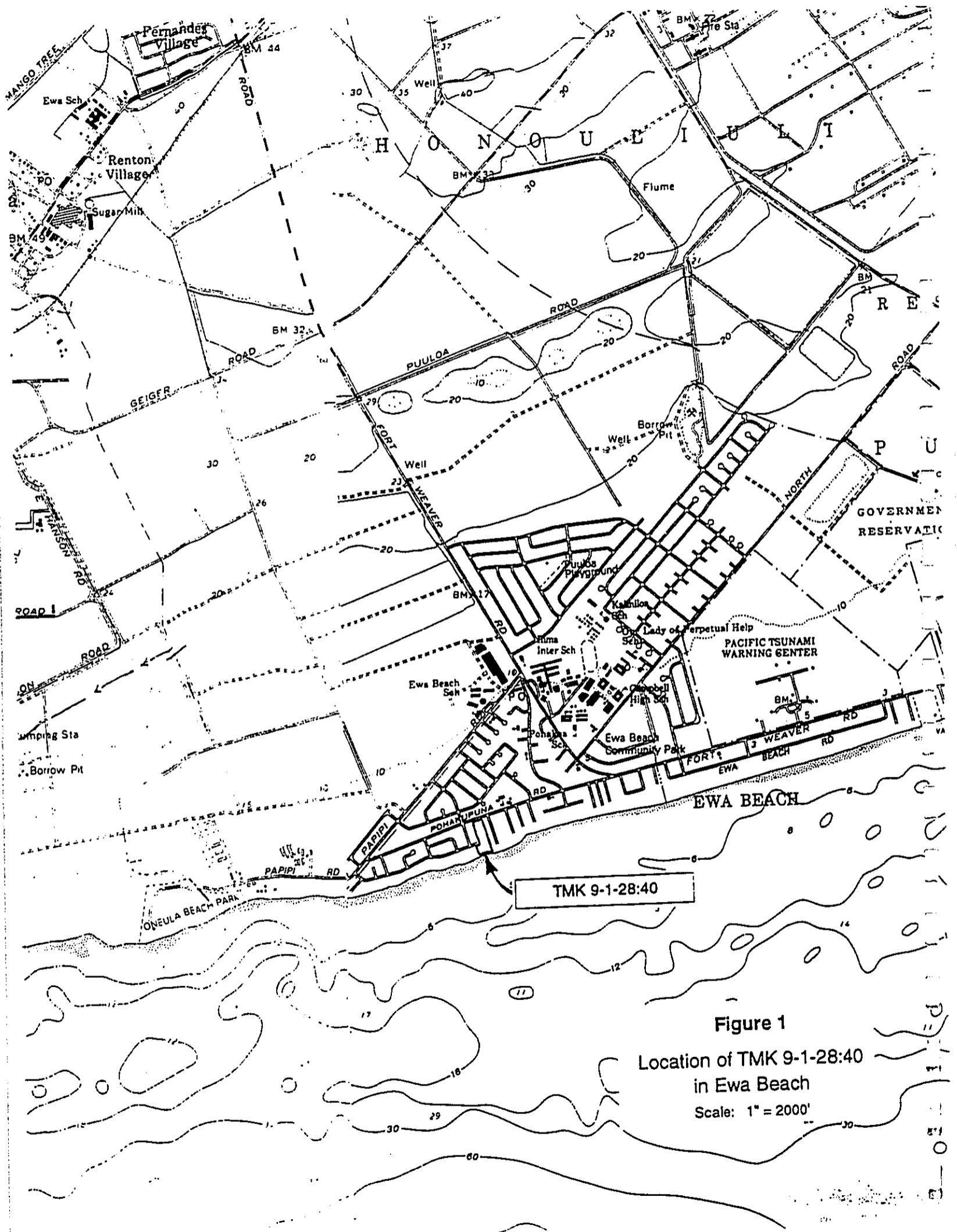


Figure 1

Location of TMK 9-1-28:40  
in Ewa Beach

Scale: 1" = 2000'

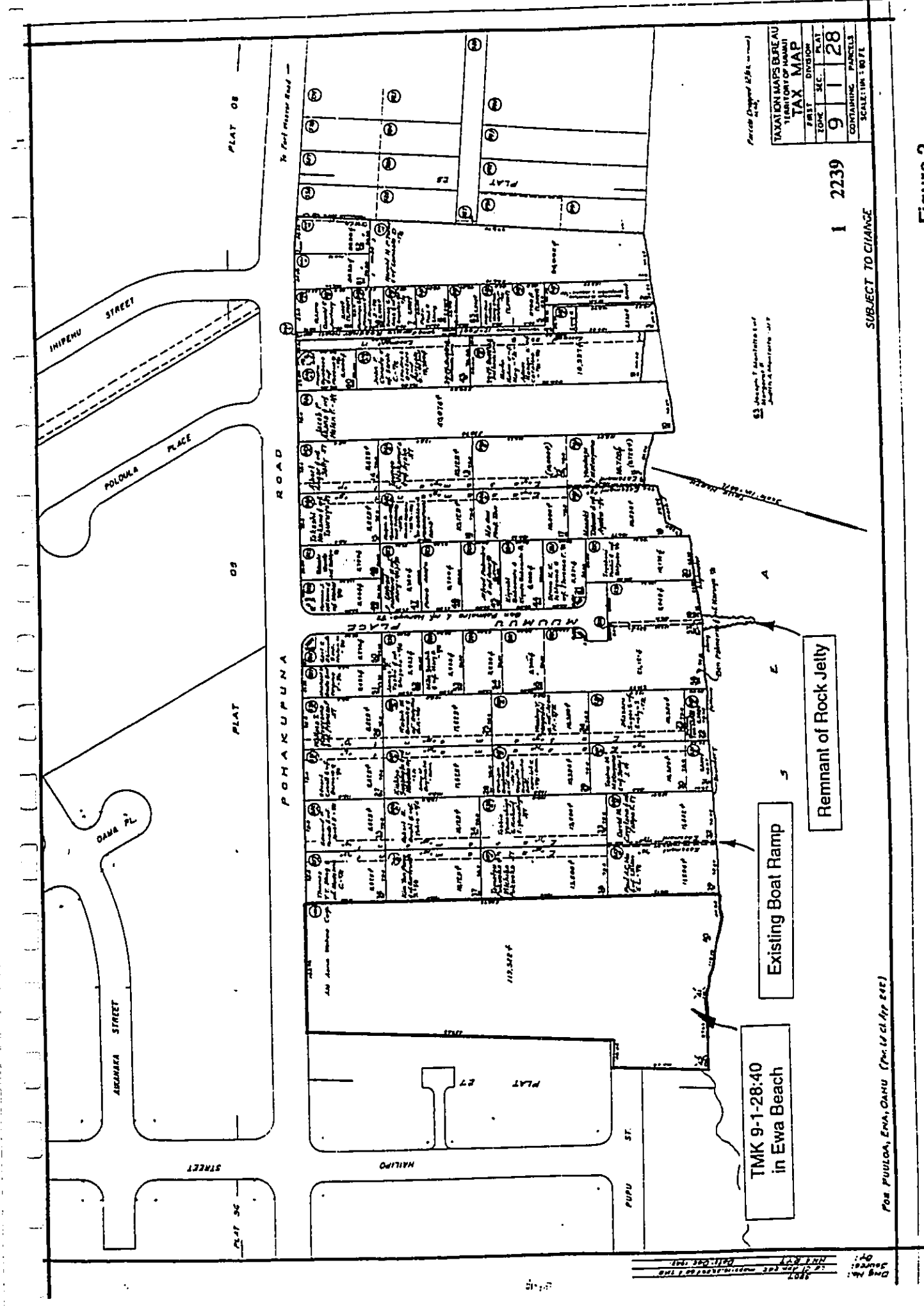
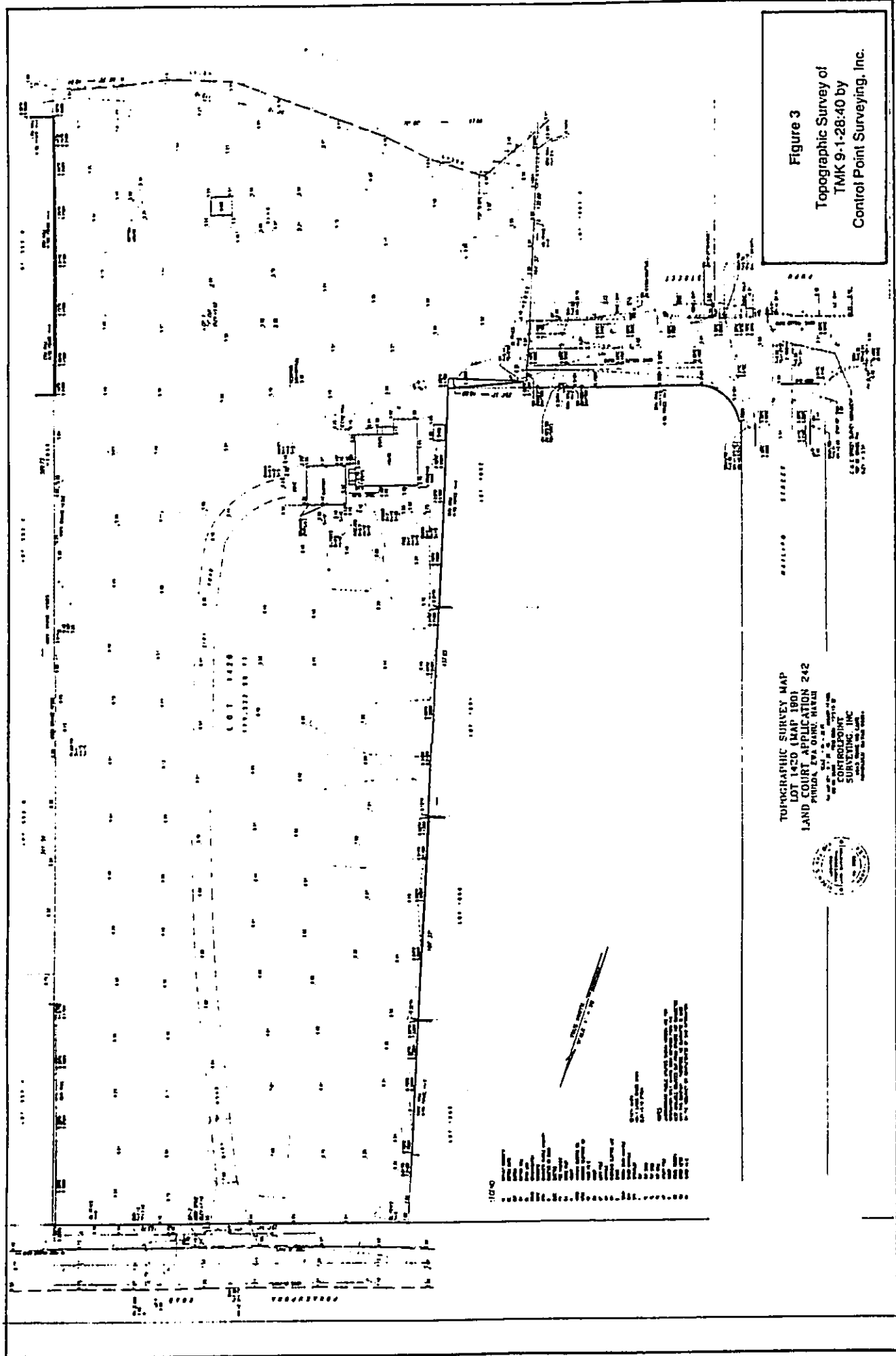


Figure 2  
Location of 9-1-28:40  
Along the Ewa Beach Shoreline

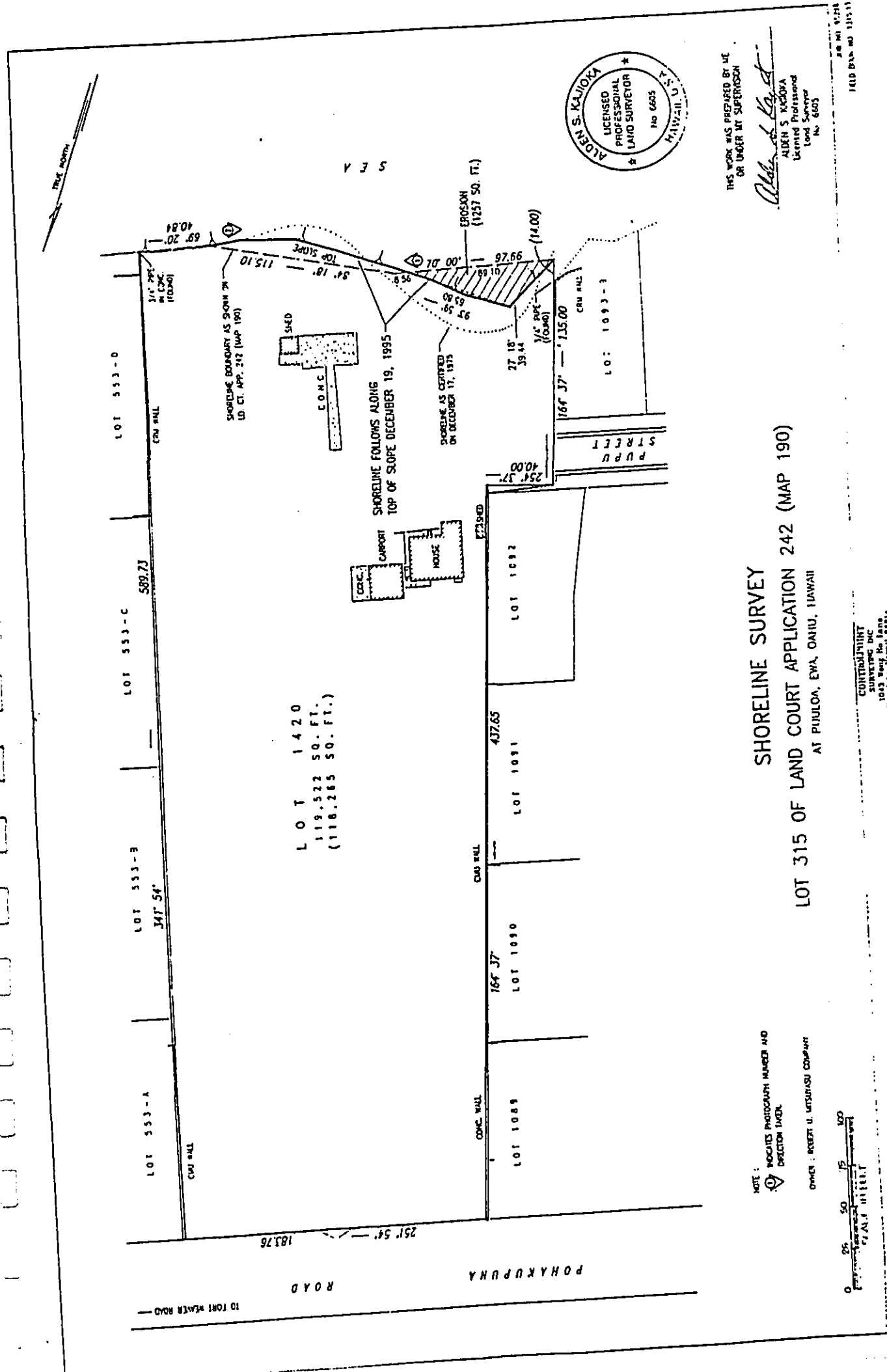


**Figure 3**  
 Topographic Survey of  
 TMK 9-1-28:40 by  
 Control Point Surveying, Inc.

TOPOGRAPHIC SURVEY MAP  
 LOT 1420 MAP 1901  
 LAND COURT APPLICATION 242  
 CONTROL POINT SURVEYING, INC.  
 SURVEYED AND PLATTED  
 FEBRUARY 28, 2018



NO.	DESCRIPTION
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LOT 1420  
119,522 SQ. FT.  
(118,265 SQ. FT.)

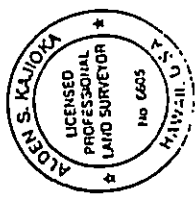
SHORELINE SURVEY  
LOT 315 OF LAND COURT APPLICATION 242 (MAP 190)  
AT PUULOA, EWA, OAHU, HAWAII

NOTE: INCLUDES PHOTOGRAPH MANNER AND  
DEFORMATION INDEX  
OWNER: ROBERT U. MITSUYASU COMPANY

0 25 50 75 100  
Feet  
GRAPHIC SCALE

187 9-1-74 40  
JANUARY 18, 1975

CONTROL POINT  
SURVEYING INC.  
1043 King Ho Lane  
Honolulu, Hawaii 96813



THIS WORK WAS PREPARED BY ME  
OR UNDER MY SUPERVISION

*Aden S. Kajioke*  
ADEN S. KAJIOKE  
Licensed Professional  
Land Surveyor  
No. 6605

FIELD DATA NO. 131513  
AS PER 9-7-74

Figure 4  
Shoreline Survey by  
Control Point Surveying, Inc.





### **Recommended Low Level Wall**

Within 1000 to 1100 feet in both directions from TMK 9-1-28:40, there are a total of 38 shoreline lots (21 to the west, 17 to the east). All but six of these have low elevation walls set at varying distances behind the shoreline to protect the interior of the lots from wave runup. It appears that every one of these walls is located somewhere within the 40-foot setback area. (As an aside, it also appears that most of these lots have additional protection provided by boulders placed at the shoreline.) For the natural dynamics of shoreline processes along the segment of Ewa Beach, the low elevation walls are a good solution for protecting the interior of the lots. On Figure 5, the alignment and construction details of a proposed 2-foot high rock wall situated 10 to 20 feet inland of the proposed certified shoreline for TMK 9-1-28:40 are given. The wall would be constructed of grouted rock and its foundation would be two feet below the existing ground.

### **Analysis of the Impact of the Proposed Wall on Shoreline Processes**

1. The shoreline fronting TMK 9-1-28:40 as it exists today is stabilized by coral boulders. Due to a combination of factors which include the wave climate, offshore slopes, and hard substrate, sand in the nearshore area is almost non-existent. As one might expect, there is also no evidence of alongshore sand transport.
2. When waves and storm-tossed coral rubble overtop the present shoreline, the material tossed inland is effectively removed from the active littoral zone. However, for structures located behind the 40-foot setback and for landscaping which may extend seaward of the 40-foot setback, such overtopping would cause damage.
3. Except during high wave events, the low elevation wall shown on Figure 5 would be entirely removed from natural shoreline processes. During high wave periods, however, the wall would prevent the inland rush of seawater and would also retain most of the wave-tossed coral rubble on its seaward side. The coral rubble, rather than being removed from the littoral zone, would accumulate between the wall and shoreline. Left deposited there, it probably would be moved and redeposited during subsequent high wave events.
4. The function of the wall during high wave events would be its only impact on shoreline processes. The fact that the coral rubble, rather than being removed from the littoral zone, would probably be moved and redeposited in subsequent wave events is a relatively insignificant consequence. It is also not necessarily an adverse effect.



Photo 1. This photo depicts the entire rubble and boulder shoreline of TMK 9-1-28:40 at very low tide.

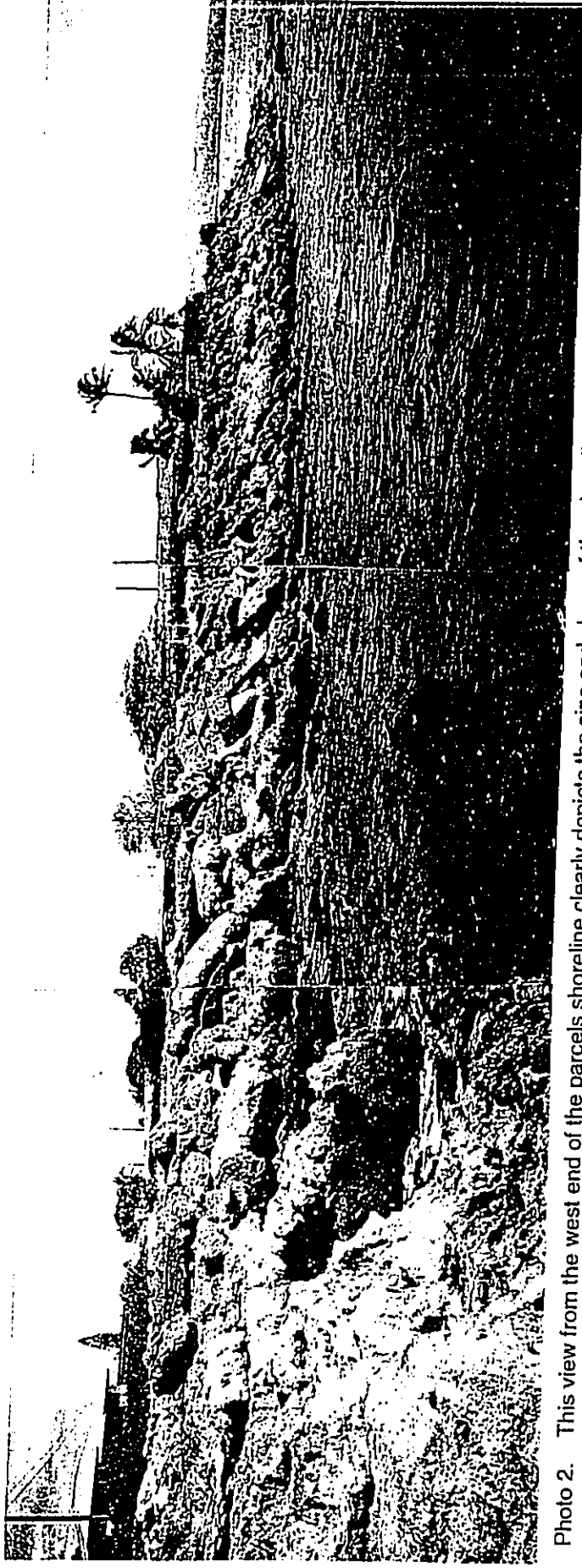


Photo 2. This view from the west end of the parcels shoreline clearly depicts the size and slope of the shoreline boulders.

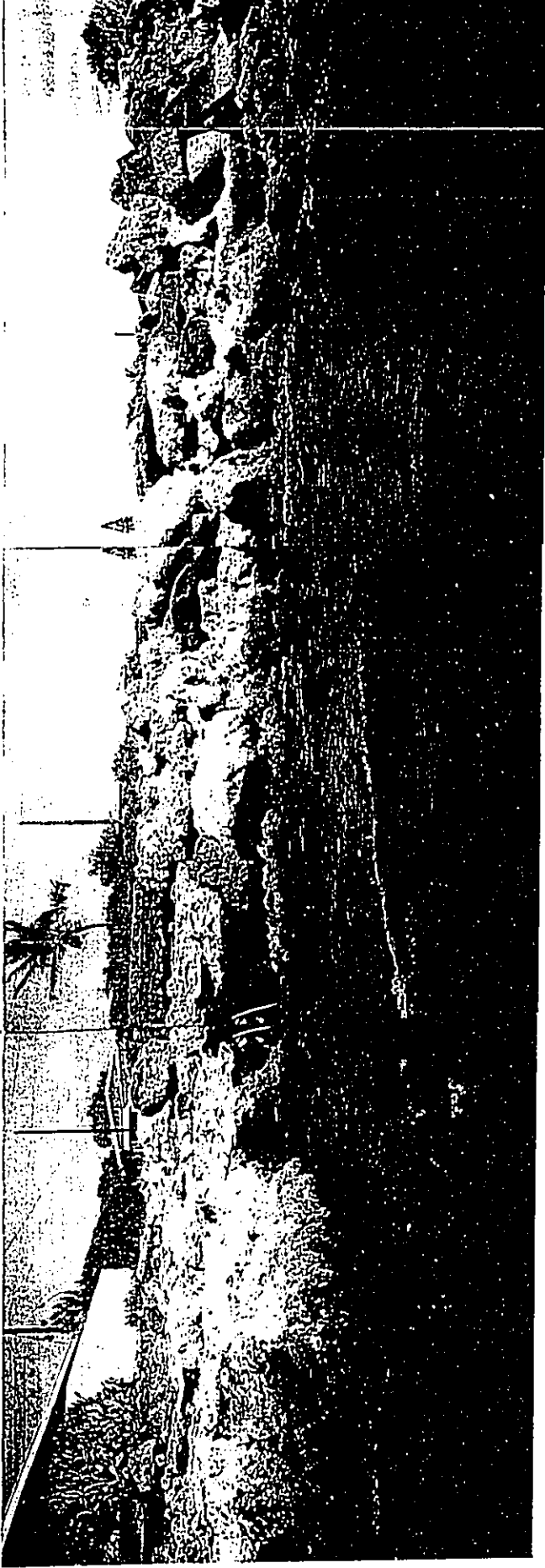
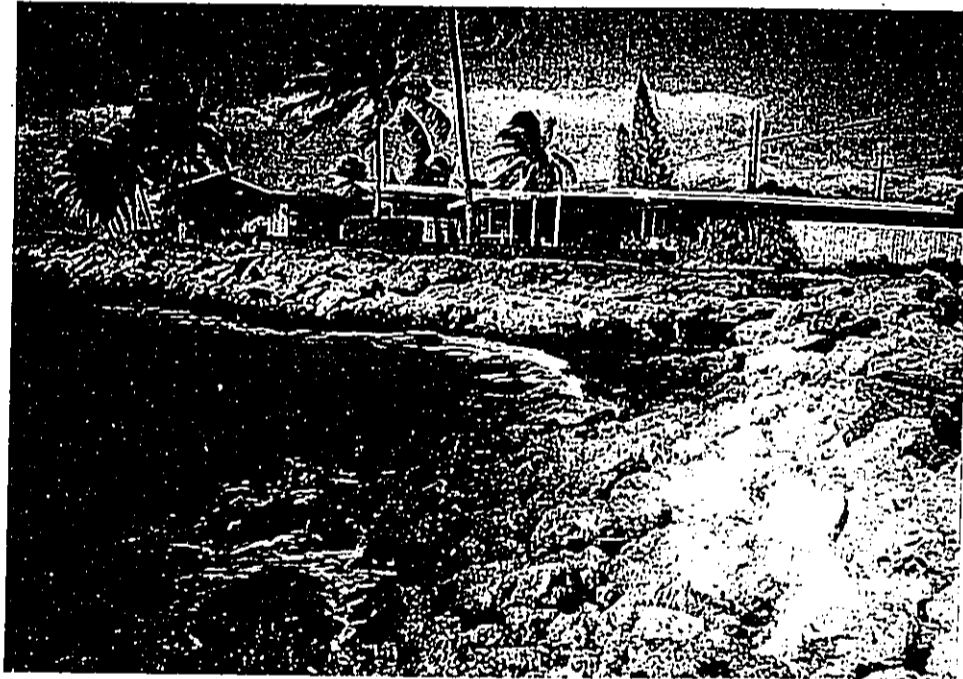


Photo 3. The largest shoreline boulders can be found at the indentation of the shoreline at the parcel's west end. Many of these were brought in and placed to stabilize the shoreline.



Photos 4 and 5. No sand has accumulated along the shoreline, even at the indentation at the west end of the parcel.

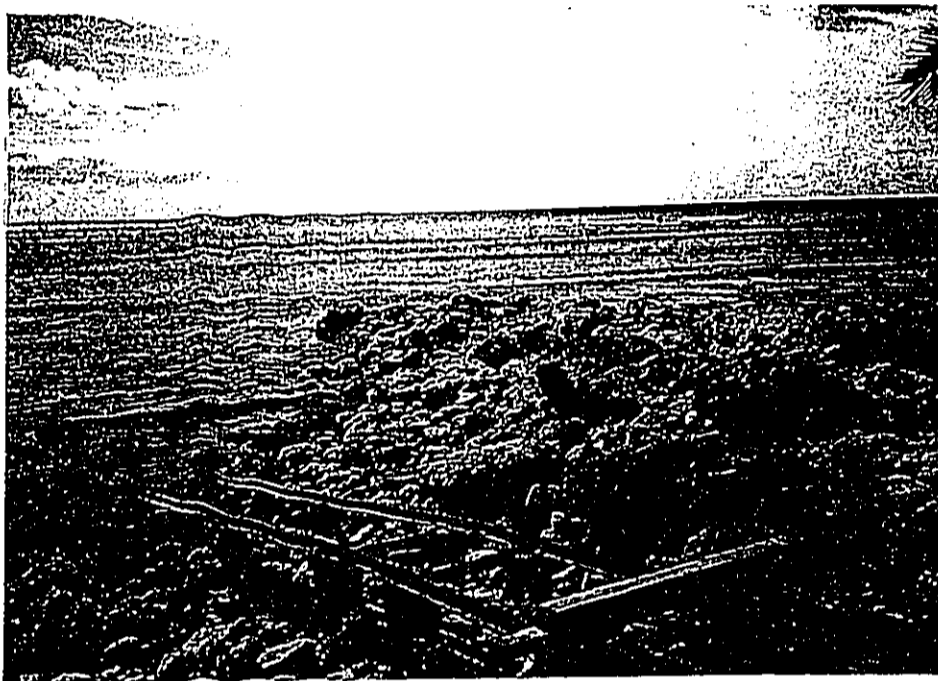
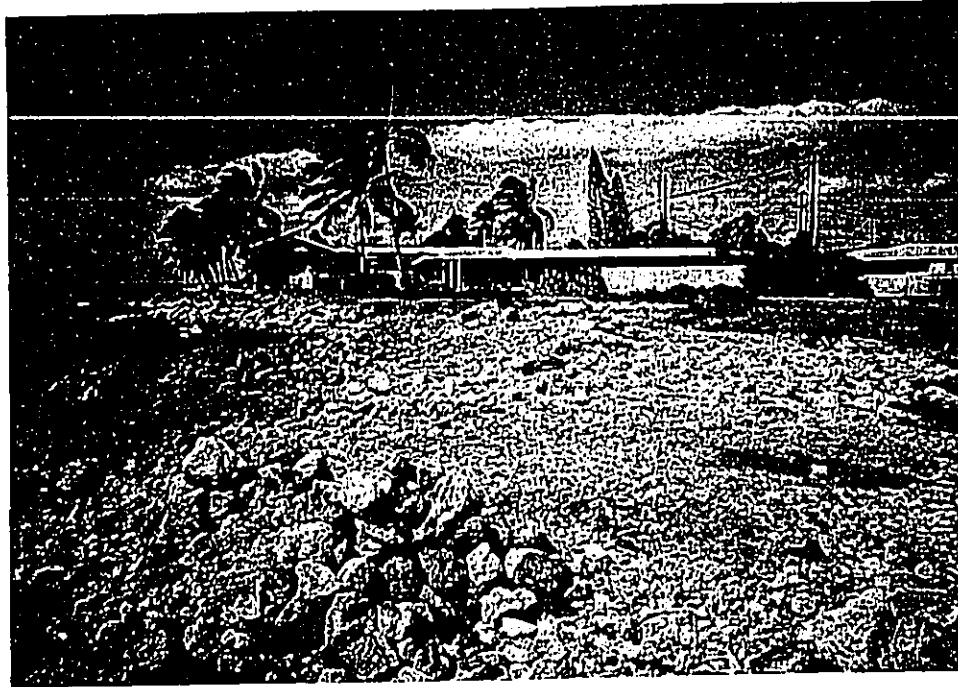


Photo 6. This jetty, which projects 80 feet out from the shoreline, is located 400 feet from the east end of TMK 9-1-28:40. No sand has accumulated on either side of it.



Photos 7 and 8. High waves have tossed the coral rubble shown here a substantial distance in from the shoreline.

**EXHIBIT 4**  
**Flood Elevation**  
**Ed Noda & Associates, Inc.**

---





Edward K. Noda  
and  
Associates, Inc.

CN 1848

September 19, 1996

RECEIVED  
SEP 20 1996

Mr. George Atta  
Group 70 International  
925 Bethel Street, Fifth Floor  
Honolulu, Hawaii 96813

GROUP 70

Subject: Pau Hana Hale Elderly Housing  
BFE Determination

Dear George,

Transmitted herewith is a short letter report providing the estimated base flood elevation (BFE) for the Zone A at the Pau Hana Hale project site. The estimated BFE is 5.5 feet above MSL. According to your topographic survey, the existing ground elevation landward of the 8'-Zone AE is at or above 7'. Therefore, any structures built on grade within the 6'-Zone AE and 5.5'-Zone A would be above the BFE.

Because the topographic data used in determining the flood zones on the FIRMs are not very accurate, in many cases application can be made to FEMA to revise the FIRM based on more detailed topographic information. Application for exclusion of a parcel or structure(s) from the flood zone based on elevating by fill can also be made. If flood insurance will be required for this project, it may be advantageous to seek a Letter of Map Revision (LOMR) from FEMA to remove the project from the flood zone. We would be pleased to assist you further in this matter.

Please do not hesitate to call me if you have any questions concerning the above.

Very truly yours,

Elaine E. Tamaye  
Vice President

Enc.

Engineers  
and  
Environmental  
Consultants

Engineering  
Planning  
Surveys  
Computer  
Modeling

615 Piikoi Street  
Suite 300  
Honolulu, Hawaii  
96814-3116

Telephone:  
(808) 591-8553  
Facsimile:  
(808) 593-8551



Edward K. Noda  
and  
Associates, Inc.

Engineers  
and  
Environmental  
Consultants

Engineering  
Planning  
Surveys  
Computer  
Modeling

615 Piikoi Street  
Suite 300  
Honolulu, Hawaii  
96814-3116

Telephone:  
(808) 591-8553  
Facsimile:  
(808) 593-855

ESTIMATE OF COASTAL FLOOD ELEVATION  
PAU HANA HALE ELDERLY HOUSING  
(TMK: 9-1-28:40)

Prepared by:  
Edward K. Noda and Associates, Inc.

September 18, 1996

References:

1. Flood Insurance Rate Map (FIRM), City & County of Honolulu, Hawaii, Panel #150001 0135C revised September 28, 1990.
2. "Hurricane Vulnerability Study for Honolulu, Hawaii and Vicinity, Volume 2, Determination of Coastal Inundation Limits for Southern Oahu from Barbers Point to Koko Head", prepared for the U.S. Army Engineer Division, Pacific Ocean, prepared by Charles L. Bretschneider and Edward K. Noda and Associates, Final Report dated May 1985.

Inclosure 1: Portion of FIRM Panel #150001 0135C

## BACKGROUND

The proposed Pau Hana Hale Elderly Housing is sited on the seaward side of Pohakupuna Road, west of Fort Weaver Road on the Ewa coastline. The project site is located in the coastal flood hazard areas defined as Zone AE (base flood elevations 6 and 8 feet) and Zone A (no base flood elevations determined), as delineated by the Flood Insurance Rate Map (FIRM), Community Panel No. 150001 0135C, revision dated September 28, 1990, developed by the Federal Emergency Management Agency (FEMA) (Reference 1). Inclosure 1 is a portion of the FIRM showing the project location.

## ESTIMATE OF FLOOD ELEVATION:

The effective FIRM designates a narrow Zone AE with base flood elevation (BFE) of 8' along the shoreline fronting the project site. Landward of the 8'-Zone AE is a similarly narrow Zone AE with BFE of 6'. Landward of the 6'-Zone AE is a Zone A (BFE undetermined), which extends inland and mauka of Pohakupuna Road.

The flood zone limits on the effective FIRM were based in part on a 1985 study prepared by Edward K. Noda and Associates, Inc. (Reference 2) which established coastal inundation limits for hypothetical "scenario" hurricanes potentially affecting the south coast of Oahu. This study was prepared for the U.S. Army Corps of Engineers in support of State Civil Defense planning purposes, and not for the purpose of establishing 100-year coastal flood elevations. In particular, no frequency of occurrence statistics were developed for the hypothetical "scenario" hurricane events. Furthermore, the application of these hurricane parameters to the analysis of coastal inundation assumed a worst case condition at each land profile location (i.e. maximum storm surge/wave runup at each discrete profile location), rather than a synoptic representation of a single

hurricane event. Since the probability of a major hurricane passing directly over Oahu is very slight, the theoretical 100-year coastal flood potential is probably much less than indicated by the Reference 2 study results. However, because the study provided the most current and relevant analysis of the potential coastal flooding due to hurricane wave attack, and the probable inundation was greater than determined for tsunami runup, the FIRM was revised to reflect a probable 100-year flood zone due to hurricane storm surge/runup. However, because the Zone A was established based on approximate methods, the base flood elevation was not defined by FEMA.

The inundation limits developed in the Reference 2 study were determined using a surge model to estimate the overland flooding characteristics due to hurricane wave and storm surge effects at discrete land profile locations along the coast. The land profile location closest to the project site is Profile 62, located about 5900 feet east of the site. The flood elevations at the landward-most limit of inundation for Profile 62 from the Reference 2 study are as follow:

Profile 62:	<u>MLLW Elev.</u>	<u>MSL Elev.</u>
SE Model Scenario	6.4'	5.6'
SW Model Scenario	6.2'	5.4'
Average	6.3'	5.5'

Comparison of the FIRM with the inundation map from the Reference 2 study indicates that the Zone A limit is approximately the same as the inundation limit for both the SE Model Scenario Hurricane and the SW Model Scenario Hurricane (same inundation limits for both scenarios). The flood elevations are nearly identical for the SE and SW Model Scenario Hurricanes (5.6' and 5.4' above MSL, respectively).

Based on the above, the most appropriate estimate for the base flood elevation for the Zone A in the vicinity of the project site is the average flood elevation of 5.5' above MSL for the SE and SW Model Scenario Hurricanes for Profile 62.

DEVELOPMENT STANDARDS APPLICABLE:

The City and County of Honolulu has established development standards applicable to flood hazard districts, in conformance with FEMA regulations under the National Flood Insurance Program. FEMA's standards (44 CFR National Flood Insurance Program, Part 60 - Criteria for Land Management and Use) are enforced by the City and County of Honolulu, Department of Land Utilization (DLU), under their Land Use Ordinance (LUO) Section 7.10 Flood Hazard Districts. The LUO describes development standards within four flood hazard districts: Floodway District, Flood Fringe District, Coastal High Hazard District, and General Flood Plain District<sup>1</sup>. The Floodway and Coastal High Hazard areas are delineated on the FIRM as follows:

- Floodway - riverine flood zones (designated by cross-hatching)
- Coastal High Hazard - coastal flood areas with velocity hazard (Zone V and VE)

All other flood zones inundated by the 100-year flood (Zone A, AE, AH, and AO) are within the Flood Fringe District. Because the subject project site is located in Zone AE and Zone A, the development standards applicable to the site are described in the LUO Section 7.10-6 Flood Fringe District.

---

<sup>1</sup>The *General Flood Plain District* is no longer applicable as the current FIRMs delineate specific flood zones.

SUMMARY:

1. The project site is located in Zone AE (BFE 6' and 8') and Zone A (BFE undetermined by FEMA).
2. Based on the Reference 2 study results, the most representative base flood elevation for the Zone A area in the vicinity of the project site is +5.5' MSL.
3. The development standards applicable to the Zone AE and Zone A areas in the vicinity of the project site are described in the LUO Section 7.10-6 Flood Fringe District.



**EXHIBIT 5**  
**Preliminary Drainage Study**



**PRELIMINARY DRAINAGE STUDY**

for

**PAU HANA HALE ELDERLY HOUSING**

Puuloa, Ewa, Oahu, Hawaii

Tax Map Key: 9-1-28:40

Prepared by:

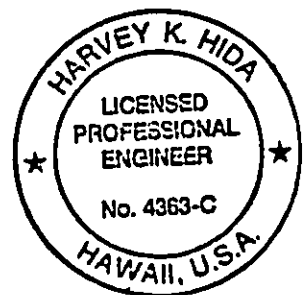
**HIDA, OKAMOTO & ASSOCIATES, INC.**

*Consulting Engineers*

1440 Kapiolani Boulevard, Suite 915

Honolulu, Hawaii 96814

September 1996



THIS WORK WAS PREPARED BY  
ME OR UNDER MY SUPERVISION

  
Signature

## **PAU HANA HALE ELDERLY HOUSING DRAINAGE SYSTEM CALCULATIONS**

### **GENERAL DESCRIPTION**

The project site is located in Ewa Beach, approximately 2,500 feet west of the intersection of Fort Weaver Road and Pohakupuna Road. The location of the project site is shown in Figure A & B. Currently, the project site is occupied by one dwelling located near the Pupu Street connection and the majority of the site is covered by lawn. (See Figure C). The existing driveway to the site of Pohakupuna Road will be improved and used as the main two-way driveway. The connection to Pupu Street will provide a secondary access to the project site.

The subject project will consist of development of up to 26 units in one and two story structures of elderly housing. Open space, parking, landscaping and driveways will also be developed. The total amount of lot coverage by residential units and common area building will be approximately 32,560 sq. ft. or little over 27 percent of the 2.74-acre lot. In addition to the housing elements, the project will provide common space amenities including 17,380 sq.ft. (0.4 acre) landscape open space area at the shoreline. The open space area will include pavilions, landscaping, pathways, benches, shoreline fishing stations and parking for three vehicles. The two common area buildings include a 960 sq. ft. tea house/pavillion and a 400 sq. ft. for and gardens. Figure D shows the extent of the planned residential structures, drives, parking and landscaped open space.

### **EXISTING DRAINAGE CONDITION**

The topographic survey of the existing site was used to determine the tributary areas for the drainage flow. Analysis was then performed for one-hour for a 10-year storm event.

The tributary areas indicate that the majority of the stormwater runoff sheet flows towards south-west corner of the property and to the ocean. The remainder of the runoff from the site sheet flows directly into the Pupu Street right-of-way.

The results of the analysis indicates that there is a total of 4.41 cubic feet per second (cfs) of stormwater runoff from the existing site. Approximately 4.30 cfs of stormwater runoff flows into the ocean and 0.11 cfs of stormwater runoff flows directly into Pupu Street and into the ocean through the existing 18-inch drain pipe. (See Figure E for Existing Stormwater Runoff).

#### PROPOSED DRAINAGE CONDITIONS

The proposed layout will retain the basic drainage pattern. As with the existing conditions, the majority of the runoff will flow toward the ocean. Underground perforated drain pipes will follow the both side of driveway and daylight within the shoreline set back area. The lower landscaped open ground shoreline setback area along the mauka side of the low elevation landscape wall will function as the storm water detention basin. The wall provides a transition from the landscaped grounds to the limestone scarp and coral/limestone rubble at the shoreline.

Analysis was performed on the site using the proposed conceptual grading plan to determine the new tributary areas. The results of the analysis for one-hour of a 10-year storm indicates that there will be approximately 6.26 cfs of stormwater runoff generated from this site, a increase of 1.85 cfs. Of the total runoff, 6.08 cfs will flow into detention basin and 0.18 cfs will flow into the existing Pupu Street right-of-way (See Figure F for Proposed Stormwater Runoff).

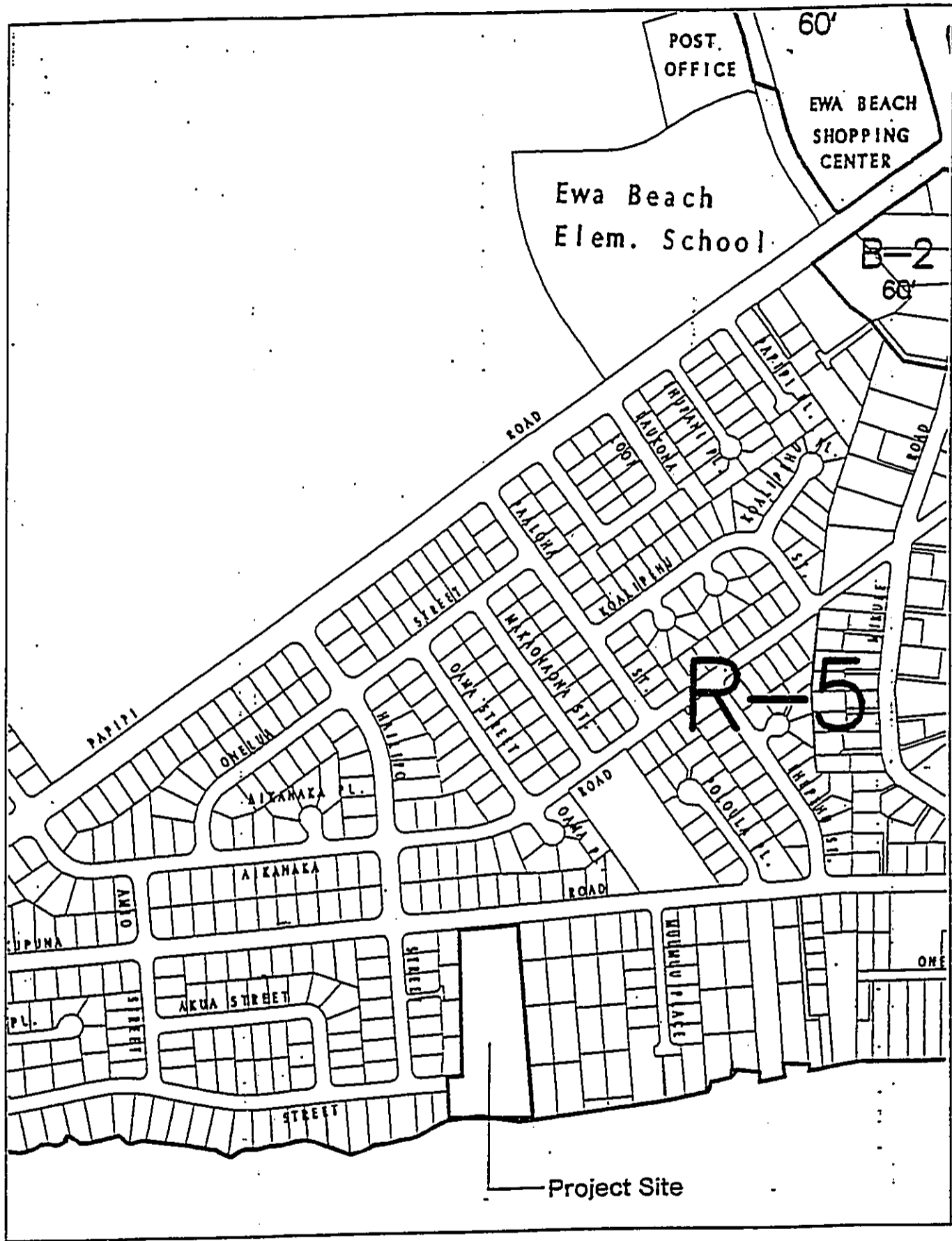
#### ANALYSIS RESULTS

The project proposes to decrease the area of open space on the site, therefore there will be less permeable area. This decrease in permeability increase the amount of stormwater runoff generated by the site, thus the overall increase in stormwater runoff. The results of the analysis also indicates, that there will be an increase of 1.78 cfs runoff into the ocean. This additional runoff due to the increased impermeable surface areas will be mitigated by constructing the approximately 11,000 sq.ft. of stormwater detention basin.

**CONCLUSION**

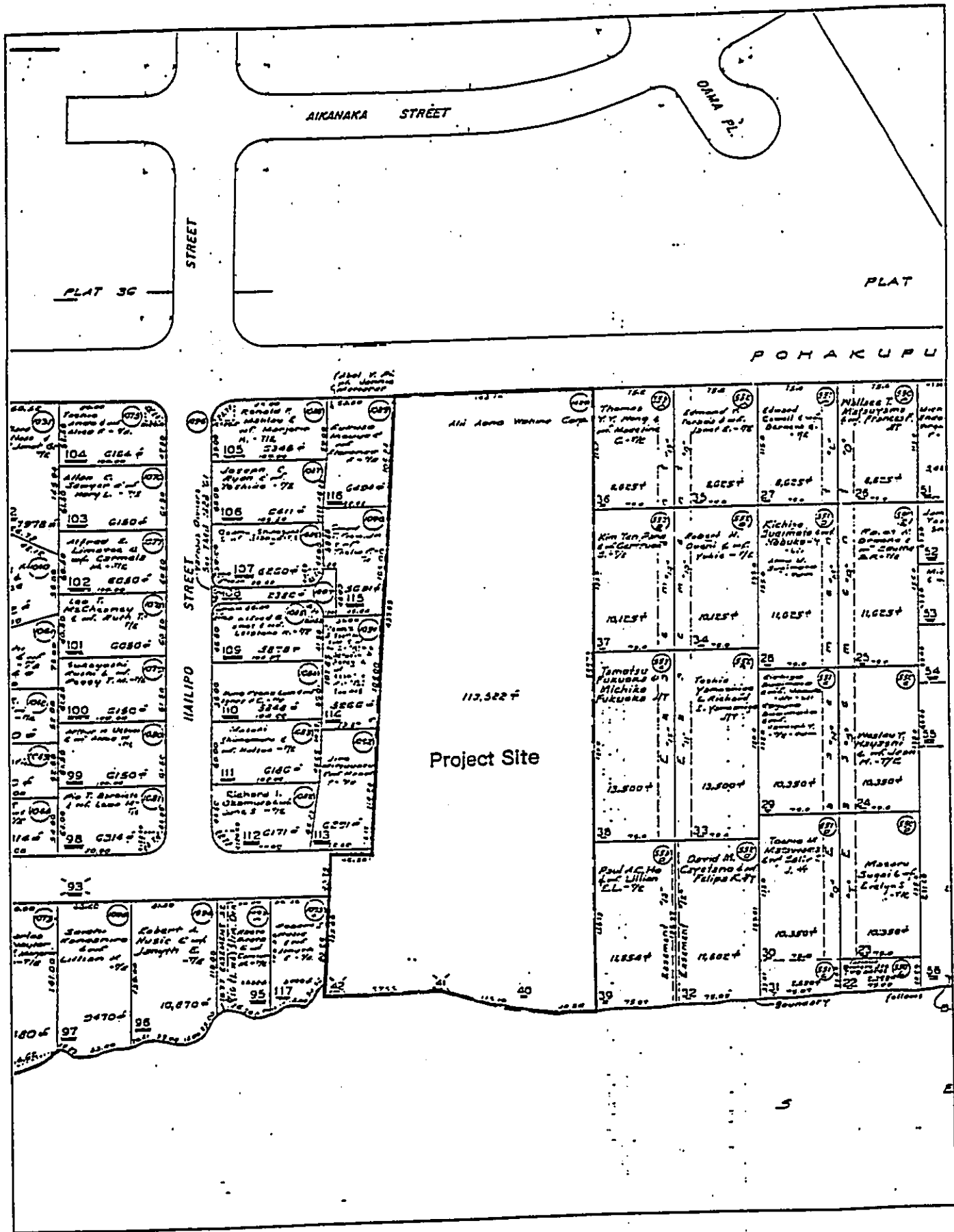
There will be an increase in stormwater runoff generated by the development. Since the overall drainage conditions will be improved by the construction of the detention basin, no adverse effects ocean is anticipated.

2025 RELEASE UNDER E.O. 14176



Zoning Map  
 Pau Hana Hale Elderly Housing

FIGURE A



TMK 9-1-28

Pau Hana Hale Elderly Housing

Approx. Scale

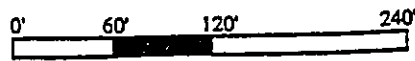
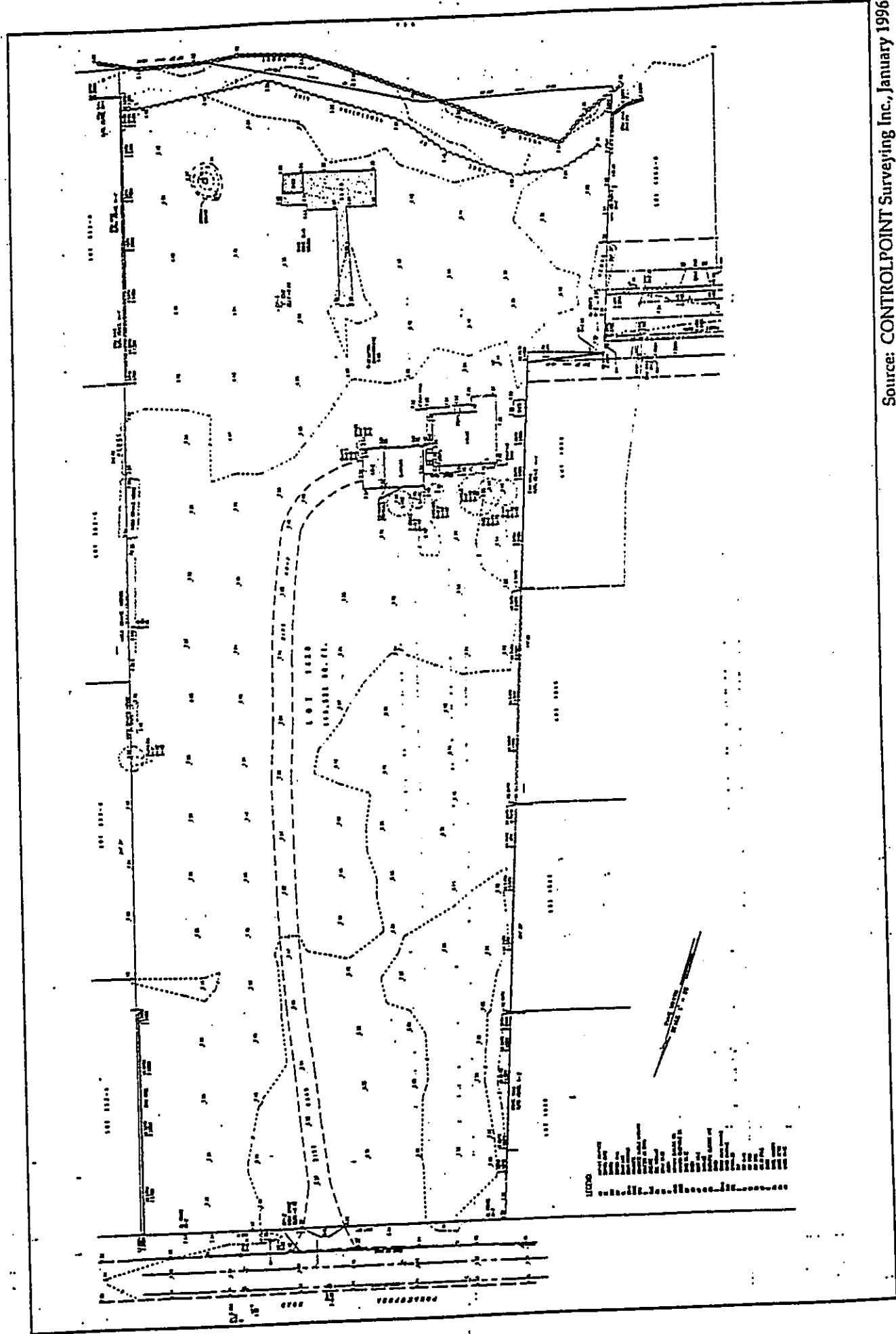


FIGURE B



Source: CONTROLPOINT Surveying Inc., January 1996

Approx. Scale: 1"=65'

FIGURE C

Site Topography

Don Hana Hale Elderly Housing

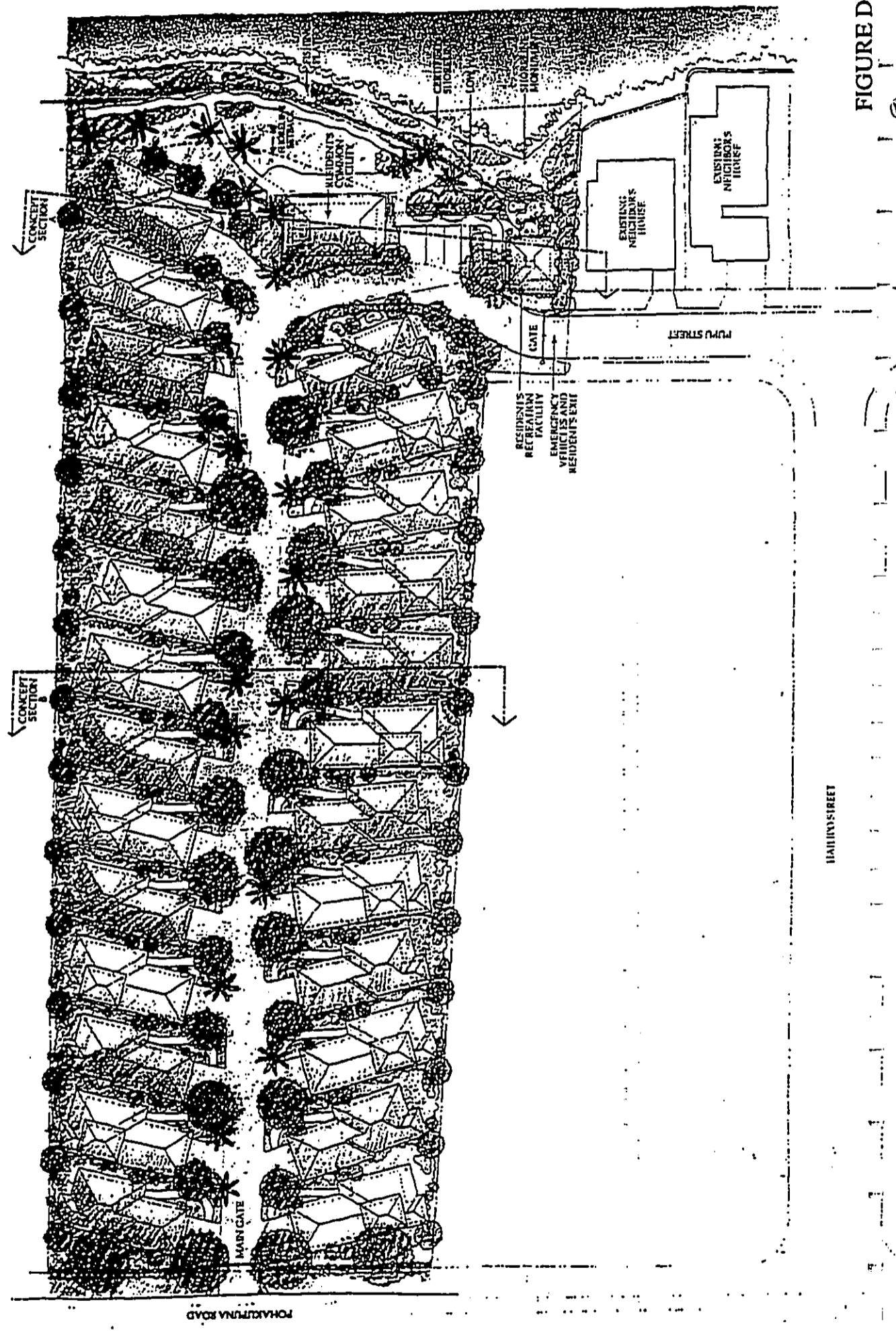
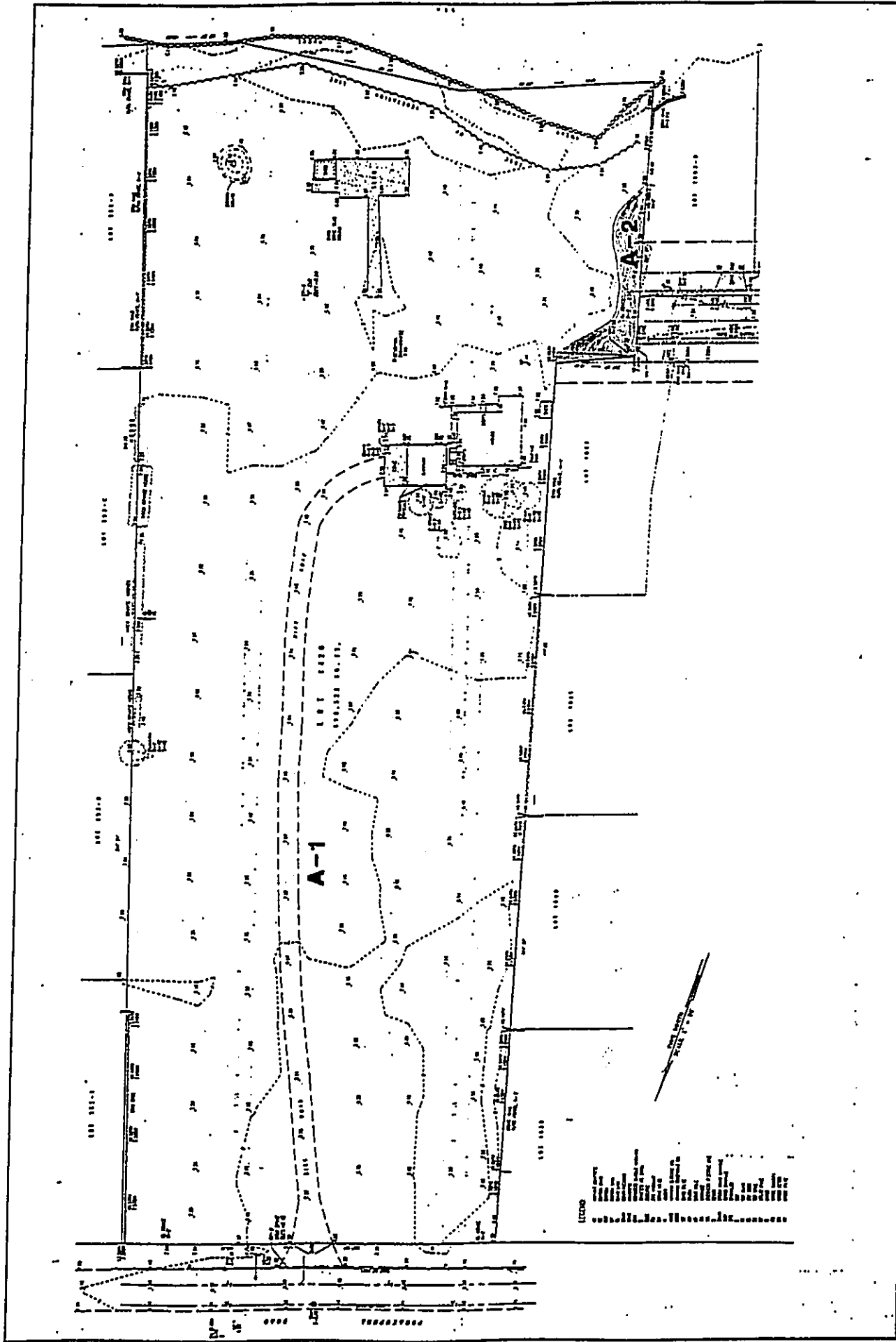


FIGURE D



**RUNOFF COMPUTATIONS**



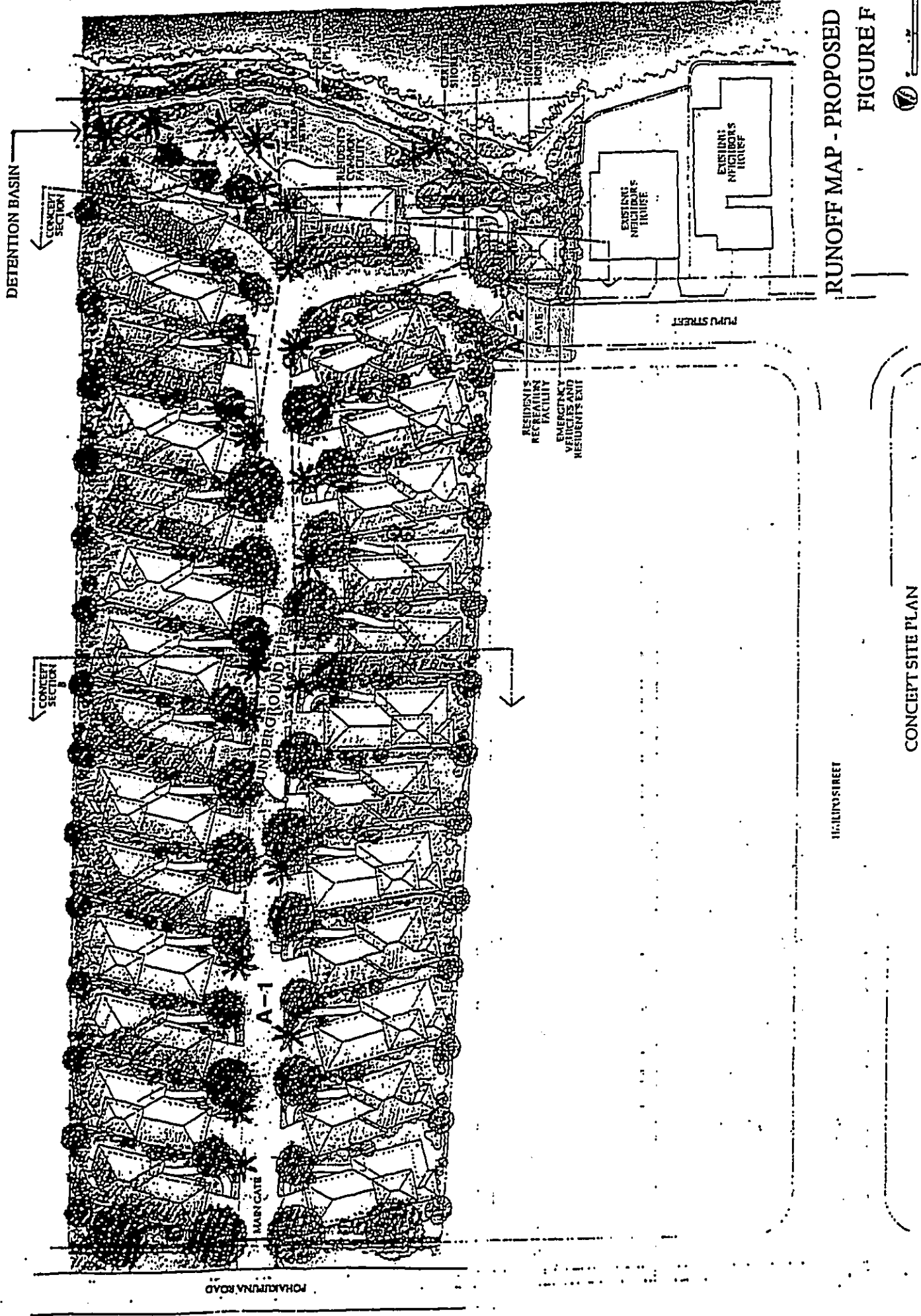
Source: CONTROLPOINT Surveying Inc., January 1996

Approx. Scale: 1"=65'

FIGURE E

**RUNOFF MAP - EXISTING**

Pau Hana Hale Elderly Housing



RUNOFF MAP - PROPOSED  
FIGURE F



16-11/10 STREET

CONCEPT SITE PLAN

Sheet1

HIDA, OKAMOTO & ASSOCIATES, INC.

Project: PAU HANA HALE Elderly Housing  
 Ewa, Oahu, Hawaii  
 Tax Map Key : 9-1-28: 40

Date: 9/17/96  
 By: HKH

INLETS DESIGN WORKSHEET EXISTING

Tm = 10 Years		One-Hour 2.0 Inch							Q=RCIA	
DRAINAGE AREA	Ground Character	Length (Feet)	Overland Flow Time		R Coef Factor	C	I	A (Acres)	Q (CFS)	
			Slope (Ft/Ft)	Tc (Min)						
A-1	Lawn	560	0.001	35.0	1.35	0.65	2.00	2.45	4.30	
A-2	Lawn	160	0.020	13.0	2.10	0.65	2.00	0.04	0.11	
								Total	4.41	

Sheet1

HIDA, OKAMOTO & ASSOCIATES, INC.

Project: PAU HANA HALE Elderly Housing  
 Ewa, Oahu, Hawaii  
 Tax Map Key : 9-1-28: 40

Date: 9/17/96  
 By: HKH

INLETS DESIGN WORKSHEET PROPOSED

Tm = 10 Years		One-Hour 2.0 Inch				Q=RCIA				
DRAINAGE AREA	Ground Character	Length (Feet)	Overland Flow Time		R Corr Factor	C	I	A (Acres)	Q (CFS)	
			Slope (Ft/Ft)	Tc (Min)						
A-1	Driveway/Housing/Landscaping	560	0.001	35.0	1.35	0.85	2.00	2.65	6.08	
A-2	Driveway/Landscaping	160	0.020	13.0	2.10	0.85	2.00	0.05	0.18	
								Total	6.26	