



STATE OF HAWAII
 DEPARTMENT OF LAND AND NATURAL RESOURCES
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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

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JUN 10 1999

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 QUALITY CONTROL

File: MA-2917

MEMORANDUM

To: Genevieve Salmonson, Director
 Office of Environmental Quality Control

From: Dean Y. Uchida, Administrator *[Signature]*
 Land Division, Department of Land and Natural Resources

Subject: Final Environmental Assessment (EA)/Finding of No Significant Impact (FONSI) for Schatz Residence and Related Improvements, near La Perouse Bay, Maui, TMK parcels 2-1-04:046 & 048

The Department of Land and Natural Resources has reviewed the comments received during the 30-day public comment period that began on February 8, 1999 for the subject project. We have determined that this project will not have significant environmental effects, and have therefore issued a FONSI. Please publish this notice in the June 23, 1999 OEQC Environmental Notice. ✓

We have enclosed a completed OEQC Bulletin Publication Form and four copies of the Final EA for the project. The summary for this project has not changed from that noted in the Publication Form for the draft EA. Please contact Tom Eisen of our Land Divisions's Planning Branch at 587-0439 if you have any questions.

Enclosures

c: Rory Frampton

1999-06-23-MA-FA-

JUN 23 1999
FILE COPY

SCHATZ RESIDENCE

&

RELATED IMPROVEMENTS

FINAL ENVIRONMENTAL ASSESSMENT

La Perouse Bay, Maui, Hawai'i

TMK 2-1-04: 046
TMK 2-1-04: 048

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June 1999

**SCHATZ RESIDENCE
&
RELATED
IMPROVEMENTS**

FINAL ENVIRONMENTAL ASSESSMENT

La Perouse Bay, Maui, Hawai'i

TMK 2-1-04: 046

TMK 2-1-04: 048

Prepared for:
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June 1999

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I. INTRODUCTION

A. OVERVIEW OF THE REQUEST

In compliance with Chapter 13-5, Hawaii Administrative Rules (HAR), Mr. Douglas Schatz, the applicant, is requesting a Conservation District Use Permit (CDUP) to: demolish an existing residence and construct a 4,285-square-foot single-family residence and 700-square-foot swimming pool; construct a 1,746-square-foot single family residence on an adjacent parcel; and install landscaping; and related improvements within the State Conservation District located in La Perouse Bay, Keone`o`io, Kalihi Ahupua`a, Honua`ula, Makawao District, Maui Island (TMK 2-1-04: 46 and 48). The majority of the application area of 12.273 acres is located in the General Subzone of the State Conservation District. Two small portions are in other subzone districts, Protected and Resources which cover the western and eastern boundaries, respectively. These portions will not be affected by this action. The proposed action is identified as an allowable land use within the General Subzone subject to the approval of the Board of Land and Natural Resources. This document has been prepared to meet the requirements set forth in Chapter 343, Hawaii Revised Statutes (HRS) and the Environmental Impact Statement Rules, Chapter 200, Department of Health, HAR.

B. IDENTIFICATION OF THE APPLICANT

Tax Map Keys (TMK):	2-1-04: 46 (11.753 acres) and 48 (0.52 acre) Royal Patent Grant 2225
Property Owner/ Applicant:	Mr. Douglas Schatz 1625 Sharp Point Drive Fort Collins, Colorado 80525
Planning Consultant:	Chris Hart & Partners Landscape Architecture and Planning 1955 Main Street, Suite 200 Wailuku, Maui, Hawaii 96793

Accepting Agency:

Department of Land and Natural Resources
1151 Punchbowl Street
Honolulu, Hawaii 96813

C. PROPERTY LOCATION AND EXISTING LAND USE

The Schatz properties are located on the south side of the island of Maui approximately 4 miles south of the Makena Resort, on the shore at La Perouse Bay (see Figure No. 2). The full description is Keone`o`io Bay, Kalihi Ahupua`a, Honua`ula, Makawao District. The Keone`o`io Fishpond is included within the property boundaries (see Figure No. 2). To the north is Makena-Keone`o`io Government Road (Old Makena Road), a group of agricultural properties and open lava fields. The southern end of the project site marks the end of the paved road. Abutting the property to the west is the State's Ahihi-Kinau Natural Area Reserve at Cape Kinau. To the south is the fishpond leading to La Perouse Bay and then to the Pacific Ocean. To the southeast are the lava fields of Cape Hanamanioa.

Currently on the properties is a single-family residence, cottage, a tennis court and other related improvements consistent with residential development. Access is from the Old Makena Road via a paved driveway near the southeast portion of the property.

D. LAND USE DESIGNATIONS

State Land Use Classification:	Conservation
Subzones:	General, Protected & Resource
Kihei Community Plan:	Park
County Zoning:	Residential (R-3) and Park
Other:	SMA

E. BACKGROUND INFORMATION

The Keone`o`io-La Perouse area has a long history of human activity and settlement, dating from pre-contact times. At the time of the first European contact in 1786, there were several prosperous villages in the area. In the early 1900s, it served as a cattle shipping port for Ulupalakua Ranch, during World War II it was used by the military, and one of the existing dwellings on the property was built in 1938. A more detailed

description of the area's history can be found in Section II.11 below. The current residential use is a continuation of these historic activities.

In recent times the subject area has been commonly referred to as the Carter estate. It consists of seven royal patent awards (grants) and a subdivided portion of the Ulupalakua Ranch (TMK 2-1-04: 46), obtained in 1915. In 1940, most of the grants were purchased by Thomas and Virginia Robinson. In 1958, the estate passed to George and Caroline Carter. The Hawaiian Trust Company Limited, acting as trustee for the Carter family, sold the estate to the Carter-Makena Limited Partnership in 1996. One of these partners, Mr. Douglas Schatz, then purchased the estate outright through the Lockland LLC in 1998.

The Carter-Makena Limited Partnership originally considered consolidating and re-subdividing the property into 4 lots, with plans to build a residential dwelling for each member of the partnership. The Schatz family decided to purchase the entire estate to build two single-family dwellings for their own use and to leave the remaining property in as natural a state as possible.

This application involves only TMK parcels 46 and 48 (Grant 2225). The other land grants will remain unchanged and unaltered by this action.

F. PROPOSED ACTION

The applicant proposes to construct a 4,285-square-foot single-story residential dwelling with a 700-square-foot swimming pool on parcel 46, and a smaller 1,746-square-foot dwelling on parcel 48, plus related landscape and ancillary improvements (see Figure No. 3). The existing residence on parcel 48 will be demolished.

The proposed homes will incorporate island-style architectural features including dual pitched roofs and covered lanais. To reduce the massing, the main house appears as 4 smaller units connected by glass enclosed walkways. Both structures are one story, less than 25 feet in height. The roofs will be earth-tone concrete tiles. The siding will be vertical board and batten with a natural stain. Stone and lava rock will accent the building corners and longer wall sections. The window and door frames will be wood and the walkways will be of grouted natural stone. The guest cottage and main dwelling will be developed in the same architectural style. The goal is to recreate a traditional "Dickey style" plantation home using as much natural material as possible (see Figures No. 5A and 5B).

The proposed landscape plan maintains the "roughness" at the north and western edges of the property by preserving the existing kiawe and lava stone groundscape. Changes to the existing conditions will be minimized (see Figure No. 6).

The overall intent is to create a naturalistic feeling on the property and minimize its visibility from any public area. The planting plan includes minimal landscape improvements around the houses. A coconut palms and native salt-tolerant trees, and some simple species such as akia, alahe'e, natal plum and naupaka will be used to soften the visual impact of the property from the neighboring NAR. The existing dry stacked stone walls will be preserved, except for a small section that will be removed for the new driveway entrance. Landscape lighting will be shielded, low level bollards.

In addition, the proposed project will include the following improvements:

- The existing tennis court on parcel 48 will be removed. The existing caretakers residence on parcel TMK 2-1-04:61 will remain and is not a part of this application.
- The existing driveway will be maintained to access the smaller dwelling on parcel 48 and a new driveway will be built for the main house. Grading will follow the existing slopes and will be minimized. All import fill will be sand. The new driveway will consist of two 3-foot wide strips of stone pavers.
- There will be a 700-square-foot swimming pool with a grouted lava stone apron. The pumps, filters and supplies will be housed underground to muffle noise. During periodic cleaning, the pool filter will be backwashed using fresh water. This water will be used for irrigation and will not run into the ocean. An ozone based disinfection system will be used instead of the traditional chlorine treatment.
- A new wastewater treatment system will be installed for each new dwelling.
- The landscape planting plan and irrigation system will enhance existing and establish new coastal plant colonies.

G. ALTERNATIVES

1. No Action

The condition, size, design and placement of the existing house do not meet the needs of the Schatz family. It was designed as a summer cottage or camp, not configured for family living. Access to the rooms is from an outside breezeway, and the structure is not

amenable to remodeling or expansion. The house is also quite close to the shoreline and the wastewater treatment facilities are antiquated.

The "no action" option would allow the current uses on the property to continue and prevent some of the mitigating solutions that the new owners are proposing. In the proposed improvements, the tennis court and expansive asphalt concrete (A.C.) driveway would be removed; the "no action" option would preclude the reduction in the total amount of impervious surface on the property. It would force the owners to remain in an older deteriorated dwelling that does not meet the family needs, rather than building a better designed house in a more appropriate location.

2. Alternative Siting

A number of factors influenced the selection of the preferred house sites. Sand deposits are located to the north of the existing tennis courts. It was determined that this area should be avoided based on the potential for encountering historic remains as well as to avoid this sensitive resource. The majority of archaeological sites are located on the eastern portion of the property, creating difficulties in finding a suitable site which would avoid destruction of historic features in this area.

Other sites would require significant grading or filling because of steeper slopes, and would be more intrusive due to lack of vegetative buffers. A more mauka location would require removal of a stand of kiawe trees, would have a greater likelihood of impacting archaeological sites, and would eliminate an existing natural visual buffer. The eastern location would be more visible and more exposed to the constant tradewinds which buffet this section of the coastline.

The proposed house sites were chosen based on flat topography and previous residential use. The owners also wish to be higher and further back from the shoreline. The owners are aware of the unique resource of the nearby Natural Area Reserve (NAR), and they wish to maintain privacy and minimize the visual impact of the house from the NAR.

In summary, the other site options were ruled out because of the lack of suitable building areas, impacts on sensitive sand deposits, greater impact on views, less privacy, and proximity to existing or potential cultural and historic sites.

3. Alternative Styles, Size and Configuration

The Schatzes have chosen Mr. Hugh Farrington, one of Maui's best known architects, to develop pleasing structures that are reflective of contemporary island style architecture. The proposed configuration and massing minimize the visual intrusion from public

areas. For this reason, a 2-story option was eliminated. A monolithic structure with an unaltered roof line would create an undesirable large building mass. Other architectural styles featuring flat roof are considered more suited to urban settings and would not be desirable at this location. The house size, design, and components were chosen based on the Schatz family size and their long-term family goals. In addition, alternative materials and colors which would stand out visually were deemed unacceptable given the goal of creating a structure which blends in with the natural environment.

II. DESCRIPTION OF THE EXISTING ENVIRONMENT, POTENTIAL IMPACTS AND MITIGATION MEASURES

A. PHYSICAL ENVIRONMENT

1. Existing Site Conditions

The 12.27-acre property is currently occupied by a one-story wooden-frame residential building on parcel 46, several out-buildings and a fenced tennis court. Included within the acreage calculation is the Keone`o`io Fishpond, leaving a net land area of approximately 7 acres. The newer existing dwelling has a living area of 1,833 square feet and was built in 1961. A second dwelling located on Parcel 120, has an area of 1,249 square feet, and was built in 1938. (No alterations are proposed to this structure and it is not part of the subject request.) The remainder of the property is either landscaped or left in its natural state.

The immediate area has been used as a "modern" single-family residence for over 60 years. Prior to that there is evidence of a village culture dating back to pre-contact times. The central portion of the site will continue to be used for single-family residential use consistent with the historical use of the area. Much of this area is already landscaped in a suburban context, i.e., with lawns, shrubs and concrete patios. The proposed landscape plan maintains the "roughness" at the northwest and east edges of the property by preserving the existing kiawe and incorporating very little change to existing conditions. The overall intent is to create a naturalistic feeling on the property. A number of species of ornamental trees, shrubs, and ground covers are utilized in areas surrounding the site.

2. Surrounding Land Uses

The subject property is situated along a rugged and rustic coastline approximately 4 miles from the Makena Resort. The surrounding land is primarily lava fields, which is reflective of this rural and open space setting.

Surrounding land uses include the following:

- *West:* Abutting the property's western boundary is the State's Ahihi-Kinau Natural Area Reserve at Cape Kinau.

State Land Use: *Conservation District*

Subzones: *General and Protected*

County Zoning: *Park*

Kihei Community Plan: *Park*

Since the NAR is the most prominent surrounding land use, a detailed description is include herein. See figure 21, which illustrates the NAR boundary.

THE AHIHI-KINAU NATURAL AREA RESERVE

The following is a portion of Regulation 7 of the Department of Land and Natural Resources, which created this Natural Area Reserve in 1973, pursuant to Chapter 195, HAR.

"This Reserve contains 2,045 acres consisting of Cape Kinau lands and waters to a depth of 10 fathoms (60 feet). Portions of Ahili and Keone'o'io (La Perouse) Bays are included, as shown on the accompanying map. The three major features of this Reserve are: 1) a representative, relatively unmodified, marine ecosystem distinguished by a diversity of fishes, corals and other animals; 2) brackish ponds with unique environmental character and species; 3) lava flows forming Cape Kinau, resulting from the last volcanic activity on Maui (around 1790).

The purpose of the Ahihi-Kinau Natural Area Reserve is to protect and preserve these lands and waters in their present state by preventing exploitation or other activities that would change natural features or disturb the environment within the Reserve.

The public may experience this natural setting. Among activities to be enjoyed are hiking, photography and swimming/snorkeling in marine waters. To insure protection of natural values for cultural enjoyment of future generations, regulations limiting activities to non-consumptive uses are in effect."

The Natural Area Reserve System is administered by the Department of Land and Natural Resources, Division of Forestry and Wildlife. The DLNR has identified it as one of their management "hot spots." Identified problems include commercial kayak activity, illegal fishing, motorized vessels entering the area and disappearance of reef fish and opihi.

- *East:* Abutting the subject property's eastern boundary are the lava fields of Cape Hanamanioa.
State Land Use: *Conservation and Agricultural Districts*
County Zoning: *Park*
Kihei Community Plan: *Park*
- *North:* Across Makena Makena-Keone`o`io Road is a group of agricultural properties ranging in size from 3 to 4 acres, and open lava fields.
State Land Use: *Conservation and Agricultural Districts*
County Zoning: *Park*
Kihei Community Plan: *Park*
- *South:* To the south lie the Keone`o`io Fishpond, La Perouse Bay and the Pacific Ocean.

The surrounding land uses are either conservation lands (primarily lava flows) or marginal lands used for cattle grazing. The nearest house is almost 3 miles away. The proposed single-family residence and related improvements are not anticipated to have adverse impacts upon surrounding land uses. The project represents a continuity of single-family use and does not introduce a new use into the area. Furthermore, since large tracts of land on either side of the properties are owned by the State and are provided higher protective status, it is unlikely that this project will be a precedent for allowing additional coastal development in the area. The applicant proposes to preserve the natural character of the subject property by maintaining existing topographical features as much as possible. The building site will be situated on the relatively flat portion of the property located near the center of the property. The design of the structures minimizes visual intrusion into the surrounding public areas. (See discussion below regarding visual resources, Section II.A.10.)

3. Climate

Like most of Maui, this region has a relatively uniform year-round climate. This climate is characterized by uniform temperatures and moderate humidity. The La Perouse-Keoneoio-Makena region is located in the dry leeward portion of South Maui with an average annual temperature of about 75 degrees F. Due to the influence of Haleakala, the predominant tradewind direction on this section of coastline is from the southeast. The consistent tradewinds are the dominant climatic feature at the site. Average monthly temperatures vary by about 15 degrees between the coolest and warmest months. Rainfall in the region averages approximately 20 inches per year.

4. Topography and Soils

Existing Conditions. The highest point on the property is near Makena-Keoneoio Road at approximately 42 feet in elevation. The slope of the subject property varies, with the average being approximately 7 percent. The property slopes downward and then levels out nears the center portion of the property, previously graded for residential use. From there, the property continues to slope moderately downward towards the southern limits, and ends at a small sandy cove. Sand deposits are located in the northeastern portion of the property. There are no other significant topographic constraints within the main section of the subject property, but on the southwest corner of the property are open lava fields.

According to the soil survey, there are two soil types in the subject property. The main soil type specific to the subject property is oanapuka—extremely stony silt loam, 7 to 15 percent slopes (OED)- and a'a lava (rLw) areas are located on the eastern and western portions of the property. OED soils consist of stony silt loam (see Figure No. 7). The predominant oanapuka extremely stony silt loam is characterized as having moderately rapid permeability, slow runoff and a slight to moderate erosion hazard. The lava flows are characterized as geologically recent lava flows which consist of a mass of clinkery, hard, glassy, sharp pieces of lava on rough to undulating topography.

The sand deposits extend landward from the small sandy cove are part of the oanapuka soil series. These deposits cover an area approximately 2 acres in size in the north portion of the property and are interspersed with a'a lava rock. The archaeological inventory survey report describes the portions of the sand deposits running from the Makena-Keoneoio Road to the project's main dwelling as "relatively thick" (from 1.5 to 2 meters), with the thicker deposits being located to the east of the proposed swimming pool location, in the area beneath an a'a outcropping. Shallower sand deposits (approximately 50 cm) are located on the upper plateau area between the rock outcropping(ridge) and Old Makena Road.

It is believed that the small sandy cove and the sand deposits that extend behind the cove toward the Makena-Keoneoio Road may be the last sand deposits along the Honua'ula coastline. Not only is it perhaps the southernmost deposit in Honua'ula, it is believed that these sands are all that remain of what was likely a larger dune area prior to the most recent volcanic eruptions in the late 18th century. These remaining sand deposits captured between a'a flows are remaining linkages with the place name of the area - Keoneoio, the sands of the bone fish.

In the State's land classification system there are two soil classifications: The main area is classed as E 89, which is a'a lava with soil material. The second type is classed as E 93, which is essentially bare pahoehoe lava. The E classification is the lowest

rating in land classification, and designates lands which are either barren or barely suitable for grazing. The site is not an "Agricultural Land of Importance" (ALISH) according to the Department of Agriculture, State of Hawaii, Map M-9, dated January 1977.

Potential Impacts and Mitigating Measures. The intent of the grading plan is to restore the area to a more natural feel, using gentle contours and avoiding steep grades. The imported fill necessary for construction will be clean sand. The dwelling locations were in part selected by the desire to avoid the significant sand deposits to the west of the proposed swimming pool. The larger dwelling site on parcel 46 will require minimal grading, this site was selected based on its flat topography. Similarly, the proposed driveway route was chosen by following existing contours and will involve only minimal (approximately 2 ft.) grade changes (see Figure No. 3).

5. Flood Hazard

Existing Conditions. According to the Flood Insurance Map, effective August 3, 1998,, prepared by the U.S. Federal Emergency Management Agency (FEMA), Federal Insurance Administration, coastal portions of the project site are situated within Zones V18, A4 and C. Zone V18 and Zone A are areas both subject to the 100-year coastal flood (Zone V18 with velocity), both having a base coastal flood elevation of 11 feet. The majority of the project site is designated as Zone C, prone to minimal flooding (see Figure No. 8).

Potential Impacts and Mitigating Measures. The base elevation of the larger dwelling will be 22 feet, and 12 feet, for the smaller one. This places them above the 11-foot base flood elevation.

6. Terrestrial Biota (Flora and Fauna)

Existing Conditions. A field survey of the site was conducted in July 1997 by Joseph Feigelson, a botanical research consultant, to assess the botanical resources. The following is a summary of his complete report, included in Appendix No. 1. The objectives of the field study were to (1) describe the major vegetation types, (2) inventory the terrestrial and vascular plants and (3) search for threatened and endangered species on the survey site.

Alien vegetation dominates the site. Plant and animal life on the Schatz property are reflective of the site's coastal setting which is consistently exposed to tradewinds and salt spray from ocean waves. The site is either rocky or sandy and the vegetation is

characteristic of such. Because of prior landscaping and grading activities, most of the vegetation is scrub, consisting of kiawe, koa-haole shrubs, buffel grass and nutgrass. The predominant vegetation of the sandy area is kiawe, coconut, cactus and kamani. Introduced species also include plumeria, hibiscus and bougainvillea.

There are no known significant habitats of rare, endangered or threatened species of flora located on the project site.

Potential Impacts and Mitigating Measures. In order to preserve the natural feeling of the property, the majority of the existing kiawe trees will not be disturbed. Landscape improvements on the property consist of mature shade trees such as coconut palm, milo, beach heliotrope and hala, as well as various tropical plants and hedges including akia, alahe'e, enaena, natal plum and naupaka. Ground cover will include 'ilima papa, beach vitex, Bermuda grass and beach morning glory. The proposed project will not have an adverse impact on significant flora.

No feral mammals were observed in the 1997 survey. Because of anecdotal evidence of the endangered Hawaiian hoary bat in this region, special attention was made to find evidence of them, but none was observed. Reports suggest they occur on Maui only as migrants, probably from the Big Island. No resident native birds were recorded. No mongoose or other wildlife habitats were found on the property.

There are no known significant habitats of rare, endangered or threatened species of fauna on the site. No wildlife, nesting or other habitats' sites were found after a thorough field reconnaissance. The proposed project will not have an adverse impact upon the existing flora and fauna. The project will not alter the fishpond coastline abutting the property (see Appendix No. 2). No plant or animal life of significance was identified that would be affected by the proposed actions.

7. Marine Environment and Resources

Existing Conditions. As noted above, land and waters to the west have been designated as the Ahihi-Kinau Natural Area Reserve (NAR). It is the only NAR in Hawaii which encompasses a marine ecosystem and at the time of its creation (1973), contained a representative, relatively unmodified, marine ecosystem distinguished by a diversity of fishes, corals and other animals as well as brackish ponds with unique environmental character and species. The region's coastal environment is characterized by a rugged lava shoreline interspersed with coves which are generally exposed to waves and seas

generated by the tradewinds. As a result of this high-energy environment, the underwater marine conditions are usually turbulent.

There are no perennial streams that flow into the area. Natural runoff notwithstanding, coastal sediment pollution has not been identified in this region and the State Department of Health classifies the waters fronting the property as Class A.

The configuration and orientation of the fishpond shelters it from waves under prevailing conditions. Anchialine ponds, one of the most unique features of the NAR, exist on the abutting lava flows, approximately ½ mile to the west south west.

Potential Impacts and Mitigating Measures. Potential impacts to marine resources could occur during the construction and post-construction phases due to alterations in storm runoff conditions. The State Department of Health regulates stormwater discharge from construction projects greater than 5 acres through the National Pollution Discharge Elimination System (NPDES) permit process. In the case of the proposed project, the total area to be graded is less than one acre and will not trigger the NPDES requirements. However, the applicant is committed to the safeguards provided for under the NPDES process. The area to be disturbed has been minimized as the site plan was developed in harmony with the existing topography. Also, during and after site construction the following protective measures, recommended by the State Department of Health and in the West Maui Watershed Management Advisory Committee's publication, *Island Stewardship* (page 6), will be taken as a part of the soil erosion management plan:

- Clearing only areas essential for construction.
- Locating potential nonpoint pollutant sources away from steep slopes, water bodies, and critical areas: The existing driveways, tennis courts and the main house will be demolished and new structures will be located inland, in areas that minimize nonpoint pollutant impact.
- Protecting natural vegetation with fencing, tree armoring and retaining walls or tree wells.
- Minimizing earthwork and therefore minimizing the need for topsoil stockpiles. Any necessary stockpiles will be stabilized and located away from the shoreline.
- Properly disposing of sediment and debris from construction activities.
- Replanting or covering bare areas as soon as grading or construction is completed. Plants have been selected which are adapted to the area in order to minimize the need for soil amendments and fertilizers. If needed during start up phase natural amenities such as compost will be used to allow for a more natural rate of nutrient supplementation.

- Runoff from paved areas will be directed into bushes and grass.
- Water from roofs and rainspouts will be directed toward vegetation.
- Grassed swales will be configured to collect and move runoff, as necessary.
- Pavement surfaces have been minimized.

Presently, the pre-development surface runoff volume generated by the project site is calculated to be approximately 6.8 cfs based on a 10-year recurrence interval, 1-hour duration storm (see drainage report in Appendix No. 3). This existing surface runoff volume sheet flows across the project site from north to south into the ocean. Based on the calculation from the civil engineer, the pre-development surface runoff volume of 6.8 cfs generated by the project site will not increase as a result of the development, as the impervious areas will be reduced after development. The design criteria for the proposed development include minimal alterations to the natural drainage pattern. The net reduction in runoff is due to the removal of the existing dwelling, tennis court and driveway/ turnaround. The amount of new surfaces also will be lessened through minimizing the surface of the driveway by using two 3-foot wide paved strips. Also, grid pavers with open areas that permit grass growth and percolation will be used on the flat turnaround areas near the proposed garage. A comparison of the total amounts of existing and proposed surfaces is as follows:

Existing impervious surfaces to be removed:

dwelling & lanai	3,700 sq. ft.
tennis court	7,125 sq. ft.
driveways	<u>7,260 sq. ft.</u>
	18,085 sq. ft.

Proposed improvements:

dwelling, lanais, walkways, etc.	9,105 sq. ft.
driveway	3,435 sq. ft.
pool & pool lanai	<u>1,888 sq. ft.</u>
	14,428 sq. ft.

Net reduction: 3,657 sq. ft.

In addition, the proposed impervious surfaces will be relocated inland compared to existing conditions, thereby allowing for interception of runoff and potential

pollutants, if any, by vegetative areas and topographic features. Significantly, the proposed driveway will be located mauka of the proposed new dwelling, whereas the existing paved driveway and turnaround are located in close proximity to the shoreline

The proposed landscape plan was designed to mitigate the impact to nearshore waters. The plan features ground covers and shrubs such as naupaka, 'ilima papa, and beach vitex, which naturally occur at the site and in similar ecological conditions. These plant types were chosen based on their suitability to the windy nearshore environments and low water demand. Once the plants are established there will be little need for irrigation or fertilizers.

The wastewater disposal system will be regulated by the State Department of Health. A septic tank and leach field will be utilized for each dwelling following the design and performance standards outlined in Chapter 62, HAR. The leach field will be located immediately mauka of each dwelling. The septic tank will have a maintenance contract which will include provisions for private sludge disposal. The existing disposal system is via a cesspool (see Preliminary Engineering Report in Appendix No. 5). The proposed septic tank system should improve the marine water quality compared to existing disposal practices since a septic tank leach field system allows for greater treatment of waste, removes solids, and disperses effluent over a larger area. The system will adhere to the Department of Health's design and performance requirements.

The foregoing discussion demonstrates that appropriate mitigation measures have been incorporated to minimize the potential impacts to nearshore waters.

8. Air Quality

Existing Conditions. Air quality in the Makena region is excellent since there are not enough point and non-point sources of emissions to generate high concentrations of pollutants. The relatively high quality of air can also be attributed to the region's constant exposure to winds which quickly disperse emissions.

The only air quality impacts from the project will be dust from short-term construction activities. Site work such as grubbing and construction of the residence may generate airborne particulates. Dust control measures such as regular watering and sprinkling will be used to minimize potential wind-blown emissions. Once completed, the homes will have no adverse impact on surrounding air quality (the homes do not have fireplaces).

9. Noise Characteristics

Existing Conditions. The primary source of background noise in the vicinity is traffic from Makena-Keone`o`io Road. The NAR has an increasing problem with unauthorized vehicular activity—an enforcement issue. There is occasional overhead noise from airplane traffic and helicopter tours.

Potential Impacts and Mitigating Measures. Ambient noise conditions may be disrupted by heavy construction equipment during construction. However, once completed, the project will have no adverse impact on existing noise profiles. Any possible noise generators, such as the swimming pool pumps and filters, will be enclosed in an underground structure.

10. Visual Resources

Existing Conditions. At present, the existing residence on parcel 46 is shielded visually from most directions, including the public roadway. Views to the ocean from the Old Makena Road are obscured by an existing kiawe forest which extends across the subject property and into the NAR. See Figures 16 through 20 which provide a photographic and visual analysis of existing and proposed conditions. Neither the existing nor proposed dwelling sites are visible from the public roadway due to this vegetation.

Nevertheless, the proposed residences and other related improvements will be located below the grade of Makena Keone`o`io Road which ranges in elevation from 40 to 50 feet above MSL along the property frontage. The proposed finished floor of the larger residential structure is at elevation 22 feet above MSL. The highest point along the proposed roof lines is 47 feet above MSL. The cross sections in Figure No. 9a illustrate that the view plane from the highway in the immediate project vicinity is at or above the highest portion of the roof lines.

While the existing caretakers residence on parcel 120 is visible from the end of Keoneoio Road and along the coastline to the south, the proposed dwelling sites are almost entirely shielded by existing vegetation and topography.

A traditionally built dry stack wall runs along the length of the property along Makena Keone`o`io Road. The wall is approximately 4 feet in height. This wall is much less imposing than other boundary walls along this coastline which are often

built of modern materials and at heights designed to create privacy. The historic character of the wall as well as its modest height is considered a positive visual feature along this section of Makena Keone`o`io Road.

The most sensitive area in the NAR from a visual perspective is along the NAR access trail that roughly parallels the western boundary of the subject property. See Figure 16. The trail traverses in a makai direction through the kiawe forest to the lava flow. It exits the kiawe forest onto the lava flow at a point that is almost directly west of the existing and proposed dwelling site (View 1 on Figures 16). At this point the roof of the existing dwelling is partially visible to the south east, approximately 330 feet away (View 1 on Figure 17). The next 600 or so feet of trail is in closest proximity to the existing and proposed dwelling sites and represents the area with greatest potential for visual impacts (Views 2,3,4 and 5 on Figures 16, 17 and 18). An existing stand of kiawe trees in front of the proposed dwelling provides significant shielding of the existing and proposed house sites from the southwest, including from the NAR trail and the ocean.

Potential Impacts and Mitigating Measures. The project will have minimal impact on public viewsheds or scenic resources due to the presence of existing vegetation. The distance of the proposed sites from public vantage points, i.e., the public roadway, the NAR trail, the ocean and the coastline at the end of Keoneoio Road, also helps to lessen the visual impacts of the proposed structures.

The following mitigation measures have been or will be implemented to minimize or eliminate potential impacts on views or scenic resources, especially those from the trail to the west of the site, within the NAR:

- The existing kiawe forest which buffers the site from the public roadway and abutting NAR will remain intact. This includes the stand of kiawe trees in front of the existing dwelling.
- Additional trees and shrubs will be planted west of the proposed dwelling site. This will further obscure the house site from the section of NAR trail which comes within closest proximity to the house. This will be done in a naturalistic fashion to avoid an urban/resort connotation.
- Materials chosen for the house are natural in appearance and texture. The roof will be textured shingles with an earth tone color, designed to blend in with the

existing kiawe backdrop. Black lava rock will be incorporated in the foundations of the house and the siding will be vertical board and batten with a natural stain. Stone and lava rock will accent the building corners and longer wall sections. The window and door frames will be wood and the walkways will be of grouted natural stone.

Based upon the extent to which the proposed site is visible at present, the additional landscape plantings, and the proposed house design and materials selection, the proposed action will not have a significant impact on visual resources in the area.

11. Archaeological/Historical Resources

Existing Conditions. The region surrounding La Perouse Bay is rich in history from both the pre- and post-contact period. For this reason, particular care was taken to survey the property thoroughly and to recommend professional monitoring during construction. The proposed development plan was planned to eliminate any possible conflict with identified sites. An extensive archaeological inventory of the parcel was conducted in August 1997 by Xamanek Researches. Nine backhoe trenches were dug on the property to determine the composition of subsurface materials, including a number of test trenches in the vicinity of the proposed house site (see Figure No. 15). The following is a summary of the report which is attached in its entirety (Appendix No. 4).

The first European to visit this site was the French Captain Jean-François Galaup de la Perouse ("La Perouse") in 1786. His ship's journals documented several prosperous villages in the area producing hogs, potatoes, bananas, taro and fish. The property itself is a kipuka, an area with topsoil that supports vegetation in the midst of lava fields. These fields were the last lava flows recorded from Haleakala, occurring in the 1750s. As so often happened in the period between 1831 and 1836, the Honua`ula District experienced a severe population decline, believed to be the result of economic disruption and disease. The population of the moku of Honua`ula went from approximately 3,340 in 1831 to an estimated 80 in 1846.

During the Great Mahele of 1848, the majority of the Honua`ula District was designated as government lands. Although this particular site had poor soil and low rainfall, it was integrated with the upland agricultural activities at the Rose and Kahikinui Ranches which were later combined to become the Ulupalakua Ranch. This activity flourished with a potato boom caused by the 1848 gold rush in California—it was cheaper to import potatoes from Hawaii than grow them in California. The earliest commercial sugarcane cultivation in Honua`lua began in 1841 on lands leased from Kamehameha III at Ulupalakua (Ka`eo Ahupua`a). These holdings grew to encompass

2,087 acres of land used for cattle, sugarcane, and a sugar mill. After the drought of 1878, sugarcane was discontinued and ranching became the dominant activity. Makena Landing, about 4 miles to the north, served as the main cattle loading port, but Ulupalakua Ranch also landed cattle at Keone`o`io. In 1900, Dr. and Mrs. J.H. Raymond became owners of the former Rose and Kahikinui Ranches. Dr. Raymond build a slaughterhouse, a cold storage plant, and a boat landing at Keone`o`io to ship beef to Lahaina and Honolulu.

In 1923, the Raymonds sold their ranches to Frank F. Baldwin, who combined them and renamed the area the Ulupalakua Ranch. He, in turn, sold the ranch to Mr. Pardee Erdman in 1963. A new slaughterhouse was built higher up at Ulupalakua in 1929 and the old facility at Keone`o`io was abandoned. The slaughterhouse was in ruins even before World War II, although the remains may have been identified.

During World War II, the military presence in the Makena area was considerable. Amphibious beach landings were practiced on a large scale. A concrete ramp was built into the fishpond for use as a landing area. This intense military activity impacted many of the archaeological sites in the general area.

Although the Schatz parcel has been disturbed by past ranching, military and landowner actions, it still contains 10 archaeological sites. These cultural resources consist of 2 previously recorded sites and 8 newly identified ones. The 2 previously identified sites include a slaughterhouse and landing site (Site 1580) and the Keone`o`io Fishpond (Site 4199). The other sites include a World War II military site (Site 4457), the remains of an old Hawaiian Congregational church (Site 4466), 3 boundary wall sections (Sites 4467, 4468, and 4469), an old well (Site 4471), and a rock overhang shelter (Site 4472) (see Appendix No. 4). Preservation in place is recommended for the fishpond and church.

Potential Impact and Mitigating Measures. An approximately 20-foot breach in the boundary wall fronting Makena-Keone`o`io Road (Site 4467) is planned for the driveway entrance. This site has been evaluated in the archaeological survey as having low research potential. During construction, this site will be monitored for data recovery of any subsurface precontact cultural materials.

Data recovery has been recommended for all sites that will be disturbed by future development. The siting and grading activities for the proposed homes have been designed to not impact on any of these known sites. Therefore, according to the State Historic Preservation Office (SHPO), no further archaeological work is required. Archaeological monitoring is the recommended mitigation measure for any grubbing and/or earth moving activities in the sand deposits.

As the archaeological report (Appendix No. 4) states, this is a culturally significant area. A portion of the property is within the Keonoioio Archaeological

District, and the associated requirement for preparation of an environmental assessment is simultaneously fulfilled by this report. The archaeological report has been submitted to the SHPO. None of the identified sites will be impacted by the construction, except for the driveway area described above.

Due to a higher probability of encountering historic remains in sand deposits, the applicant has a contract with Xamenek Researches to provide on-site monitoring services during the construction period, for the identification of materials that might be encountered. It is important to note that the proposed house site on parcel 46 was located in order to avoid areas where the sand deposits appear to be the thickest. Construction work will be halted for evaluation and recommended mitigation procedures if such materials are encountered. A preservation or interim protection plan will be submitted to the SHPO along with a timetable for completion of the protective measures before beginning any construction on the property. The plan will include interim measures to protect Sites 4199, 4466 and 4470 with flags to identify the sites, walkways placed in areas circumventing the sites, and plastic fencing at the edge of the zone, and will include long-term preservation measures such as signage, and provisions for access and maintenance of the sites.

Based upon the foregoing findings and mitigation measures, the proposed project is not anticipated to have an adverse impact on archaeological or historic cultural resources. The SHPO has concurred with this finding (see December 23, 1997 letter from SHPO to Mr. Erik Fredericksen included at the end of Appendix No. 4).

12. Traditional and Customary Cultural Activities

In response to a request by the Office of Hawaiian Affairs (OHA) to perform an assessment on the potential impacts to traditional and customary native Hawaiian activities consultation was initiated by Mr. Rory Frampton with residents of the area as well as known practitioners of traditional activities in the area. The consulted individuals were identified based on discussions with Ms. Dana Hall and Mr. Leslie Kuloloio of Hui Alanui O Makena, as well as this Mr. Frampton's personal knowledge of individuals who historically have exercised traditional fishing activities in the area.

An informal oral history group interview, "talk story" session was conducted with Boogie Lu`uwai, Eddie Chang and Marie Olsen on May 2, 1999. In addition, personal discussions with Robert Lu`uwai were held. Boogie and Robert Lu`uwai are brothers who were raised at Makena landing. Their families have been fishing in this area for generations and they are currently requesting permission to exercise traditional fishing activities at the Ahihi-Kinau NAR based on their families continued practices

which occurred until the time of the NAR designation in 1973. Marie Olsen has lived on the property for over thirty years in the caretakers residence. She is a native Hawaiian who has lived in the Makena area for a majority of her life. Eddie Chang was raised in Makena and his family has a number of land holdings in the area.

All interviewees noted that the uniqueness and special nature of the area is very much related to the quality of the ocean resources, both in terms of the geological configuration which provides for a natural embayment as well as marine life. Fish of all types were, and to some extent still are, found in the area. The name Keone`o`io translates to the "sands of the bone fish". Stories were told of huge o`io which would gather in the fishpond and surrounding area. All of the interviewees talked of fishing memories related to the area. Friends and family gatherings would often occur that were related to fishing activities, such as surrounding akule schools, or when individuals who had successful fishing endeavors would invite others down to share in the catch.

The discussions indicated that the primary cultural activities in the area over the last couple of generations were almost entirely related to the gathering of ocean resources, e.g. fishing, opihi picking, and limu gathering. Prior to 1960, access to the coastline in the Keone`o`io area was virtually unimpeded. Individuals would access the area by land or sea. Robert Lu`uwai noted that he used to access cape Kina`u via a trail that led through the kiawe forest which entered the lava flow near the fishpond. This is believed to be the site of the existing NAR trail. Land access was somewhat altered upon the permanent occupation of the project site by a property owner who would always keep dogs around for security. After that time most individuals accessing the area by land avoided the residential areas of what began to be referred to as the Carter Estate. In 1973, the State designated the neighboring property as a NAR and this almost entirely eliminated traditional and customary ocean related activities to the west of the property. Access to the southwest is still available through Makena-Keone`o`io Road and fishing is still allowed.

The interviewees remember when the church was still in existence (portions of which are identified as State historic site 4466). People would often travel to church services in canoes. Common modes of land travel were by horse and donkey until after the war when 4 wheel drive vehicles became more prevalent. Church services at Keone`o`io ceased after the priest committed suicide sometime before World War II.

According to Marie Olsen, there are still many special places and rocks in the area. For instance a rock resembling a Hawaiian male's face looks over the fishpond, it

is said that this face watches over the fishpond. Marie recalls a number of years back when an elderly Hawaiian lady visited the site and told of her pico (bellybutton) having been buried underneath the rock island which is part of the fishpond boundary. Fishing stones remain on the property, as well as the remnants of old rock lures which were used to catch squid. There are no known religious sites, heiau or fishing shrines, in proximity to the proposed dwelling sites. Marie does not recall the presence of any burial sites on the property.

In summary, the primary traditional and customary practices in the area are related to fishing or other ocean related activities. With the exception of the areas in the immediate vicinity of the existing house sites and tennis court, access to the coastline is still unimpeded, however, the NAR designation has eliminated gathering rights to the west of the property, with the notable exception which may be made for the Lu`uawai family. The proposed project would not appear to directly affect any traditional or customary practice in the area based on long established residential uses of the proposed dwelling sites. The applicant acknowledges that that the proposed project will not hamper, impede or otherwise limit the exercise of traditional, customary or religious practices in the immediate area, to the extent such practices are provided for by the Constitution of the State of Hawaii, and by Hawaii statutory and case law.

B. SOCIO-ECONOMIC ENVIRONMENT

1. Population

Existing Conditions. The population of the County of Maui has grown steadily over the past 7 years. The 1996 population of 117,013, was a 16.6 percent increase over the 1990 population of 100,374 (U.S. Bureau of the Census, March 20, 1997). The 1980 population was 70,847. Population growth in the county is expected to continue, although at a lower rate, with the resident population projected to be approximately 125,000 in the year 2000 and 138,000 in the year 2010. The 1990 population of South Maui District was 15,365, which is 16.82% of Maui Island's population. South Maui's de facto population for 1990 was 31,444 (Community Resources, Inc., March 1994). La Perouse Bay-Keone`o`io and the immediate area has a very small, scattered population.

The population trends of the Kihei-Makena Community Plan region generally follow the county as a whole. However, during the period from 1984 to 1992 the Kihei region had a much higher growth rate. This was fueled by the construction of three

major resort hotels and the relatively low cost of housing compared to the rest of Maui. In the early '90s with the completion of major construction projects, and the general economic malaise, the growth of the region slowed considerably. This growth rate now follows the county average.

Potential Impacts and Mitigating Measures. The proposed action involves the demolition of an existing dwelling and its replacement with a new dwelling and guest cottage. There will be no significant impact on regional population.

2. Economy

Existing Conditions. The La Perouse area is an important Maui recreational area, providing a number of tourism-related activities. The Kihei, Wailea and Makena areas have developed into important visitor destination centers. Kihei is the region's commercial and residential center. Agriculture is still an important part of Kihei's economy: sugarcane and pineapple fields are found in the North Kihei District, and the historic Puunene Mill on Mokulele Highway continues to process cane. An increasingly large component of Maui's local economy is the "footloose economy" composed of people with external or independent sources of income who choose to live here.

Potential Impacts and Mitigating Measures. On a short-term basis, the project will support construction and construction-related employment. On a long-term basis, the construction of the project will have neither a positive nor a negative impact on employment opportunities. There will be a minor increase in job activity due to routine maintenance and service of the residential sites.

C. PUBLIC SERVICES

1. Recreational Facilities

Existing Conditions. The Kihei-Makena area has a wide reputation as a recreational destination, particularly for ocean-related activities. Ocean sports and recreation activities available in the Kihei-Makena District include swimming, fishing, surfing, scuba diving, snorkeling, sailing, and para-sailing. State and County beach parks in the Kihei-Makena District include the Maipoina Oe Iau Beach Park, Kalama Beach Park, Kamaole Beach Park, Ulua Beach, Wailea Beach, Polo Beach, and Makena Beach Park.

Ahihi-Kinohiwi Natural Area Reserve, including the northern portion of La Perouse Bay, is not developed as a State park; however, it is a popular source of passive outdoor recreation.

Near the Schatz property, the waters in the sheltered bays are used by divers, snorkelers, and kayakers as well as surfers. Although fishing is prohibited in the NAR, it is a frequently occurring illegal activity that the State has identified as an enforcement problem.

Potential Impacts and Mitigating Measures. The proposed action will not prevent or hinder any of the region's existing recreational activities.

2. Police and Fire Protection

Existing Conditions. The Kihei-Makena District Substation of the Maui County Police Department has provided police protection for Kihei-Makena District since 1996. The substation is located in Kalama Beach Park, across from Foodland in central Kihei. The Kihei fire station is located approximately 10 miles from the subject property.

Potential Impacts and Mitigating Measures. The applicants understand that they are at least a 30-minute response time away from the Kihei fire station. Accordingly they will construct two 15,000-gallon redwood water tanks on the site and they will maintain pumps for the swimming pool in case of fire.

3. Solid Waste

Existing Conditions. Single-family residential solid waste collection service in South Maui is provided by the County of Maui on a weekly basis. Residential solid waste collected by County crews is disposed of at the County's 55-acre Central Maui Landfill, located 4 miles southwest of the Kahului Airport. The Central Maui Landfill also accepts commercial waste from private collection companies.

Potential Impacts and Mitigating Measures. The property is outside the County's collection because it is so remote. Therefore there will be no impact on County services. The applicants are aware that they must provide for their own refuse collection.

4. Health Care

Existing Conditions. Maui Memorial Medical Center is the only major medical facility on the island. Acute, general and emergency care services are provided by the 145-bed facility. The Medical Center is an approximate 45-minute drive from the project. In addition, residents of the Kihei region's are served by numerous privately operated medical/dental clinics and offices.

5. Schools

Existing Conditions. The State Department of Education's public school system serves elementary and intermediate students in the Kihei region. The new Kamali'i Intermediate School opened in 1996. The area residents attend high school at Maui High in Kahului.

Potential Impacts and Mitigating Measures. Since one existing home is being demolished and two new ones are being built, the net difference in the area is only one new residence. The incremental impact of one new home in the regional population of 18,000 is too small to be noticed. Thus, the proposed project is not anticipated to adversely affect public services such as police or fire protection or medical services in terms of service area. Educational and recreational facilities will not be impacted as a result of this project.

D. INFRASTRUCTURE

1. Wastewater

Existing Conditions. Wastewater generated in South Maui flows to the Kihei wastewater treatment facility. This wastewater collection systems ends at the Wailea Resort. The Makena Resort has a private treatment system. Since this property is not serviced by the County's sewer system, individual treatment systems, in this case septic tank and leach field, will be installed and must be approved by the State Department of Health. An existing cesspool services the dwelling on parcel 46 and is located approximately 105 feet from the shoreline.

Potential Impacts and Mitigating Measures. The estimate of wastewater flow is 800 gallons per day for each residence. The HAR Title II, Department of Health, Chapter 62,

requires that the minimum septic tank size for a 4-bedroom residence be of 1,200-gallon capacity. Accordingly, the applicant is proposing to install two 1,250-gallon septic tank systems for the treatment of wastewater. The septic tank and leach field will be located on the mauka side of each residence and will meet the wastewater treatment and disposal design and performance requirements of the DOH. The leach fields have been sited in order to maximize the distance to the shoreline as well as the depth between the infiltrate chamber system and sea level. The septic tank will have a maintenance contract which shall include provisions for sludge disposal by a private pumping company at a site approved by the DOH.

2. Water

Existing Conditions. The Kihei-Makena region is served by the Board of Water Supply's (BWS) central Maui system serving the coastal area from Maalaea to Makena. This 36-inch central Maui transmission line brings water to the area from the Waiehu wells above Waihee, 11 miles away. The subject property is serviced by a ¾-inch water meter which is located at the end of the County's 12-inch water line near the southern end of Makena State Park (a.k.a. Big Beach). From that point, a private waterline services the subject property exclusively. An exclusive easement for the waterline in favor of the subject property was granted by the Maui County Council in 1996. According to easement documents, the easement is located entirely within the County-owned Makena Road right of way and is approximately 13,200 feet in length. The three 11-foot diameter water tanks located on the site will be replaced by two 15,000-gallon redwood tanks. These will provide storage for fire protection and domestic water use to the existing residences. Water storage for fire protection and the new swimming pool will be provided by the water tanks.

Potential Impacts and Mitigating Measures. The proposed project will not have a significant impact upon County water systems (see Appendix No. 5, Preliminary Engineering Report). In addition, since the water meter is located at the end of the County's 12-inch line and since no other property is serviced by said water meter, there should be no significant impact to other users along the section of Makena Road between the location of the water meter and the subject property.

3. Roadways and Traffic

Existing Conditions. Sole roadway access to the property is by Makena Road. The average right-of-way width along Makena-Keone`o`io Road fronting the property is 20 feet, and is asphalt concrete paved with widths varying from 9 to 18 feet. There are no curbs, gutters or sidewalks.

Potential Impacts and Mitigating Measures. Since Makena-Keone`o`io Road ends at the project, the impact on traffic is minimal. The project would generate only normal household traffic, with occasional house guests and maintenance personnel. The road condition limits traffic to low speeds and there is good visibility. Traffic was not seen as an area of concern and thus, no formal Traffic Impact Analysis Report (TIAR) was prepared.

4. Drainage

Existing Conditions. Presently, the pre-development surface runoff volume generated by the project site is calculated to be approximately 6.8 cfs based on a 10-year recurrence interval, 1-hour duration storm. The existing surface runoff volume sheet flows across the project site in a northerly to southerly direction into the ocean.

La Perouse-Keone`o`io is not located within a major drainage basin. Fortunately there is no significant potential for major flooding and major rainfalls would percolate or run off into the ocean. A preliminary drainage report appears in Appendix No. 3.

Potential Impacts and Mitigating Measures. Based on the engineers' calculations, the post-development surface runoff volume generated by the project site is calculated to be approximately 6.8 cfs. Accordingly, there will be no increase in surface runoff volume as a result of the subject project. As detailed in section II.A.7. above, there will actually be a net reduction in impervious surfaces amounting to approximately 3,600 sq. ft. Additionally, all exposed areas will be either landscaped or grassed. To minimize the impacts of freshwater runoff and potential non-point source pollutants from impacting the fishpond or marine waters, downspouts and runoffs from roofs and paved areas will be directed towards landscaped areas to allow for increased filtration and percolation. (See Section II.A.7 for a detailed description of measures to minimize impacts to marine resources.)

The design criteria for the proposed development will include minimal alterations to the natural drainage pattern. It is expected that after development, the surface runoff will continue to sheet flow off the project site and into the ocean as it

presently does. The proposed project will have negligible impact on the existing hydrology and upon adjoining properties.

5. Electrical and Telephone Systems

Existing Conditions. Electrical service to the subject property is presently provided by Maui Electric Company, Ltd. (MECO) powerlines. Additional electrical power needs for the subject property will be supplied by MECO.

GTE Hawaiian Telephone Company maintains overhead telephone lines that serve the property.

Potential Impacts and Mitigating Measures. The utility companies have stated that the proposed action will have no impact on existing service to the area.

III. RELATIONSHIP TO GOVERNMENTAL PLANS, POLICIES, AND CONTROLS

A. STATE LAND USE LAWS

The Hawaii Land Use law, Chapter 205, HRS, establishes 4 major land use districts into which all State lands are placed. These districts are designated Urban, Rural, Agriculture, and Conservation. The Schatz property is located within the State Conservation District, which is governed exclusively by the Department and Board of Land and Natural Resources (See Section 205-5(a), HRS). Within the Conservation District there are established subzones: Protective, Limited, Resource, General, and Special. The Schatz property is located within the General Subzone. Single-family residences are identified as a permitted use within the General Subzone subject to the approval of a Conservation District Use Permit by the Board of Land and Natural Resources.

B. CONSERVATION DISTRICT USE RULES AND REGULATIONS

Per Section 13-5-30, HAR, all land uses within the Conservation District require a Conservation District Use Application (CDUA) to be filed with the Department of Land and Natural Resources and approved by the Department or the Board of Land and Natural Resources. As part of the CDUA, proposed land uses are evaluated with respect to criteria established in Subsection 13-5-30(c). The project's relationship to the CDUA criteria is provided below. This statements provided below are based on the information and analyses found throughout this report.

Criterion No. 1.

The proposed land use is consistent with the purpose of the Conservation District.

Response: The purpose of the Conservation District, pursuant to Section 13-5-1, HAR, is to regulate land uses in order to conserve, protect and preserve the important natural resources of the State through appropriate management and use, and in order to promote their long-term sustainability and the public health, safety, and welfare. As demonstrated in this environmental assessment, the proposed project has been designed to minimize potential adverse impacts to the area's natural resources and has incorporated appropriate management principles for promoting long-term sustainability as well as health, safety and welfare, including but not limited to the following:

- The landscape planting plan is designed to be compatible with the surrounding environs.
- The use of plants which are well adapted to the existing conditions of this windy coastal environment will lessen the need for fertilizers and intensive irrigation.
- The design is compatible with existing topography and will result in minimal alterations of terrain. The new house will be built farther back from the coastline than the existing dwelling. The impervious tennis court and driveways will be demolished and removed resulting in a net reduction in the amount of impervious surfaces.
- Two new septic tank systems will replace the existing cesspool. This is considered a positive upgrade, since cesspools have greater potential for negative impacts on coastal water quality.

Criterion No. 2.

The proposed land use is consistent with the objectives of the subzone of the land on which the use will occur.

Response: The proposed improvements to this site will comply with the objectives of the General Subzone. The objective of the General Subzone, pursuant to Section 13-5-14 through 13-5-25 is to *designate open space where specific conservation uses may not be defined, but where urban use would be premature.*

- This requested use represents a continuation of existing residential uses.
- There will be a net increase of one dwelling. The existing caretakers dwelling on parcel 120 remains and a new dwelling will be built on the site of the old tennis

court. The resultant density of 2 dwellings on over 12 acres is a density of 1 dwelling per 6 acres, well below urban density and will not be introducing an urban character into the environment. In addition, a substantial amount of parcel 46 will be left in a natural open space setting. This includes the fishpond, the lava fields of Cape Kina`u, and the kiawe forest between the dwelling sites and Makena-Keoneoio Road. The proposed development sites are in areas which are currently used for residential related purposes and thus do not represent the introduction of a new development type into a previously undeveloped area. As documented in this report, the maintenance of existing vegetation as well as additional landscape plantings will buffer any visual impact the project may have from adjoining properties. In addition, the selection of building materials with natural appearances or characteristics will minimize impacts on visual perceptions from distant vantage points, most notably the ocean.

Allowable land uses in the General Subzone include those listed in Section 13-5-25 as well as all identified uses with the Protective, Limited and Resource Subzones. The proposed action involves the demolition of one existing structure, the construction of two dwellings on separate TMK parcels, landscape planting and other ancillary activities associated with the residential dwellings.

The criteria and allowed uses go from the Protective Subzone (the most restrictive), to Limited, Resource, and General (the most permissive). If a use is not specifically defined in a subzone, then the criteria in the next more restrictive subzone are used. The proposals in this application involve three types of actions, each with different criteria.

Landscaping is identified as an allowable use within the Resource Subzone under Section R-5, where it is defined as an alteration of plant cover, including trees, in an area of more than ten thousand square feet.

Demolition of the existing house and tennis court is identified as an allowable use in the Protective Subzone under P-9 Structures, Existing: *The demolition, removal or alteration of existing structures, facilities and equipment. Any historic property shall be evaluated by the Department for historical significance.*

Construction of a 4,285-square-foot residence and a 1,256-square-foot residence with related grading activities:

A. Grading: Protective Subzone P-9, Structures, Existing: *Demolition, grading, removal or alteration of topographic features.*

B. Single-family residence: Resource Subzone R-8, Single-family Residence: *A single-family residence that conforms to design standards as outlined in this chapter, as amended December 12, 1994, HAR Chapter 13-4, Subchapter 3, Exhibit 4.*

As shown in Sections I through IV below, the design and siting of the two houses meet the guidelines and standards of Exhibit 4.

I. **Setbacks:** The proposed setbacks of the houses (see Figures No. 5B and 10) are in excess of the requirements specified in Exhibit 4, as shown in the following table of single-family setback standards:

	Minimum Setback Requirements	Larger dwelling Parcel 46	Smaller dwelling Parcel 48
For lots over one acre:			
Back	25 feet	130 feet to certified shoreline	
Sides	25 feet	78.5 to property line	
Front	25 feet	247 feet to Makena Road	
For lots 10,000 square feet to one acre:			
Back	15 feet		15 feet
Sides	15 feet		>25 feet
Front	15 feet		>25 feet

II. **Maximum Developable Area:** *the total floor area in square feet allowed under the approved land use. The floor area computation shall include: all enclosed (on three sides minimum, with floor or roof structure above) living areas; above grade decks in excess on 4' 0" in width; garage or carport; swimming pools, saunas or other developed water features (excluding naturally existing ponds, tide pools, etc.); play courts; or any other standing structures, which are accessory to the approved land use.*

A. For lots larger than one acre the maximum developable area is 5,000 square feet.

Parcel 46 has an area of 11.24 acres. The developable area totals 4,985 square feet, as shown in Figure No. 10.

Living area roof	3,793
Garage	492
Swimming pool	<u>700</u>
Total	4,985 square feet

B. For lots 10,000 square feet to one acre the maximum developable area is 3,500 square feet.

Parcel 48 has an area of .54 acres. The total proposed area is 1,746 square feet, as shown in Figure No. 5B.

Living area	1,256
Garage	<u>490</u>
Total	1,746 square feet

III. Building Height: *The maximum building height shall not exceed 25 feet.*

A. Main House (per Figure No. 9) Height: 25 feet

B. Secondary House (per Figure No. 9) Height: 20 feet

IV. Design and Compatibility: *Compatibility with surrounding environs.*

Structure is designed in accordance with standard conditions, including:

- Landscaping and screening of structures.

The landscaping will keep the site as natural as possible and will screen the views from the public road and the NAR to the greatest extent possible.

- Color of paint/surface of structure and roof, earth tones, or compatible with surrounding area.

The roof tile and wall colors will be either natural or earth-tone. The goal is to make the structures as inconspicuous as possible from the surrounding area.

- DOH wastewater permit/water collection system approval.

The two new septic tanks will be designed and installed per DOH standards (see Engineering Report in Appendix No. 5).

- Grading/contouring of property kept to minimum with consideration of slope.

Portions of the site have been graded previously, for the construction of existing dwellings and prior military use. The proposed action will keep additional grading to an absolute minimum. The removal of the tennis court will reduce the impervious surface, and the new driveway will nestle into the existing contour to avoid excessive grading, cut and fill. Any material imported to the site will be sand.

- All structures connected, or best alternative.

The two dwellings will be built on separate parcels. The elements of the main house will be tied together as gracefully as possible to avoid sharp edges, abrupt changes in contour and disjunctive forms. The larger dwelling has been broken up into smaller living pods in order to reduce the bulk and massing of the structure. Covered hallways connect the living areas, the hallways are calculated into the maximum developable area.

- In conformance to applicable building and grading codes and shoreline setback provisions.

The proposed project has been designed by a registered architect and will conform to applicable building regulations. The proposed homes have all been designed in strict compliance with the building codes of the County. The setbacks are in excess of those required by the Shoreline Area Rules and Regulations for Maui Island.

- One kitchen.

There will be only one kitchen per dwelling.

Criterion No. 3.

The proposed land use complies with provisions and guidelines contained in Chapter 205A, HRS, entitled "Coastal Zone Management", where applicable.

Response: The Schatz property is located within a Special Management Area (SMA). Construction of a single-family residence is exempt from the SMA requirements. However, the project must comply with shoreline setback requirements. For parcel 46,

the shoreline setback line is established at approximately 130 feet, pursuant to the Shoreline Area Rules of the Maui Planning Commission (§12-5-6). The proposed location of the main house will be at least 130 feet from the shoreline. The dwelling on parcel 48 will be on a rocky site that is not subject to erosion. Since it is an inland parcel the shoreline setback provisions do not apply, nevertheless, it is located approximately 80 feet from the shoreline. Figure No. 3 shows the setback line of the main property as measured from the certified shoreline.

Criterion No. 4.

The proposed land use will not cause substantial adverse impact to existing natural resources within the surrounding area, community or region.

Response: The ocean is the nearest significant natural resource of those in close proximity to the project. Figure Nos. 1 and 22 shows the location of the NAR which was established in order to preserve and protect this unique marine resource. The project site is adjacent to the NAR and, as such, care needs to be taken to ensure that no further degradation of this resource takes place.

Potential impact to marine resources could occur during the construction and post- construction phases due to alterations in storm runoff conditions. Stormwater discharge during large construction projects can lead to increased sedimentation in coastal waters due to prolonged exposure of bare soil. The State Department of Health regulates stormwater discharge from construction projects greater than 5 acres through the National Pollution Discharge Elimination System (NPDES) permit process. In the case of the proposed project, the construction activity will take place on less than an acre of land and thus would not trigger the NPDES requirements. The site plan for the project was developed with careful attention to existing topography, minimizing the area of disturbance. In addition to minimizing the amount of grading needed for the project, the following measures will be implemented as a part of the soil erosion management plan:

- Clearing only areas essential for construction.
- Locating potential nonpoint pollutant sources away from steep slopes, water bodies, and critical areas: The existing driveways, tennis courts and the main house will be demolished and new structures will be located inland thereby minimize potential nonpoint pollutant impact.
- Protecting natural vegetation with fencing, tree armoring and retaining walls or tree wells.

- Minimizing earthwork and therefore minimizing the need for topsoil stockpiles. Any necessary stockpiles will be stabilized and located away from the shoreline.
- Properly disposing of sediment and debris from construction activities.
- Replanting or covering bare areas as soon as grading or construction is completed. Plants have been selected which are adapted to the area in order to minimize the need for soil amendments and fertilizers. If needed during start up phase natural amenities such as compost will be used to allow for a more natural rate of nutrient supplementation.
- Runoff from paved areas will be directed into bushes and grass.
- Water from roofs and rainspouts will be directed toward vegetation.
- Grassed swales will be configured to collect and move runoff, as necessary.
- Pavement surfaces have been minimized.

During the post-construction phase, impacts to marine water quality could result from increases in stormwater runoff and wastewater disposal. The hydrology report prepared for the project calculated that there will be no increase in impervious surface and no increase in surface runoff as a result of the project. Specific calculations indicate there will actually be a net reduction in surfaces. (See section II.A.7, above)

The proposed landscape plan has also been developed with a concern for impact to nearshore waters. The plan features planting with ground covers and shrubs such as naupaka, 'ilima papa, and beach vitex, which naturally occur at the site and in similar ecological conditions (see Figure No. 6). These plant types were chosen based on their suitability to the windy nearshore environment. Once the plants are established there will be little need for irrigation or fertilizers. The shoreline planting will also serve to filter stormwater runoff as it makes its way from the property to the ocean.

The wastewater disposal system will be regulated by the State Department of Health. The septic tanks and leach field will be incorporated utilizing the design and performance standards outlined in Chapter 62, HAR. The leach fields have been sited in order to maximize the distance to the shoreline as well as the depth between the infiltrator chamber system and sea level. The septic tanks will have a maintenance contract which will include provisions for sludge disposal by a private pumping service at a site approved by the DOH. Based on the proposed depth to the water table, distance from the shoreline, and proper adherence to the DOH's design and performance requirements, the proposed septic tank system should not have a significant impact on marine water quality.

The foregoing discussion demonstrates that appropriate mitigation measures have been incorporated in order to minimize the potential impact to nearshore waters.

The marine environment in the immediate project vicinity is often windy and turbulent and in the event that surface runoff or subsurface flows from the septic system enter nearshore waters, they will be rapidly diluted. Lastly, the relative degree of potential impact from this individual dwelling is minimal compared to the influence of naturally occurring groundwater flows.

Criterion No. 5.

The proposed land use, including buildings, structures and facilities, shall be compatible with the locality and surrounding areas, appropriate to the physical conditions and capabilities of the specific parcel or parcels.

Response: The property has been used in the past for single-family residential purposes. The proposed project represents a continuation of that use and has been designed in accordance with the previous physical alterations to the property. The applicant proposes to preserve the natural character of the subject property by maintaining existing topographical features as much as possible. The building sites will be situated on relatively flat portions of the property previously altered by residential use. The proposed driveway will follow existing contours and avoid steep grades. As such, the proposed project will involve minimal grading of the property.

Criterion No. 6.

The existing physical and environmental aspects of the land, such as natural beauty and open space characteristics, will be preserved or improved upon, whichever is applicable.

Response: The subject property is located between the shoreline and the Makena-Keone`o`io Road. The existing kiawe trees make the site nearly invisible from the road. Traveling further to the end of the road provides open vistas of the ocean. These will not be impacted by the project, nor will be the mauka views of Haleakala. The project has been designed to minimize the impact on the NAR. The mauka relocation of the house will reduce its visual impact from the NAR. Also, the tennis court and its unsightly fence will be removed.

The grade of Makena-Keone`o`io Road is approximately 42 feet above MSL along the property's frontage. The proposed finished floor elevation of the dwelling on parcel 46 is 22 feet above MSL, and 12 feet above MSL for the dwelling on parcel 48. The highest points along the proposed roof lines are at elevations of 47 feet and 32 feet above MSL, respectively. The cross sections in Figure No. 9a illustrate that the view plane from

the highway in the immediate project vicinity is at or above the highest portion of the roof lines. Further, in order to preserve the natural and open space character of the property the majority of existing plants and trees at either end of the property will not be disturbed nor will the topography be significantly altered (see Figure Nos. 3 and 9b). (Also see section II.A.10 above as well as Figure Nos. 16-20.)

The existing beauty of the coastline will be maintained through adherence to a 130-foot setback for the main house. No physical alterations will be made within the shoreline area.

Criterion No. 7.

Subdivision of land will not be utilized to increase the intensity of land uses in the Conservation District.

Response: The subject property will use only existing TMK parcels. As previously explained, the earlier plan was to consolidate the various grants and resubdivide into seven lots, all suitable for residential construction. This plan was abandoned in favor of one owner building two homes on two existing lots. Thus, no new buildable lots have been created and the potential intensity of land use will not be increased.

Criterion No 8.

The proposed land use will not be materially detrimental to the public health, safety and welfare.

Response: As demonstrated in this environmental assessment, the project will comply with all appropriate governmental requirements with regard to public environmental and health concerns during the construction and post-construction phases. Since one house is being replaced, the incremental intensification amounts to only one single-family residence. The burden will be on the homeowner to insure fire protection, refuse collection and maintenance of the septic tanks. Public facilities and resources will not be measurably impacted. Appropriate mitigation measures, which have been identified in this environmental assessment, will be incorporated to minimize potential adverse effects upon the public's health, safety and welfare.

C. GENERAL PLAN OF THE COUNTY OF MAUI

The General Plan of the County of Maui (1991 updated) provides long-term goals, objectives, and policies directed toward the betterment of living conditions in the county. The plan addresses social, environmental, and economic issues that influence future growth in Maui County. The Schatz property's use is consistent with the following General Plan objectives and policies:

Objective: To use the land within the county for the social and economic benefit of all the county's residents.

Policies: Mitigate environmental conflicts and enhance scenic amenities without having a negative impact on natural resources.

Objective: To preserve and protect the county's unique and fragile environmental resources.

Policies: Preserve for present and future generations the opportunity to experience the natural beauty of the islands. Discourage the introduction of noxious foreign species into Maui County's unique island ecosystem.

Objective: To provide a choice of attractive, sanitary and affordable homes for all our residents.

Policies: Encourage the construction of housing in a variety of price ranges and geographic locations.

Objective: To see that all developments are well designed and are in harmony with their surroundings.

Policies: Require that appropriate principles of urban design be observed in the planning of all new developments.

Objective: To provide an economic climate which will encourage controlled expansion and diversification of the county's economic base.

Policies: Maintain a diversified economic environment compatible with acceptable and consistent employment.

D. KIHEI-MAKENA COMMUNITY PLAN

Nine community plan regions have been established in Maui County. Each region's growth and development is guided by a community plan, which contains objectives and policies that are in accord with the Maui County General Plan. The community plan outlines a relatively detailed agenda for carrying out these objectives. However, it is important to note that for lands within the Conservation District, exclusive control is maintained by the State through the Department and Board of Land and Natural Resources.

The Schatz property is located within the Kihei-Makena Community Plan adopted in April 1998. The property is designated as *Park* as is most of the entire shoreline from Puu Olai to Keoneoio and beyond, despite the Conservation District classification and despite the presence of a number of private properties and existing residential structures (see Figure No.11). A number of allowable uses under this designation would conflict with the State's Conservation District rules and the governing policies of the abutting NAR.

The property use is consistent with the following community plan goals, objectives and policies:

Goal: An attractive, well-planned community with a mixture of compatible land uses in appropriate areas to accommodate the future needs of the residents and visitors in a manner that provides for the stable social and economic well-being of residents and preservation and enhancement of the region's open spaces and natural environmental resources.

Objectives and Policies:

- Protect and enhance the quality of the marine environment.
- Preserve the current State Conservation District and the current State Agriculture District boundaries in the planning region, in accordance with this Community Plan and its land use map.

Goal: A clean and attractive physical, natural and marine environment in which man-made developments on or alterations to the natural and marine environment are based on sound environmental and ecological practices, and important scenic and open space resources are preserved and protected for public uses and enjoyment.

Objectives and Policies:

- Protect all waters and wetland resources. Such resources provide open space and habitat for plant and animal life in the aquatic environment. They are also important for flood control and natural landscape.
- Protect the quality of nearshore and offshore waters. Monitor outfall systems, streams and drainage ways and maintain water quality standards. Continue to investigate, and implement appropriate measures to mitigate excessive growth and proliferation of algae in nearshore and offshore waters.
- Emphasize land management techniques such as natural landscaping, regular maintenance of streams and drainage ways and siltation basins, avoidance of development in flood-prone areas, and other measures that maintain streamwater quality. Wherever feasible, such management techniques should be used instead of structural solutions such as building artificial stream channels or diversion of existing natural streams.
- Encourage soil erosion prevention measures and the installation of siltation basins to minimize downstream sedimentation and degradation of nearshore and offshore water quality.
- Promote public/private initiatives in the maintenance, and, where appropriate, landscaping of drainage ways.
- Protect the shoreline and beaches by preserving waterfront land as open space wherever possible. This protection shall be based on a study and analysis of the rate of shoreline erosion plus a coastal hazard buffer zone. Where new major waterfront structures or developments are to be approved, preservation should be assured for 50 to 100 years by employing a shoreline setback based on the rate established by the appropriate study.
- Promote drainage and stormwater management practices that prevent flooding and protect coastal water quality.

Goal: To preserve, protect and restore those cultural resources and sites that best represent and exemplify the region's pre-contact, Hawaiian monarchy, missionary and plantation history.

Objective and Policies:

- Preserve and protect significant archaeological, historical and cultural resources that are unique in the State of Hawaii and the island of Maui.
- Foster an awareness of the diversity and importance of cultural resources and of the history of La Perouse.

- Ensure that new projects or developments address potential impacts on archaeological, historical, and cultural resources and identify all cultural resources located within the project area as part of initial project studies. Further require that all proposed activity adequately mitigate potential adverse impact on cultural resources.

E. COASTAL ZONE MANAGEMENT ACT

The Schatz property is located within the Special Management Area (SMA) of the County of Maui. Pursuant to HRS 205A and the SMA Rules for the Maui Planning Commission 12-202-12f, development does not include "a single-family residence that is not part of a larger development" and, as such, the proposed residences are exempt from the SMA rules.

However, the project must comply with shoreline setback requirements. For the larger parcel, the shoreline setback line is established at approximately 130 feet, pursuant to the Shoreline Area Rules of the Maui Planning Commission, §12-5-6. The proposed residence is situated mauka of the shoreline setback line and does not require a shoreline setback variance. The parcel on which the new guest cottage is sited does not abut the shoreline. It is the site of the current tennis court, a rocky area not subject to erosion.

The SMA rules allow for the establishment of landscaping, irrigation, minor structures, and paved walkways for public access within the shoreline setback area without a shoreline setback variance. These features require administrative review by the Maui County Planning Department in order to insure that they meet the appropriate definitions for these exempt features.

In summary, although no SMA permit or shoreline setback variance will be required for the project, the project has nevertheless been planned and designed to address the objectives and policies of the State's CZMA.

The primary objective and policies of the CZMA (HRS §205A-2) which are supportive of the project are as follows:

- To protect, preserve and, where desirable, restore those natural and manmade historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture

The property has been completely surveyed for archaeological and historical sites. All identified sites will be preserved in place.

- To ensure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of the natural landforms and existing public views to and along the shoreline

As previously discussed, special care has been taken to minimize site grading and to nestle the homes as inconspicuously as possible into the natural landscape. The project will not be visible from the public roadway.

- To ensure that construction activities will minimize disruption and degradation of coastal water ecosystems.

The construction activities will be closely monitored to prevent runoff. There will be no stream diversions, channelization or similar land and water uses. There will be no point pollution, and non-point pollution will be controlled by xeriscape landscaping, minimal irrigation and fertilizer use. These planning and management practices will help preserve the marine ecosystems and prohibit land water uses which violate State water quality standards.

- To prohibit construction of private erosion-protection structures seaward of the shoreline.

The new structures are set back inland from the shoreline to conserve open space and to minimize loss of improvements due to erosion. The proposed development plan will *remove* near shore structures, and relocate the main house at a distance and elevation back from the shorelines so as to preclude the need for future sea walls or shoreline armoring. The guest cottage is on the site of the current tennis court, a rocky area not subject to erosion.

F. ENVIRONMENTAL ASSESSMENT SIGNIFICANCE CRITERIA

In accordance with Title 11, Department of Health, Chapter 200 and Subchapter 6, Section 11-200-12, Environmental Impact Statement Rules, and based on the detailed analyses contained within this document, the following conclusions are supported:

- The proposed action will *not* result in an irrevocable commitment to loss or destruction of natural or cultural resources based primarily on the proposed use being a continuation of long established residential use of the property and project site planning,

design and incorporation of mitigation measures which minimizes or avoids impacts to natural or cultural resources.

- The proposed action will *not* curtail the range of beneficial uses of the environment based primarily on the proposed use being a continuation of long established residential use of the property .
- The proposed action will *not* conflict with State or County long-term environmental policies and goals as expressed in Chapter 344, HRS, and those which are more specifically outlined in the Conservation District Rules.
- The proposed action will *not* substantially affect the economic or social welfare and activities of the community, county or state due primarily to the minimal scope of the proposed project which will result in the net increase of one single family dwelling.
- The proposed action will *not* substantially affect public health with the incorporation of identified mitigation measures for treating and disposing of liquid and solid waste.
- The proposed action will *not* result in substantial secondary impacts associated with population increases or changes and increased effects on public infrastructure and services due primarily to the minimal scope of the proposed project which will result in the net increase of one single family dwelling as well as the lack of public services in the area.
- The proposed action will not involve substantial degradation of environmental quality based on the proposed project design and siting as well as through the incorporation of mitigation measures which will minimize or avoid negative impacts to the environment.
- The proposed action will *not* result in cumulative effects or a commitment to larger actions since the project is a self contained and not part of a larger project. In addition, with regards to potential cumulative impacts on land development patterns we note that the potential for this project to be used as a precedent for additional coastal development requests on lands which abut the Schatz estate, is minimized by the fact that these adjacent lands are owned by the State and are afforded higher protective status via their subzone designations and NAR status.
- The proposed action will *not* affect rare, threatened or endangered plants or animal species or wildlife habitats due to the lack of such species or habitats on-site and the

based on the incorporation of sensitive design and site planning principles and mitigation measures designed to minimize or eliminate potential impacts to the marine environment and NAR.

- The proposed action will *not* substantially or adversely affect air and water quality or ambient noise levels based on the limited scope of the proposed project and upon the mitigation measures which will be incorporated to minimize impacts to marine waters.
- The proposed action will *not* substantially affect or be subject to damage by being located in an environmentally sensitive area, such as flood plain, shoreline, tsunami zone, erosion-prone areas, estuary, fresh waters, geologically hazardous land or coastal waters. As noted above, mitigation measures and project design will minimize affects on the marine environment and potential damage by tsunami or flooding has been addressed through locating the building sites above base flood elevations and at stable shoreline locations located at safe distances from the shoreline.
- The proposed action will *not* substantially affect scenic vistas or view planes based on existing and proposed vegetation which minimize or eliminates the project visual impacts from public areas.
- The proposed action will not require substantial energy consumption since the net addition of one single-family residence does not engender a significant increase in energy consumption over the existing use of the property, especially in relation to existing demand in South Maui or on Maui Island.

IV. FINDINGS AND CONCLUSIONS

The applicant proposes to remove an existing residence and tennis court and build two new dwellings on separate parcels, a swimming pool and related landscaping improvements. The proposed use represents the continuation of the existing residential use of the site. After a thorough review, the potential impacts are focused on three areas: the impact on archaeological sites; the impact on coastal water quality; and the impact, especially visual, on the NAR.

As demonstrated in this environmental assessment, the proposed single-family dwellings have been designed to minimize potential adverse impacts to the area's natural resources. The project has incorporated appropriate management principles to promote long-term sustainability and health, safety and welfare, as follows:

- The landscape planting plan is designed to be compatible with the surrounding environs, and seeks to enhance and preserve native coastal plant species.
- The use of plants which are well adapted to this windy coastal environment will lessen the need for fertilizers and intensive irrigation. The project has been designed to be compatible with the existing topography and will result in minimal alterations of terrain.

The proposed project will involve some minor earthwork and construction activities. In the short term, these activities may generate the minor nuisances normally associated with construction activities. Impacts generated from construction activities are not considered adverse with the incorporation of the specific mitigation measures outlined in this report.

Over the long term, the proposed project will not result in significant adverse environmental impacts. Protective measures will be taken for management of soil erosion and stormwater runoff, and the proposed landscape plan will mitigate the impact to nearshore waters. The project will have minimal impact upon scenic views from the highway and the abutting NAR. The project site is located in Zone C, an area of minimal flooding outside of the V Zone which runs along the shoreline area of the parcels. The project will have no significant negative impact upon archaeological or historic cultural resources.

The project will not have an impact on employment opportunities, nor will it have an impact upon local population levels. Public service needs such as police,

medical facilities and schools will not be adversely impacted by the project. Impacts upon roadways, water, wastewater, drainage, and other infrastructure systems are not considered significant.

The project conforms to State Use Laws and Conservation District rules and regulations. It is consistent with the objectives and policies of the General Plan of the County of Maui and the Kihei-Makena Community Plan, as well as the primary policies of the CZMA.

Therefore, based on the information and analyses contained in this report, a Finding of No Significant Impact (FONSI) is supported.

V. LIST OF AGENCIES AND INDIVIDUALS CONSULTED DURING PREPARATION OF DRAFT ENVIRONMENTAL ASSESSMENT

STATE OF HAWAII

Department of Transportation, Highways Division
Department of Land and Natural Resources, Division of Fish and Wildlife (Aquatic
Resources)
Department of Land and Natural Resources, Division of Land Management

COUNTY OF MAUI

Department of Planning
Department of Public Works and Waste Management, Solid Waste Division

INDIVIDUALS

Marie Olsen
Edward Chang

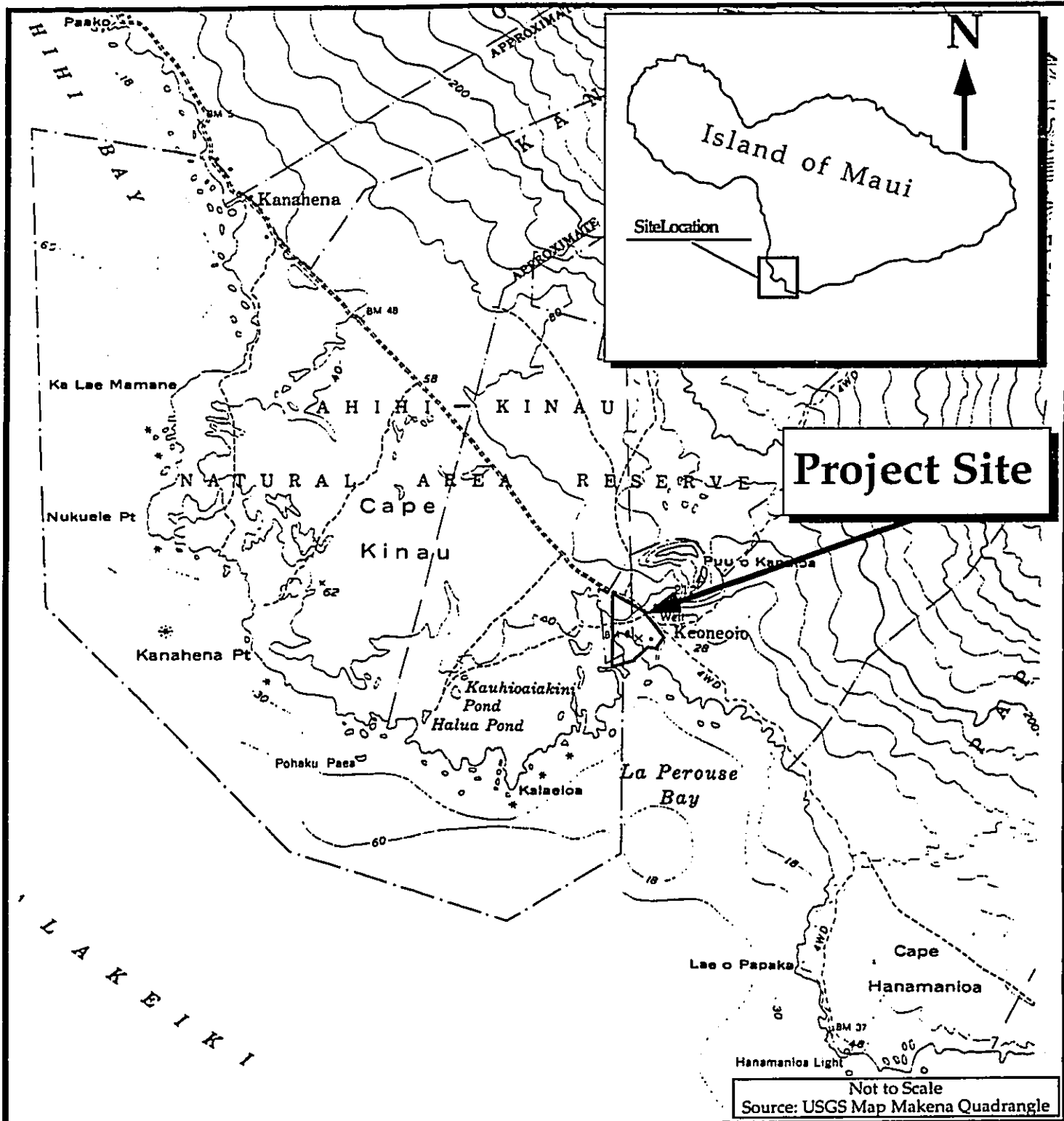
VI. REFERENCES

- Community Resources, Inc. March 1992. *Maui County Community Plan Update Program, Socio-Economic Forecast Report*. Prepared for County of Maui Planning Department. Honolulu, Hawaii.
- County of Maui, Planning Department. 1991. *The General Plan of the County of Maui, 1990 Update*. Wailuku, Hawaii.
- County of Maui. 1998. *Kihei-Makena Community Plan*. Wailuku, Hawaii.
- Federal Emergency Management Agency. *Flood Insurance Rate Map*. Community Panel Map Number 150003 0190D.
- State of Hawaii, Department of Business, Economic Development & Tourism. 1990. *Data Book*.
- State of Hawaii, Department of Land and Natural Resources. 1997. *Sustainability Hotspot: Ahiki-Kinau Natural Area Reserve, Island of Maui*. Honolulu, Hawaii.
- University of Hawaii, Department of Geography. 1983. *Atlas of Hawaii*. Second Edition. Honolulu, Hawaii.
- University of Hawaii, Land Study Bureau. May 1967. *Detailed Land Classification - Island of Maui*. L.S.B. Bulletin No. 7. Honolulu, Hawaii.
- U. S. Bureau of the Census. March 20, 1997. *Estimate of the Population of Counties and Demographic Components of Population Change: Annual Time Series, July 1, 1990 to July 1, 1996*. Bulletin CO-96-8. Washington, D.C.
- U.S. Department of Agriculture, Soil Conservation Service in Cooperation with the University of Hawaii, Agricultural Experiment Station. 1972. *Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii*. Washington, D.C.

West Maui Watershed Management Advisory Committee and Hawaii Department of Health. *Island Stewardship: Guide to Preventing Water Pollution for Maui's Homes and Businesses*. Honolulu, Hawaii.

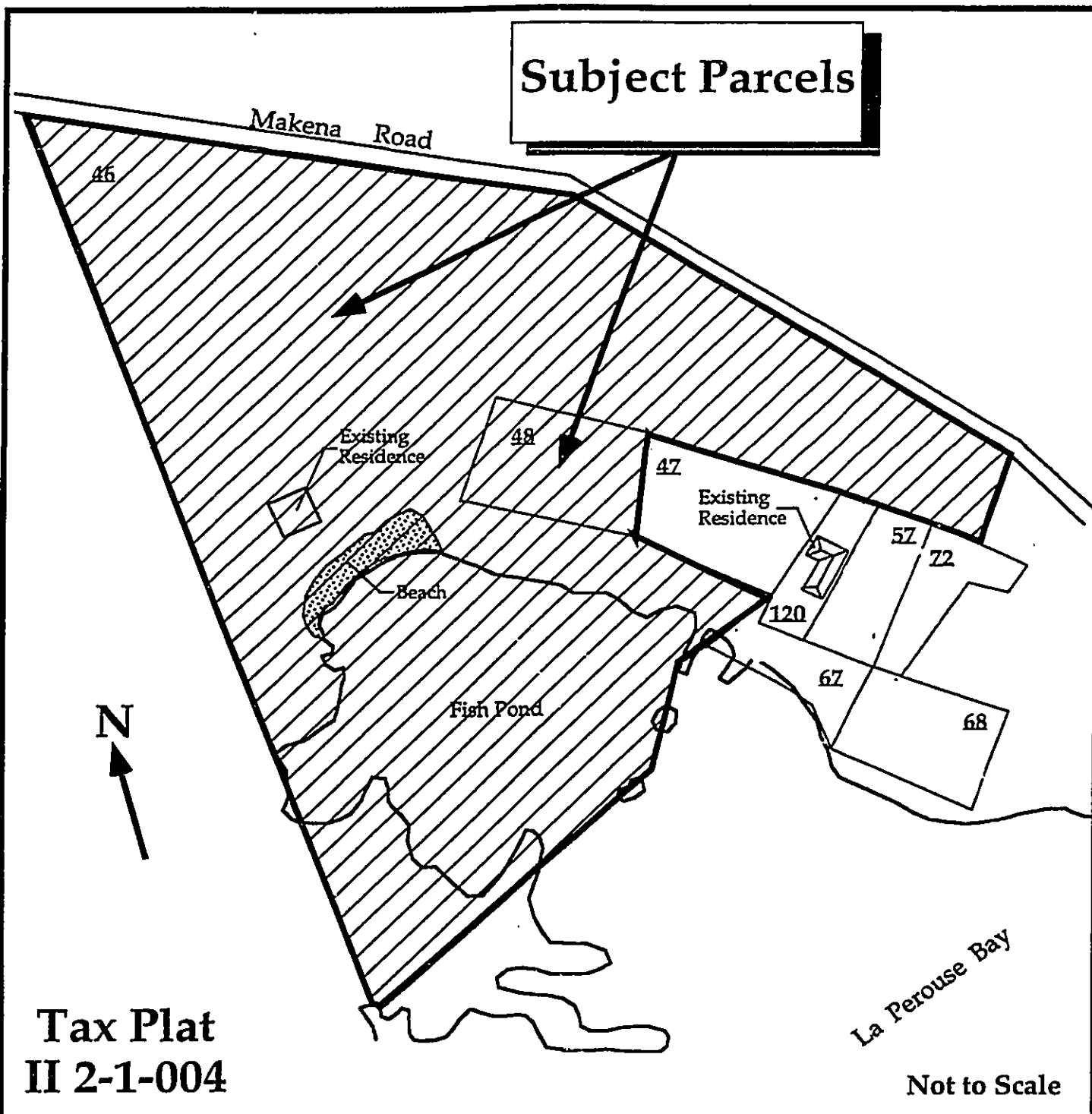


FIGURES & EXHIBITS



**Regional Location Map
 Schatz Residence
 La Perouse, Makena, Maui
 Figure No. 1**





**Tax Key Map
 Schatz's Residence
 La Perouse, Maui, Hawai'i
 Figure No. 2**



GOVERNMENT ROAD

MAKENA KEONEOIO

K A L I H I

T.M.K.: 2-1-04:46

NEW WOOD GATES
8487.86 sq ft

RELOCATED REDWOOD WATER TANKS

NEW DRIVE

SITE 4470

23627.07 sq ft

T.M.K.: 2-1-04:48

SITE 4468

SITE 4472

"G"

"P"

CONSERVATION DISTRICT
SUBZONE BOUNDRY

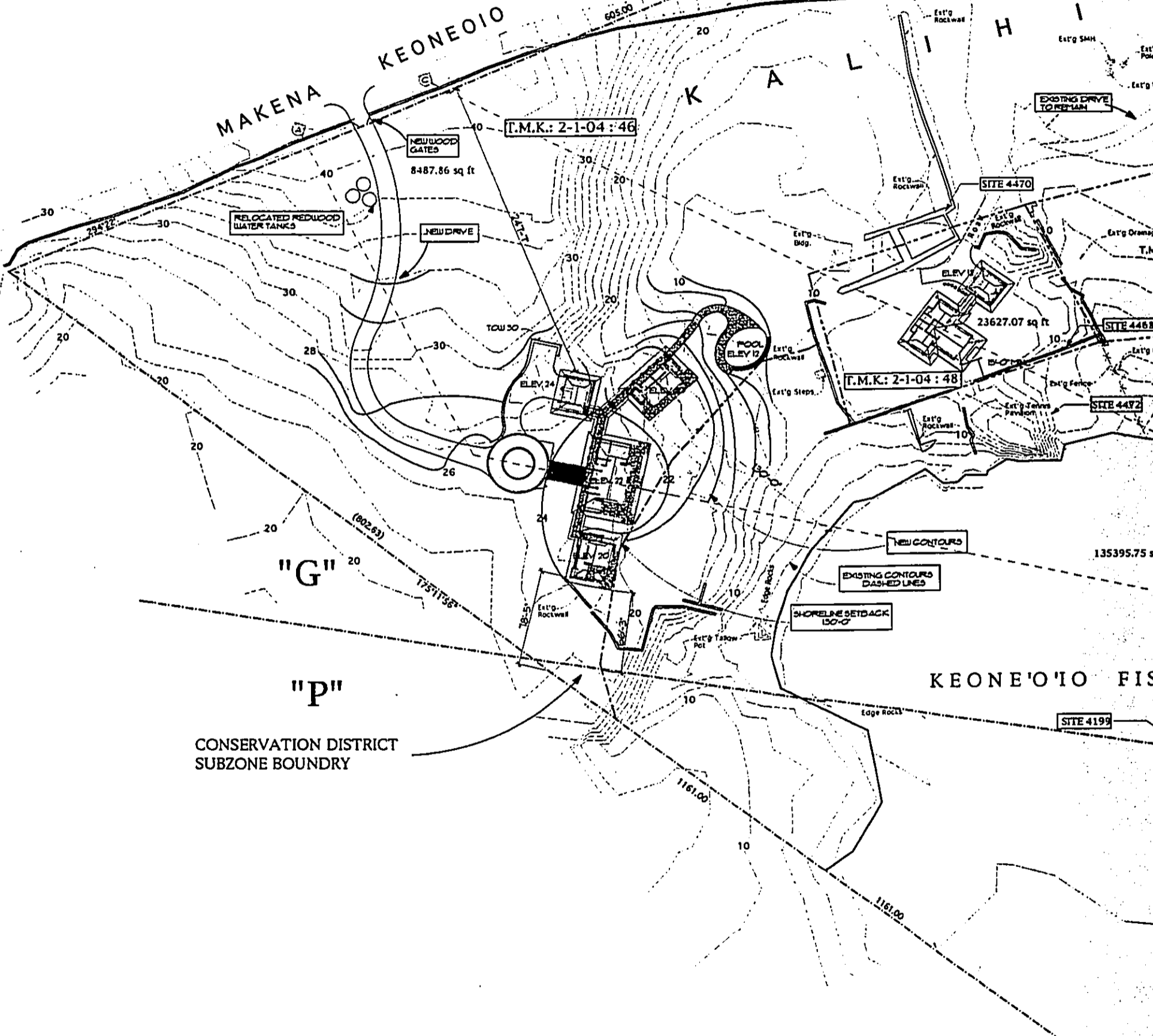
NEW CONTOURS

EXISTING CONTOURS
DASHED LINES

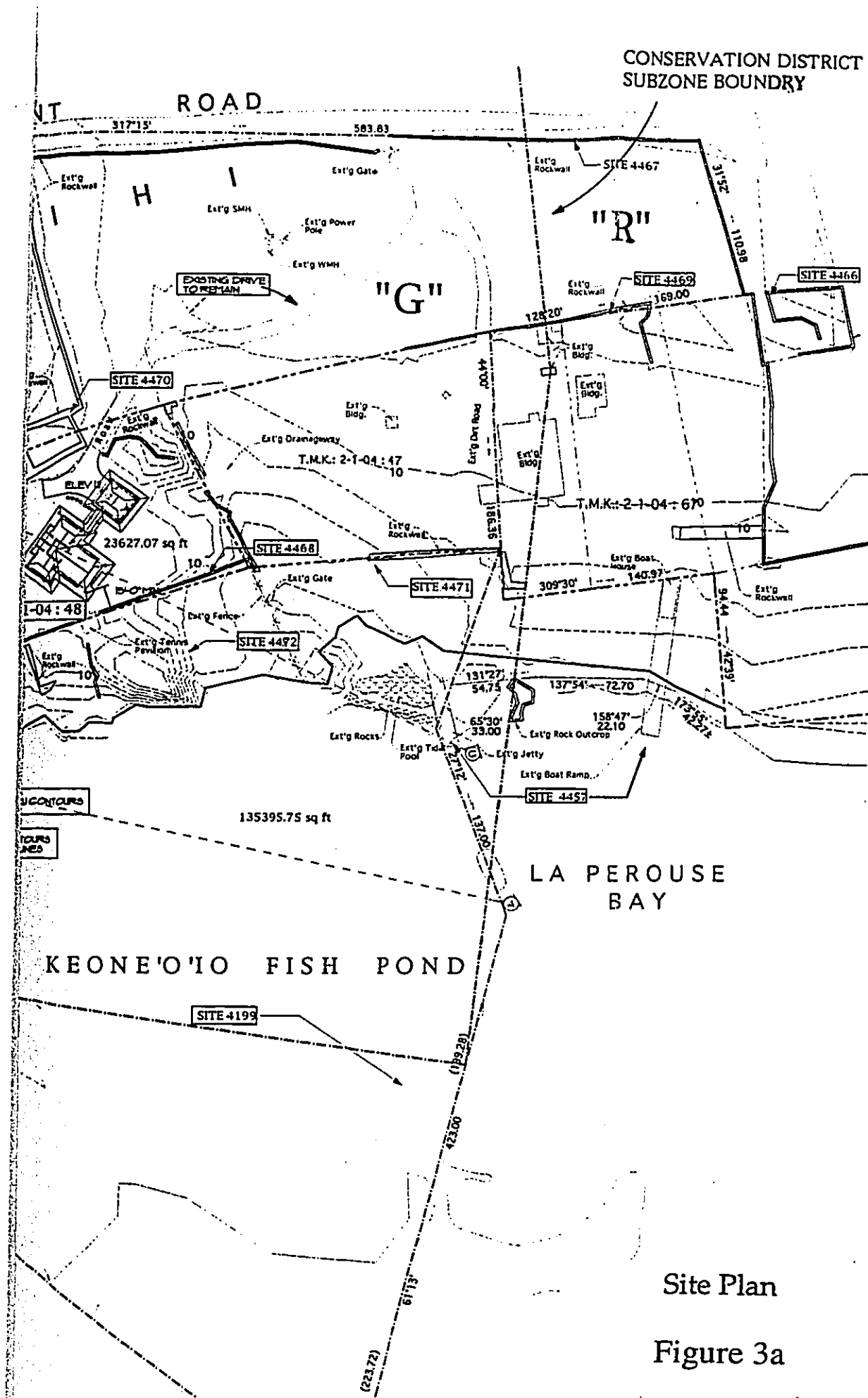
SHORELINE SETBACK
150'-0"

KEONE'O'IO FIS

SITE 4199



CONSERVATION DISTRICT
SUBZONE BOUNDARY



revisions

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MAKENA, MAUI, HAWAII



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date 10-1-98

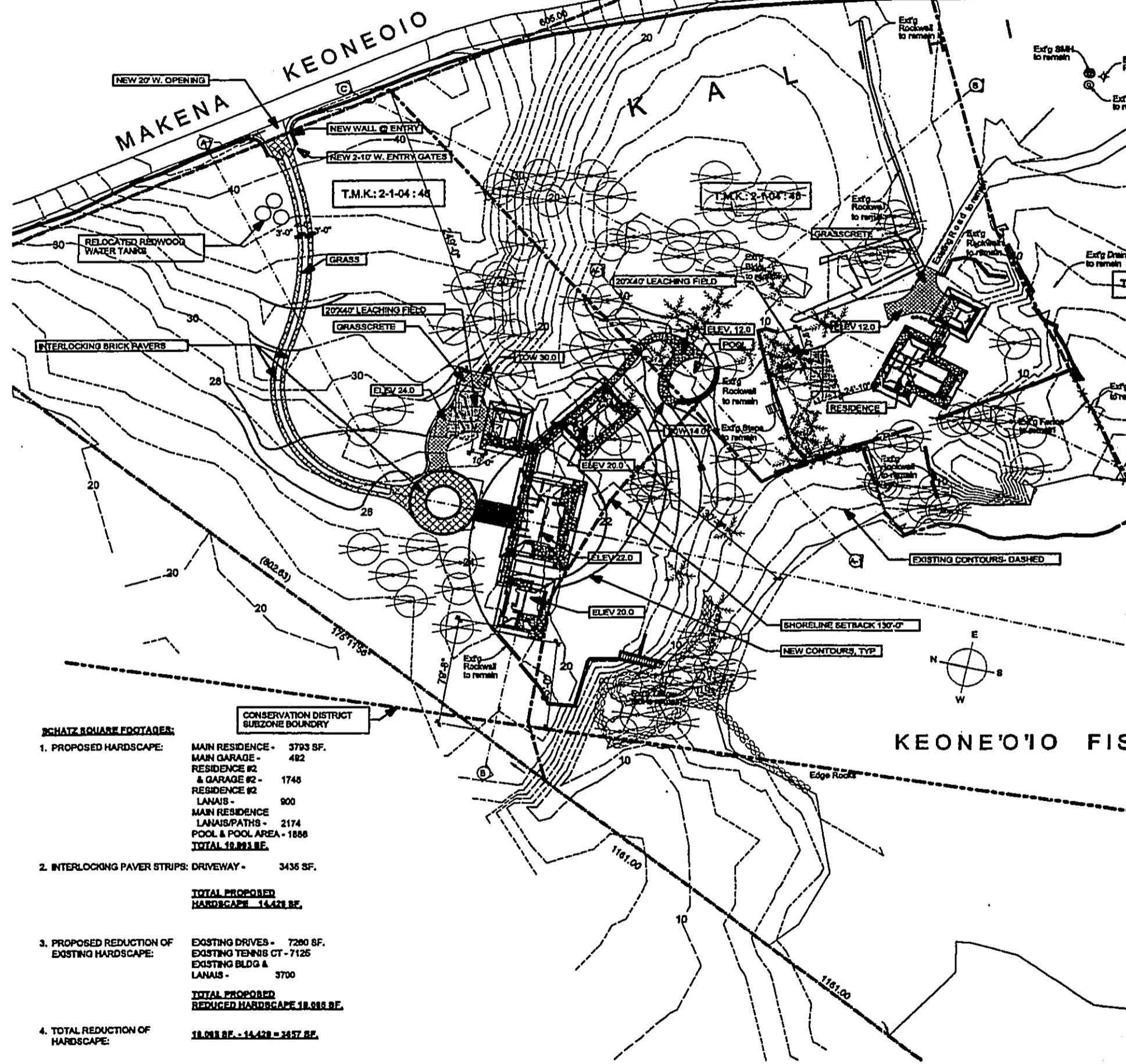
job #

drawn by DSF

sheet #

A8

Site Plan
Figure 3a

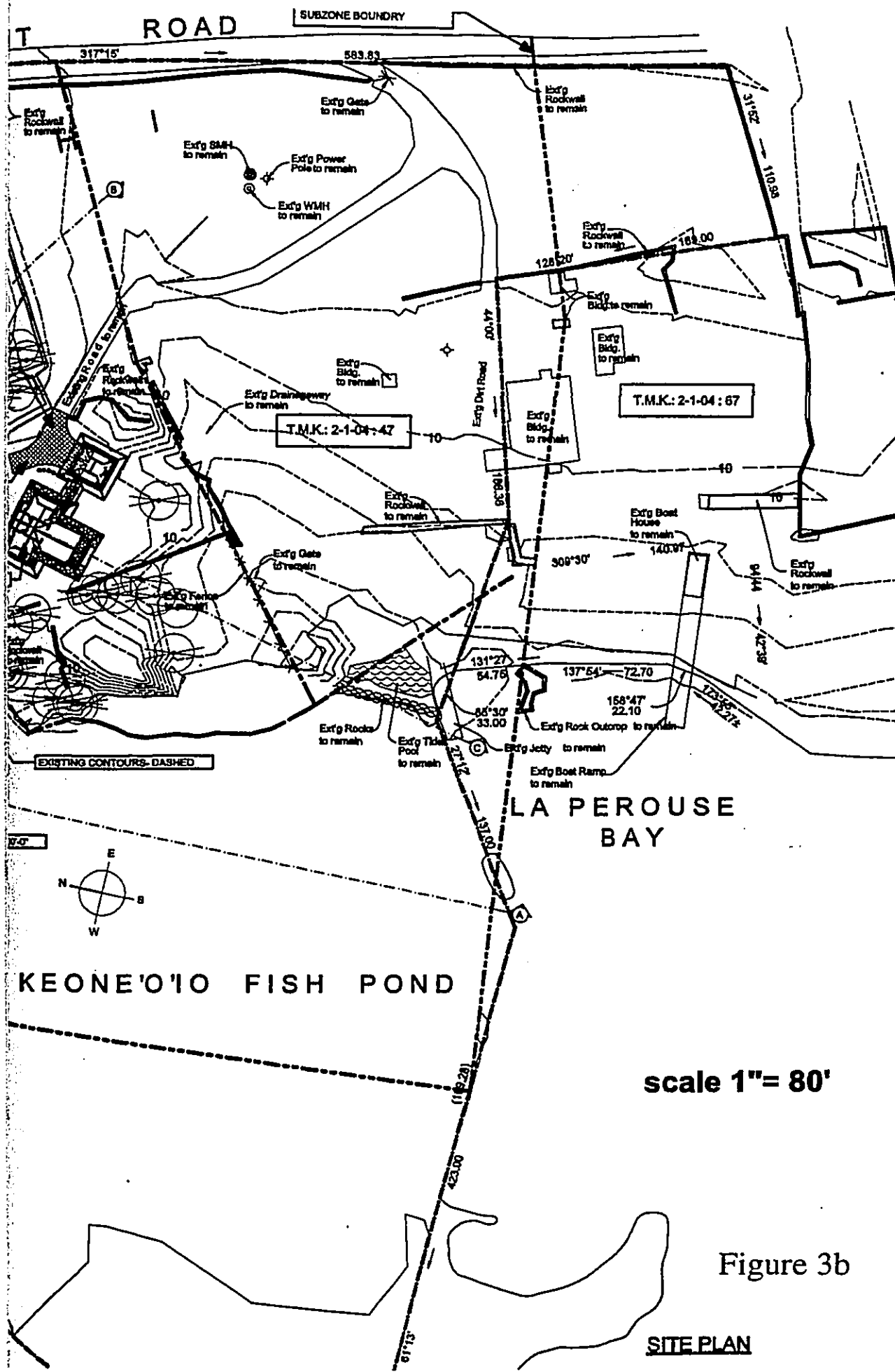


SCHATZ SQUARE FOOTAGES:

1. PROPOSED HARDSCAPE:	MAIN RESIDENCE - 3793 SF. MAIN GARAGE - 482 RESIDENCE #2 & GARAGE #2 - 1745 RESIDENCE #2 LANAIS - 900 MAIN RESIDENCE LANAIS/PATHS - 2174 POOL & POOL AREA - 1888 TOTAL 19,981 SF.
2. INTERLOCKING PAVER STRIPS: DRIVEWAY -	3436 SF.
TOTAL PROPOSED HARDSCAPE 14,421 SF.	
3. PROPOSED REDUCTION OF EXISTING HARDSCAPE:	EXISTING DRIVES - 7280 SF. EXISTING TENNIS CT - 7125 EXISTING BLDG & LANAIS - 3700 TOTAL PROPOSED REDUCED HARDSCAPE 18,085 SF.
4. TOTAL REDUCTION OF HARDSCAPE:	18,085 SF. - 14,421 = 3,664 SF.

CONSERVATION DISTRICT SUBZONE BOUNDARY

KEONE'O'IO FIS



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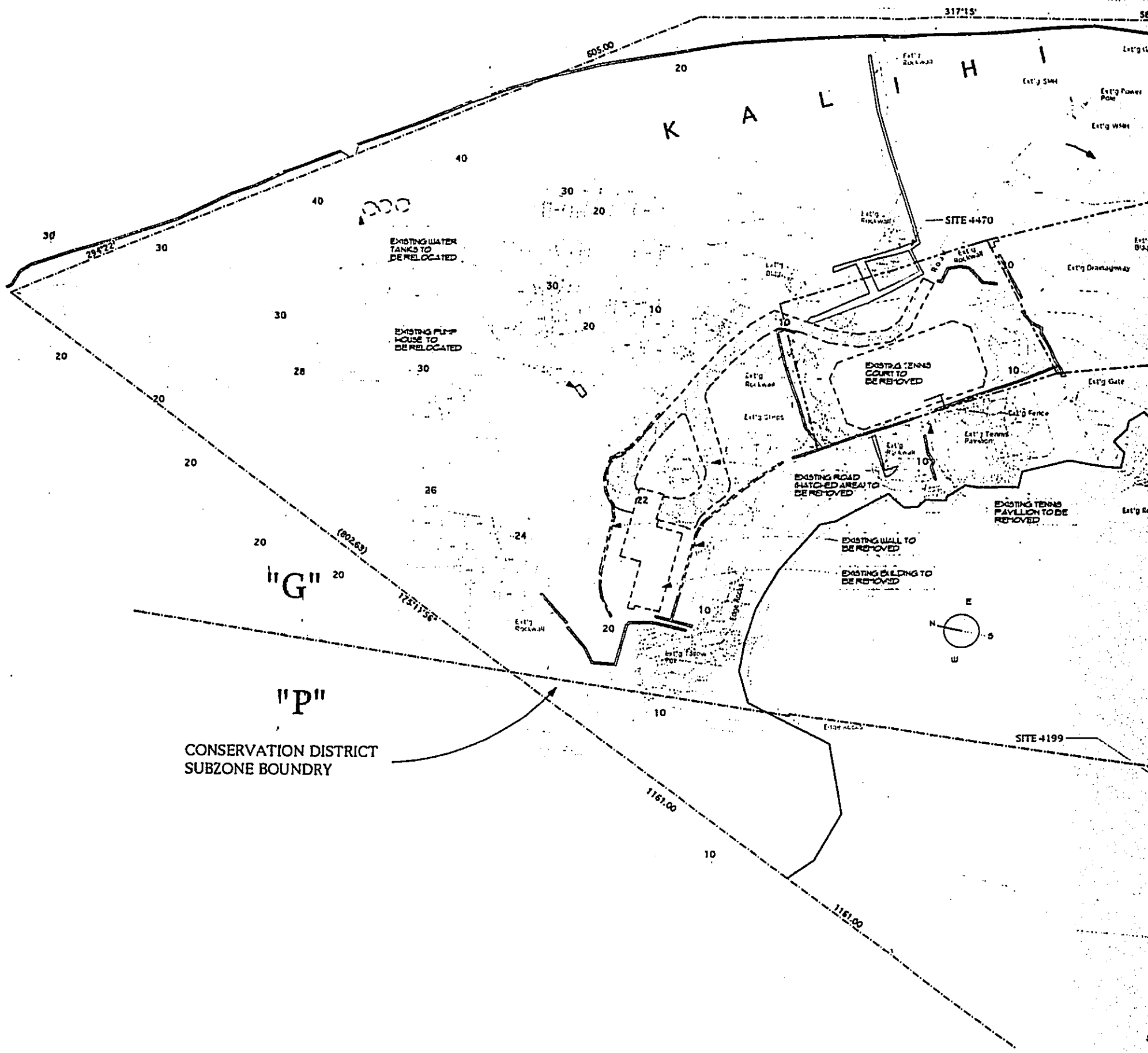
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job #
drawn by DSF
sheet #

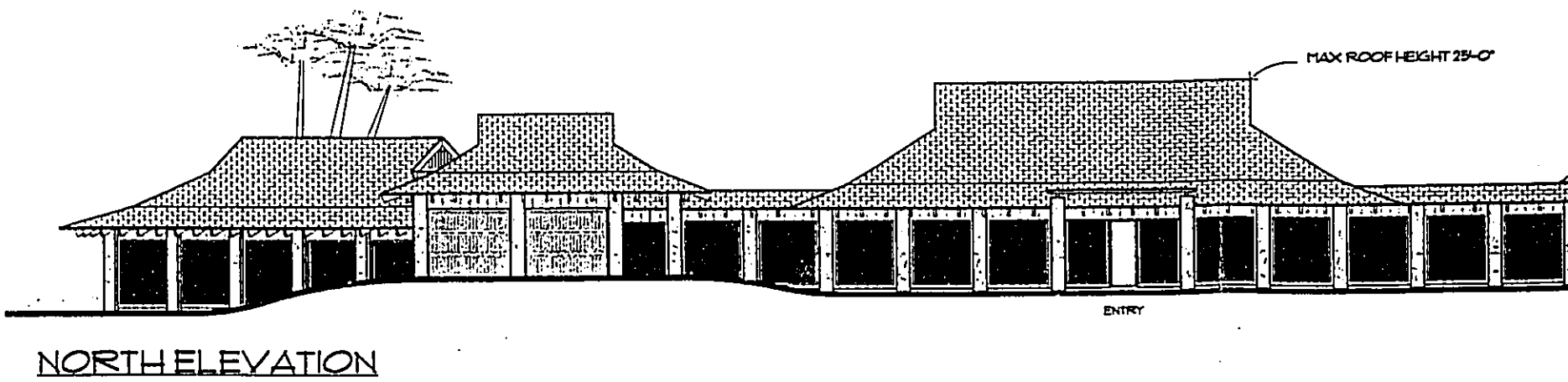
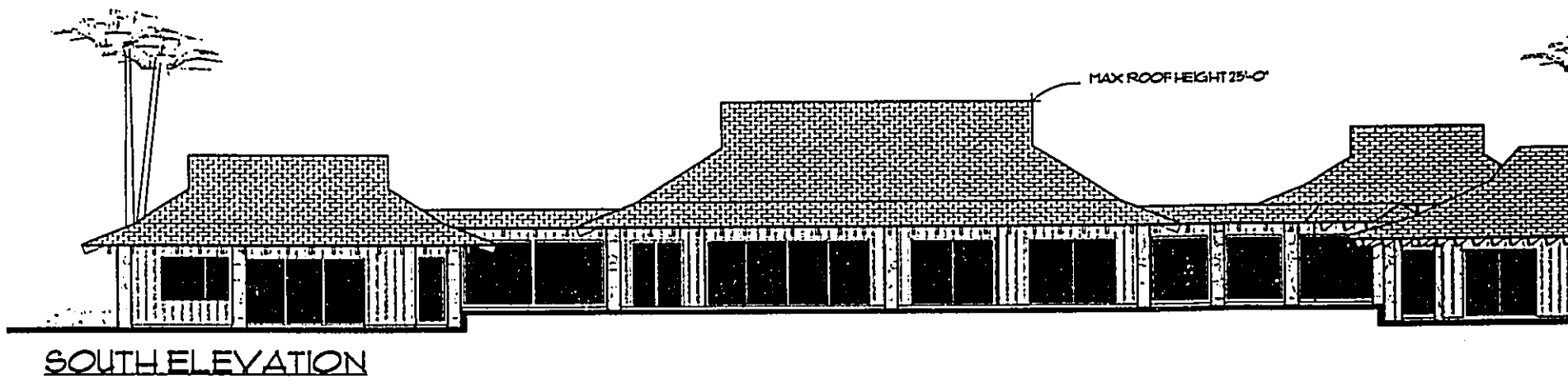
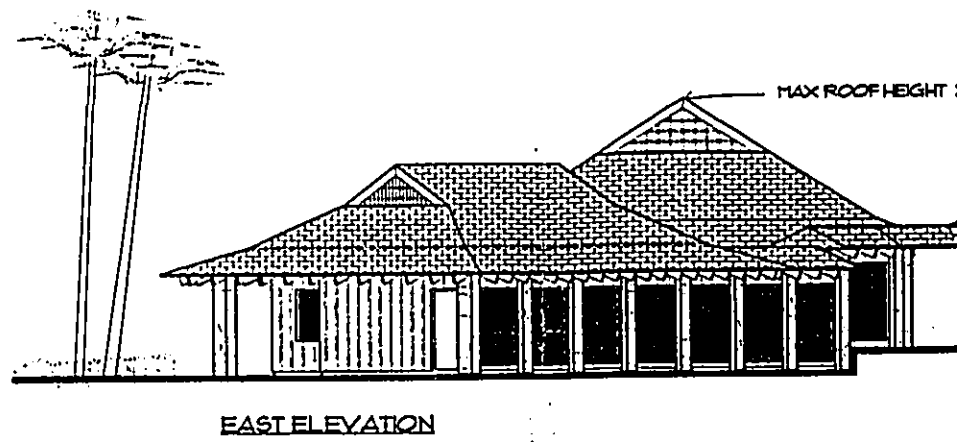
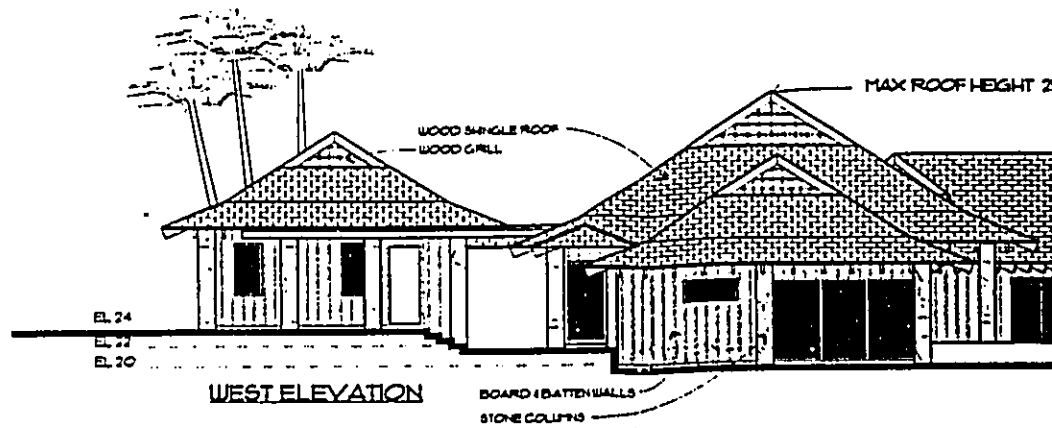
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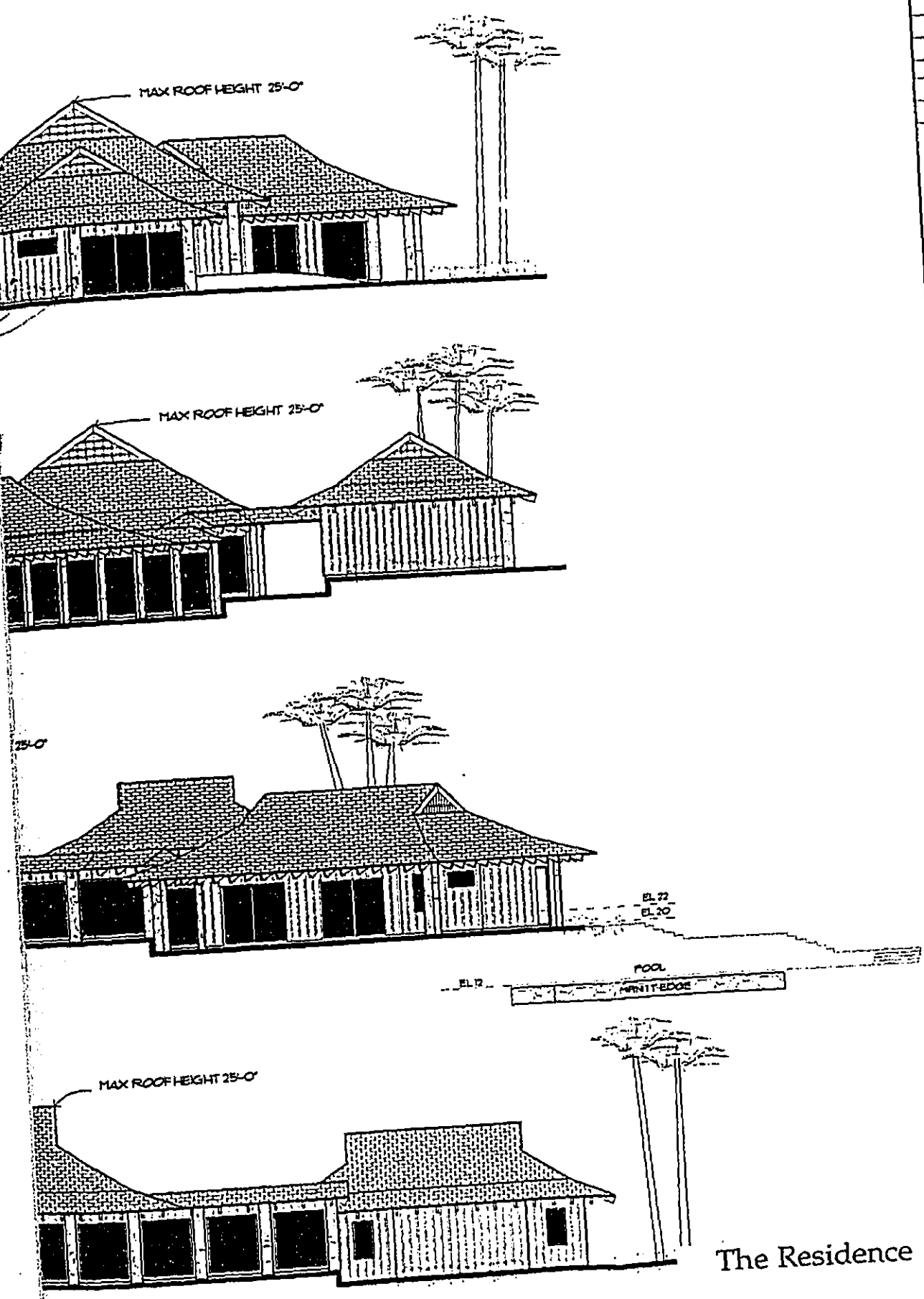
scale 1" = 80'

Figure 3b

SITE PLAN







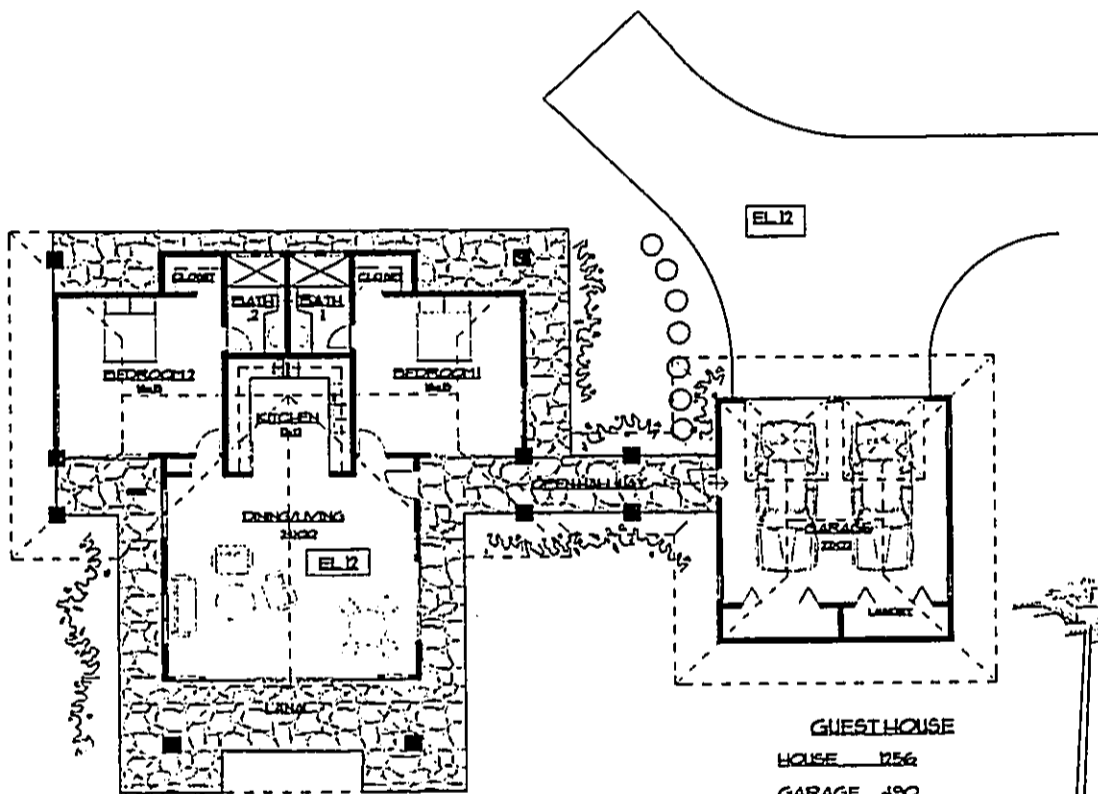
The Residence
Figure No. 5A

revisions

SCHATZ RESIDENCE
MAKENA, MAUI, HAWAII

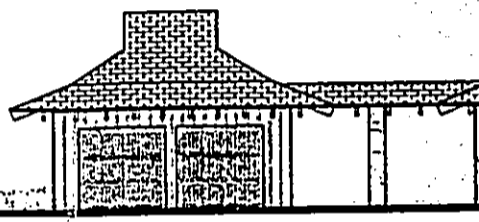
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KIHU, HAWAII 96753
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scale 1/8" = 1'-0"
date 9-1-98
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A5

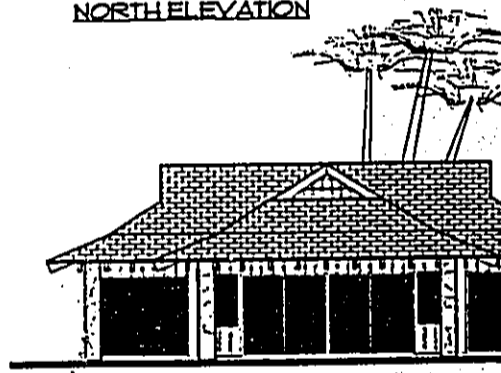


GUEST HOUSE	
HOUSE	1256
GARAGE	490
<hr/>	
TOTAL	1746 SF.

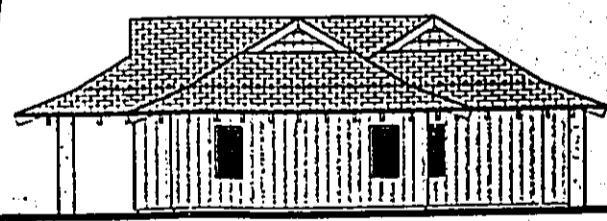
GUEST HOUSE FLOOR PLAN



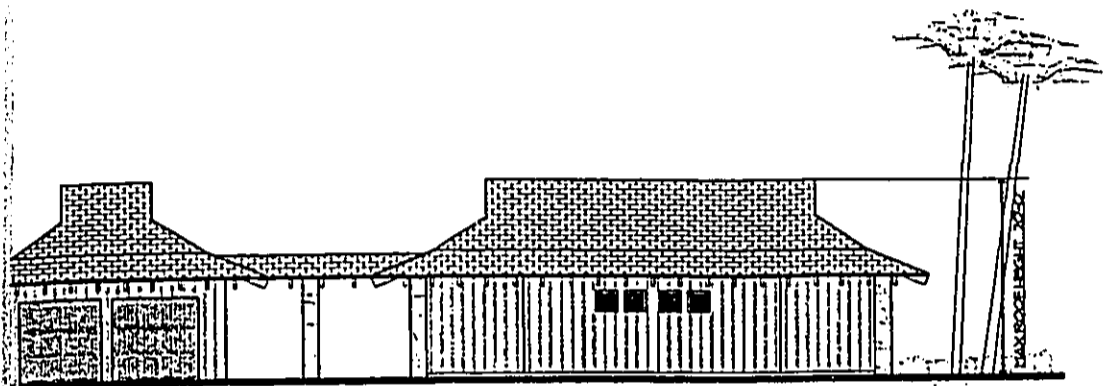
NORTH ELEVATION



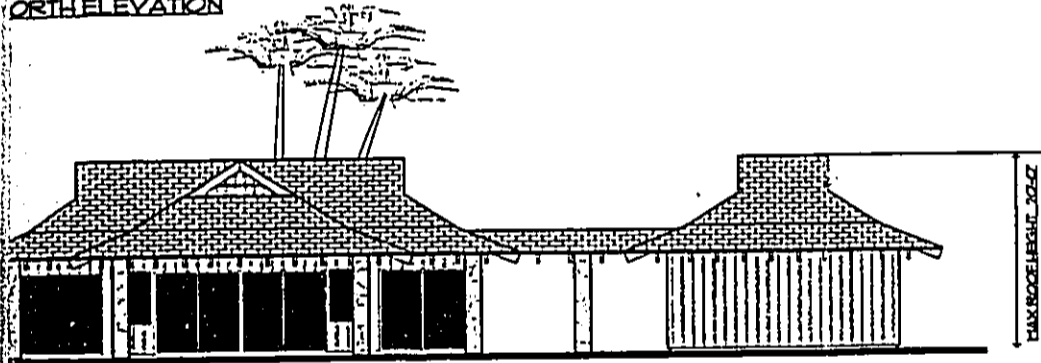
SOUTH ELEVATION



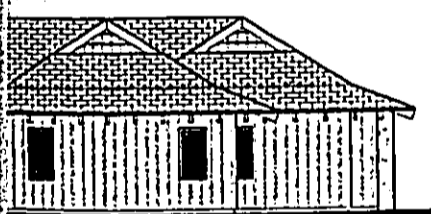
EAST ELEVATION



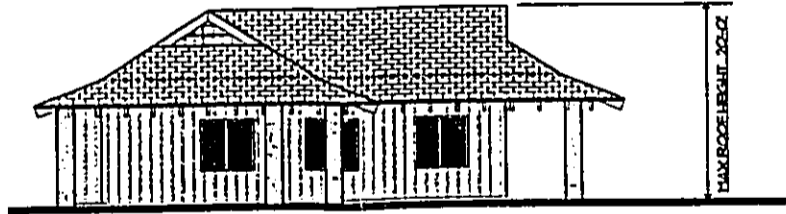
NORTH ELEVATION



SOUTH ELEVATION



EAST ELEVATION



WEST ELEVATION

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drawn by DSF
sheet #

A4

Figure No. 5B

GOVERNMENT ROAD

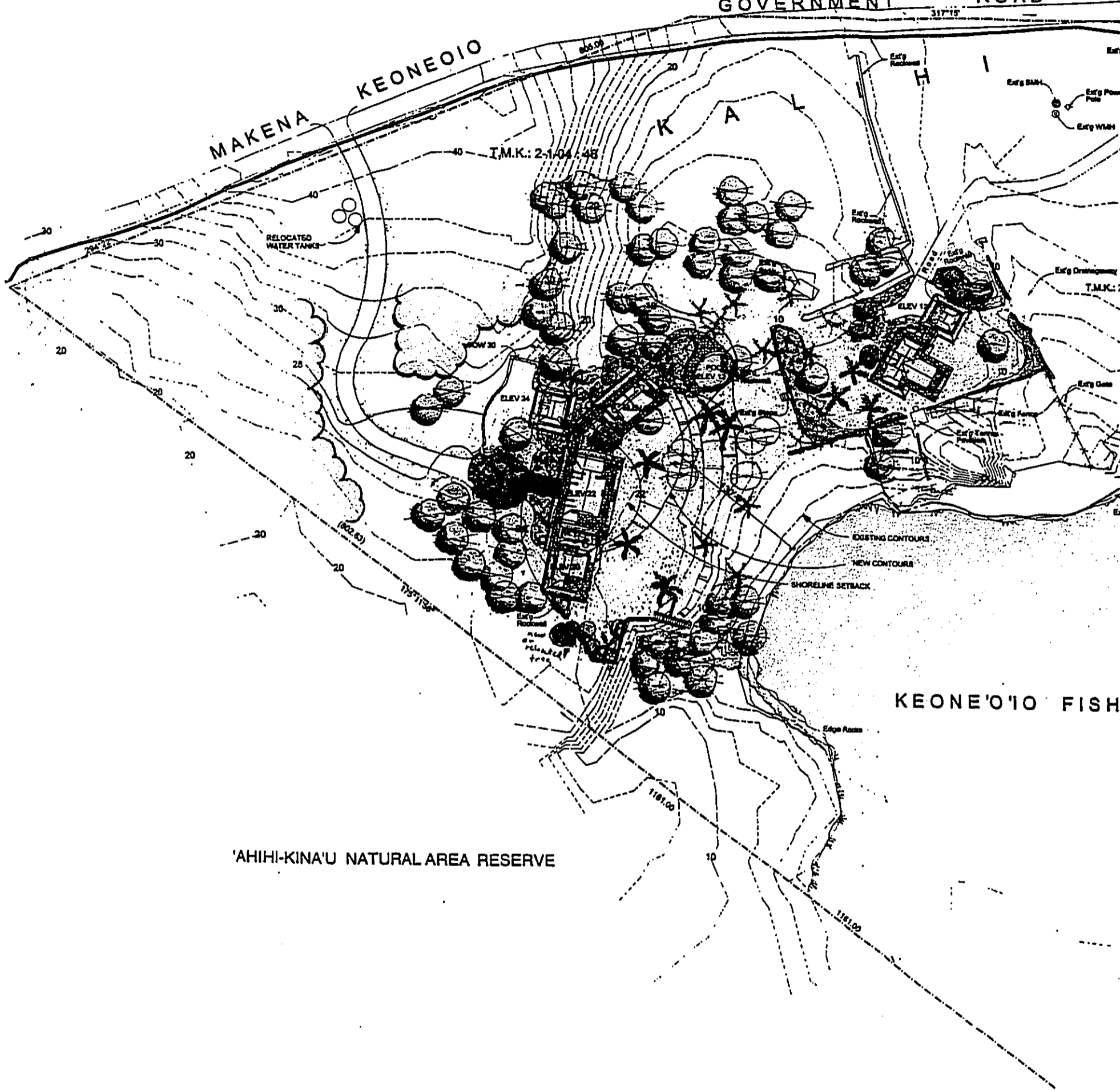
MAKENA KEONEOIO

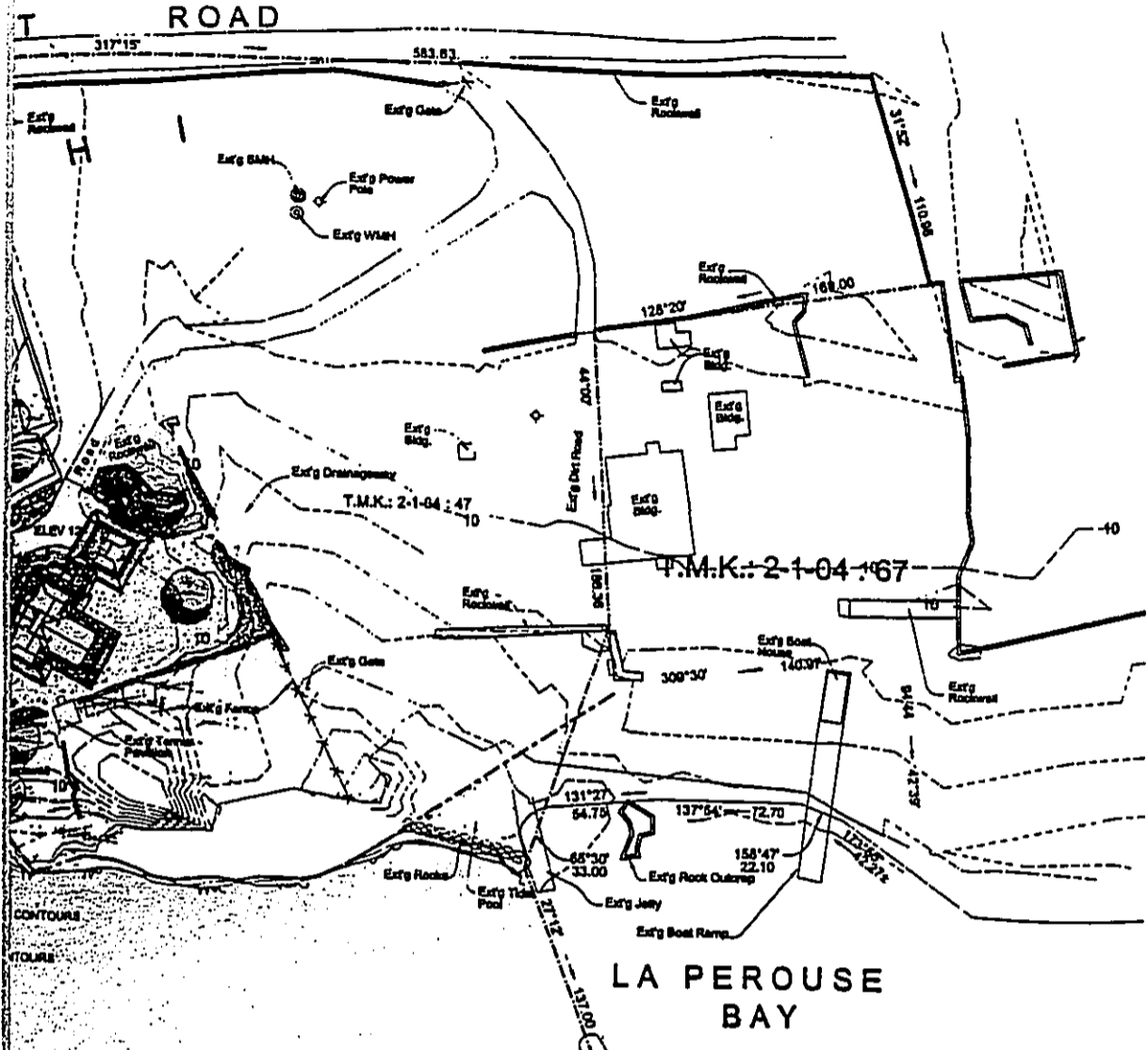
T.M.K.: 2-1-04-48

RELOCATED WATER TANKS

KEONE'O'IO FISH

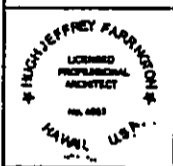
'AHIHI-KINA'U NATURAL AREA RESERVE





revisions

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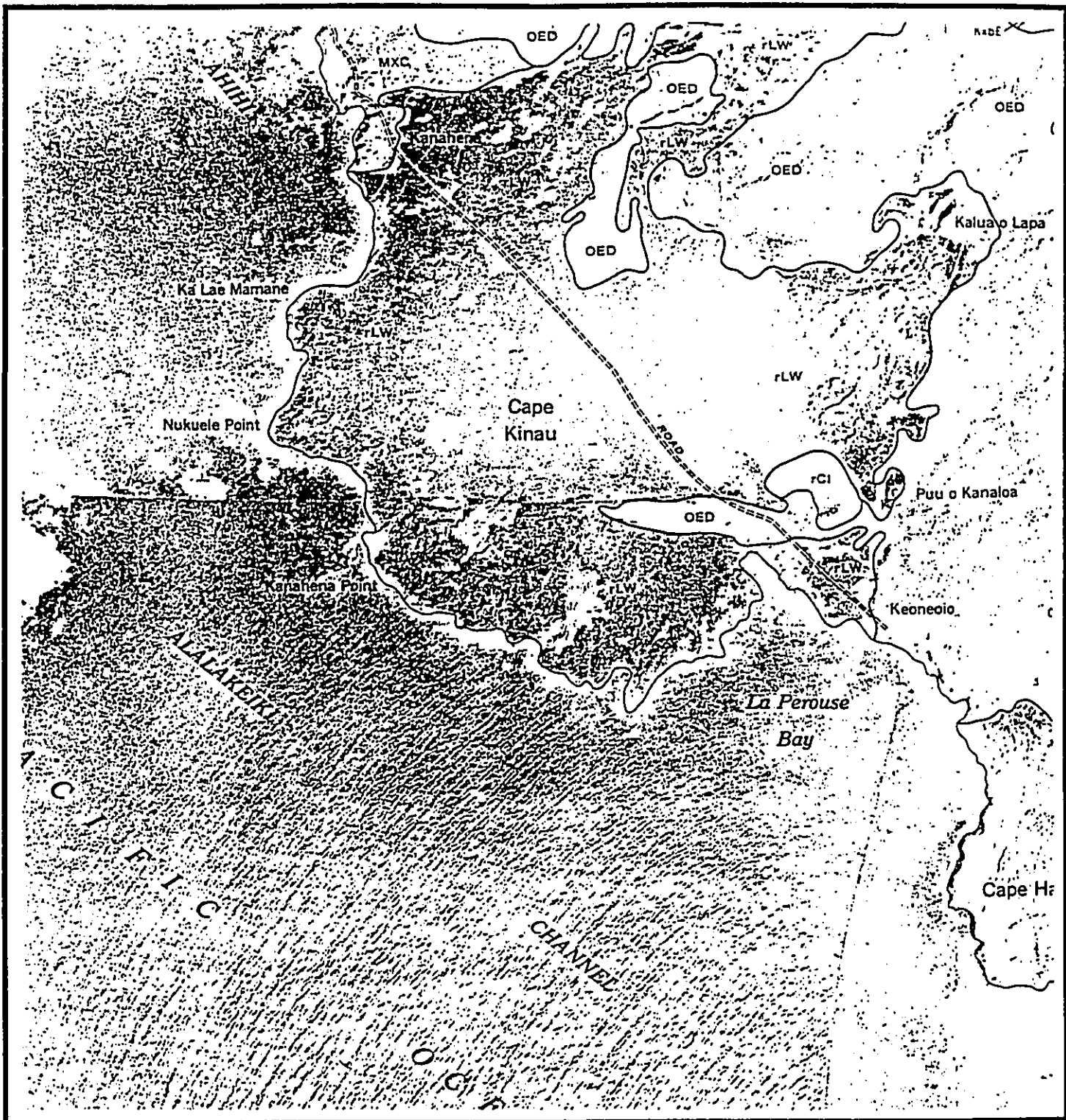
HUGH FARINGTON
A.L.A.
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MOHELE, HAWAII 96763
(808) 879-3245

scale 1" = 40'
date 9-11-98
job #
drawn by DSF
sheet #



- PLANT LEGEND**
- Existing Trees
 - Existing Coconut Palms to remain
 - Existing Kiawe Trees to remain
 - Existing Kiawe Trees to be removed
 - New Plant Material
 - Tree Coconut Palm
 - Monkey Pod (1)
 - Beach Heliotrope
 - Milo
 - Hala
 - Shrubs
 - Ai'a
 - Ai'ahe's
 - Eniana
 - Natal Plum
 - Naupaka
 - Ground Cover
 - Bermuda Grass/Lawn
 - Ilima Papa
 - Pa'uohi'iaka
 - Beach Vitex
 - Beach Morning Glory
- Note:
All new landscape to be watered with automatic irrigation system

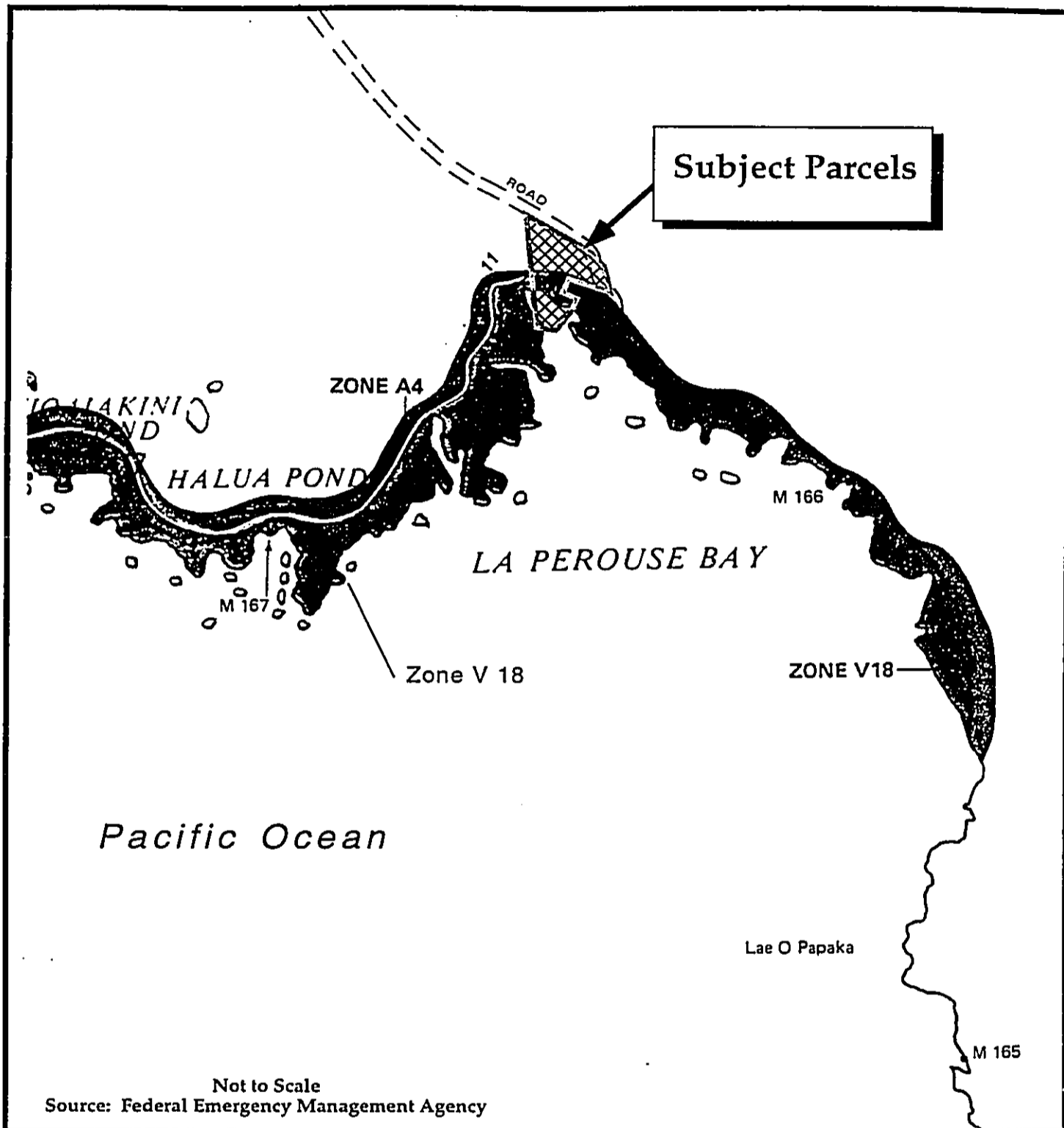
Figure No. 6
LANDSCAPE PLAN
1"=40'-0"



Not to Scale
Source: US Department of Agricultural

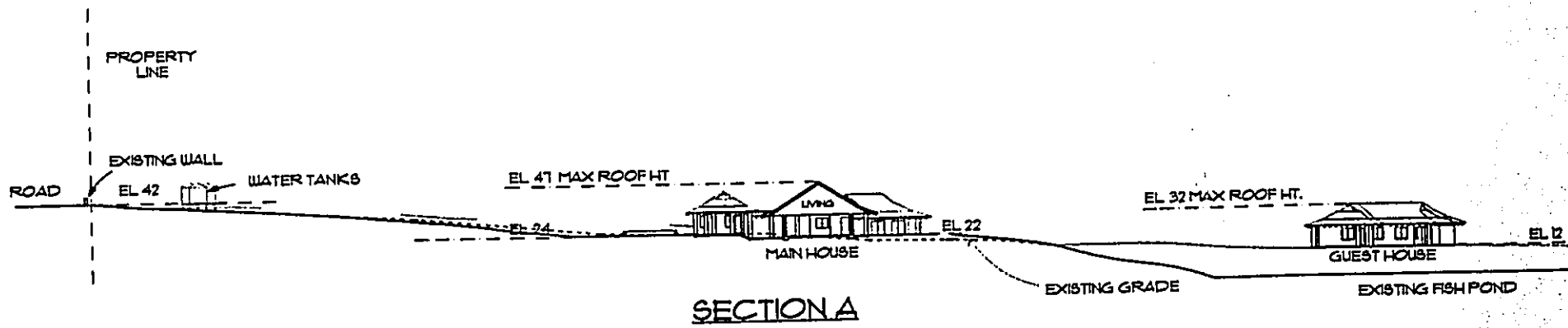
Soil Classification Map
Schatz's Residence
La Perouse, Maui, Hawai'i
Figure No. 7





Flood Insurance Rate Map
Schatz's Residence
La Perouse, Maui, Hawai'i
Figure No. 8





X ROOF HT.



GUEST HOUSE

EL. 12

PROPERTY
LINE

EXISTING FISH POND

EL. 12



GUEST HOUSE

SECTION B

SITE SECTIONS

Site Sections

Figure No. 9a

revisions

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scale 1" = 30'

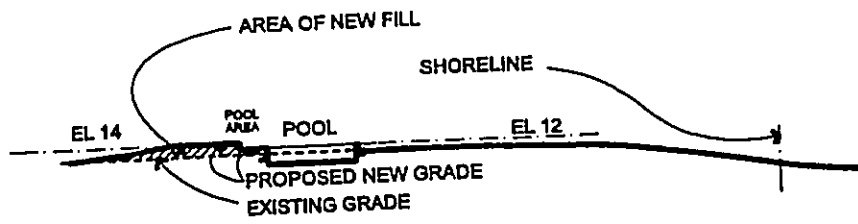
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job #

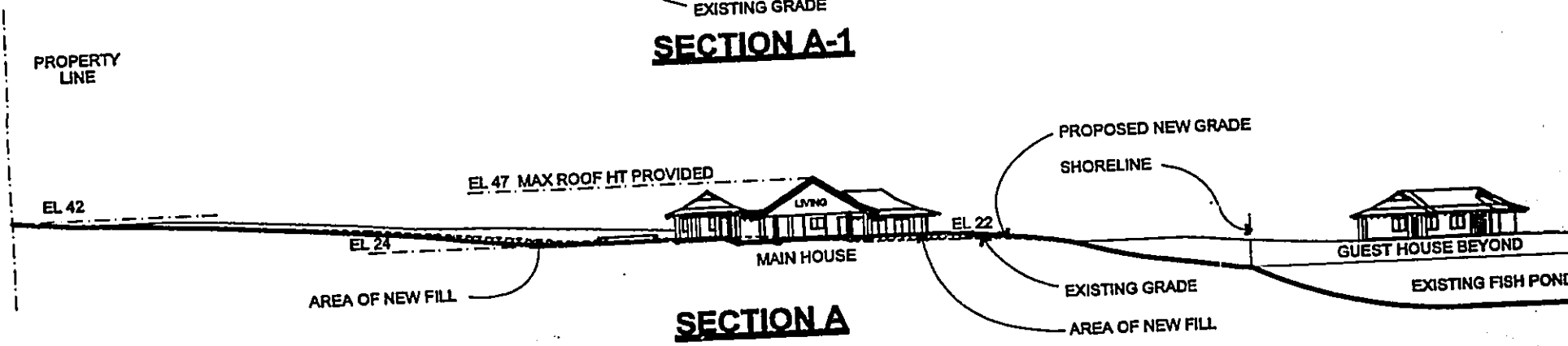
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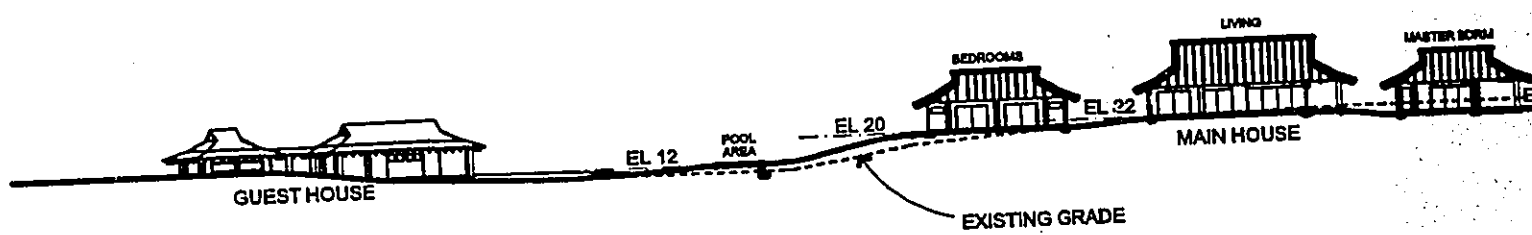
A6



SECTION A-1



SECTION A



SECTION B



SECTION C

ADE



EXISTING FISH POND

PROPERTY LINE



22

EL 20

EL 22

C

scale 1" = 60'

Figure No. 9b

revisions

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MAKENA, MAUI, HAWAII

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AIA
P.O. BOX 1016
MAKENA, HAWAII 97703
(808) 570-4246

scale 1" = 30'

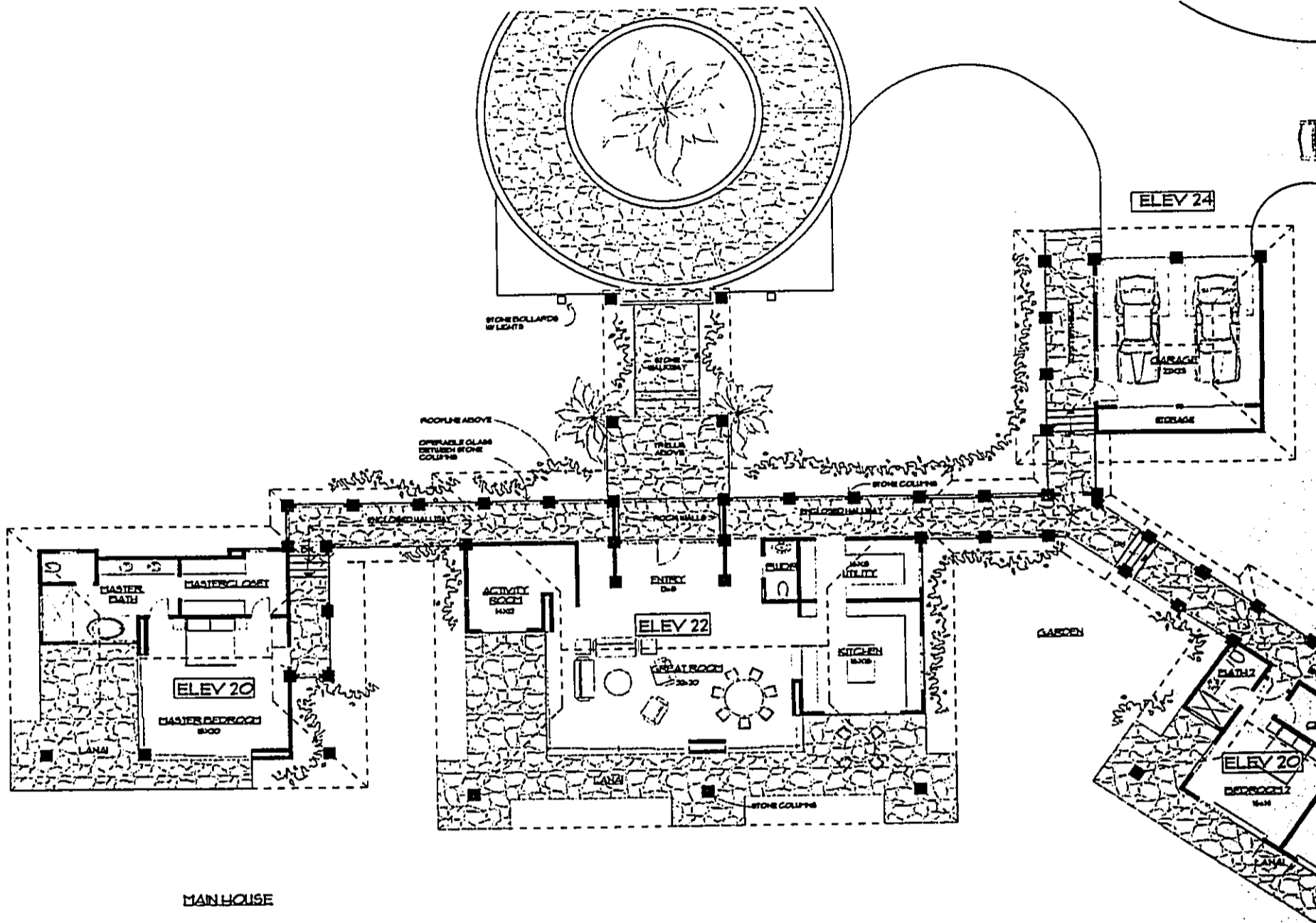
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job #

drawn by D&F

sheet #

A1

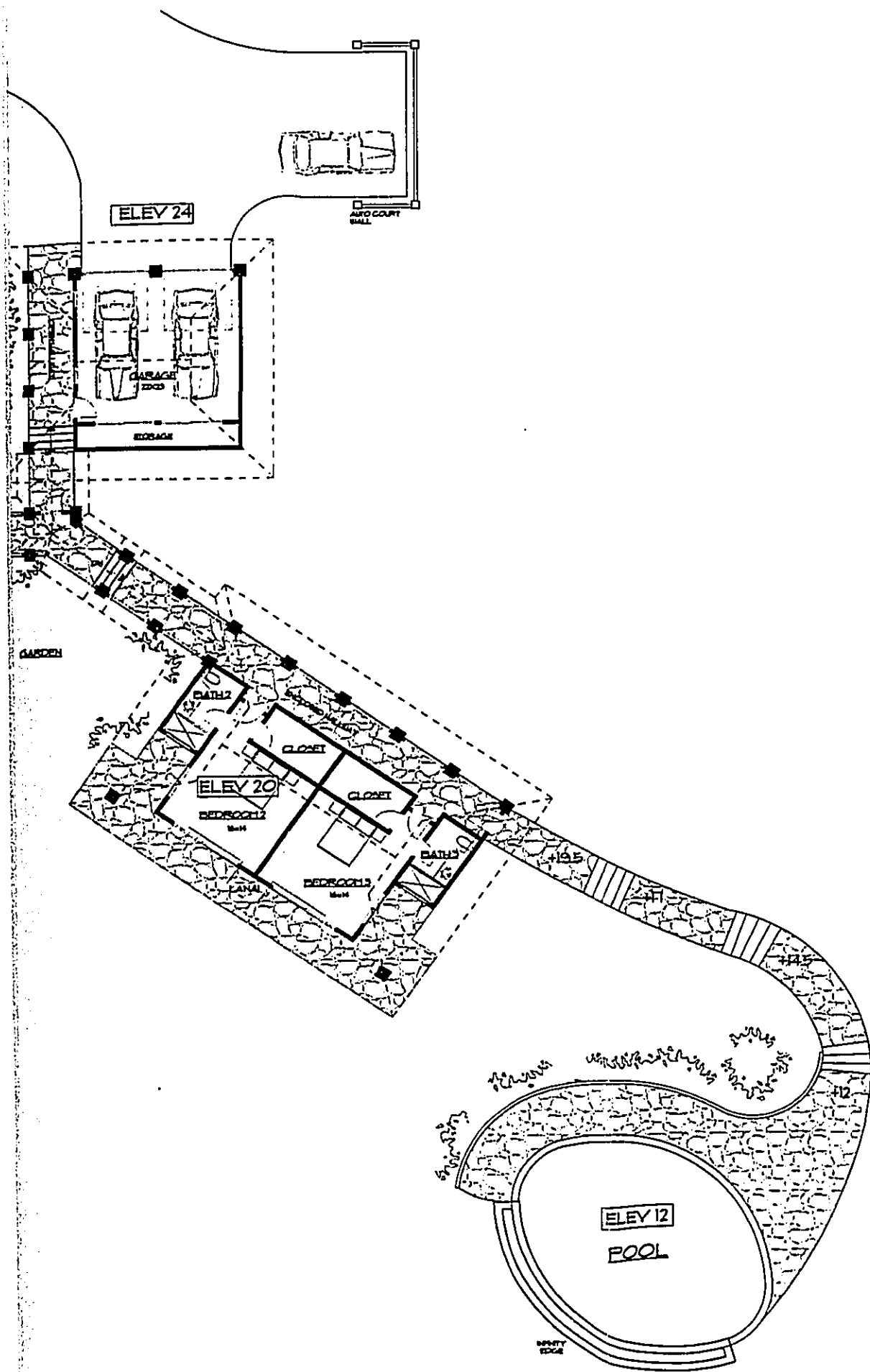


MAIN HOUSE

HALLWAYS	462
GREAT ROOM W/LNG	1686
MASTER BR W/LNG	680
GUEST W/LNG	365
GARAGE	492
POOL	700
TOTAL	4985 SF.

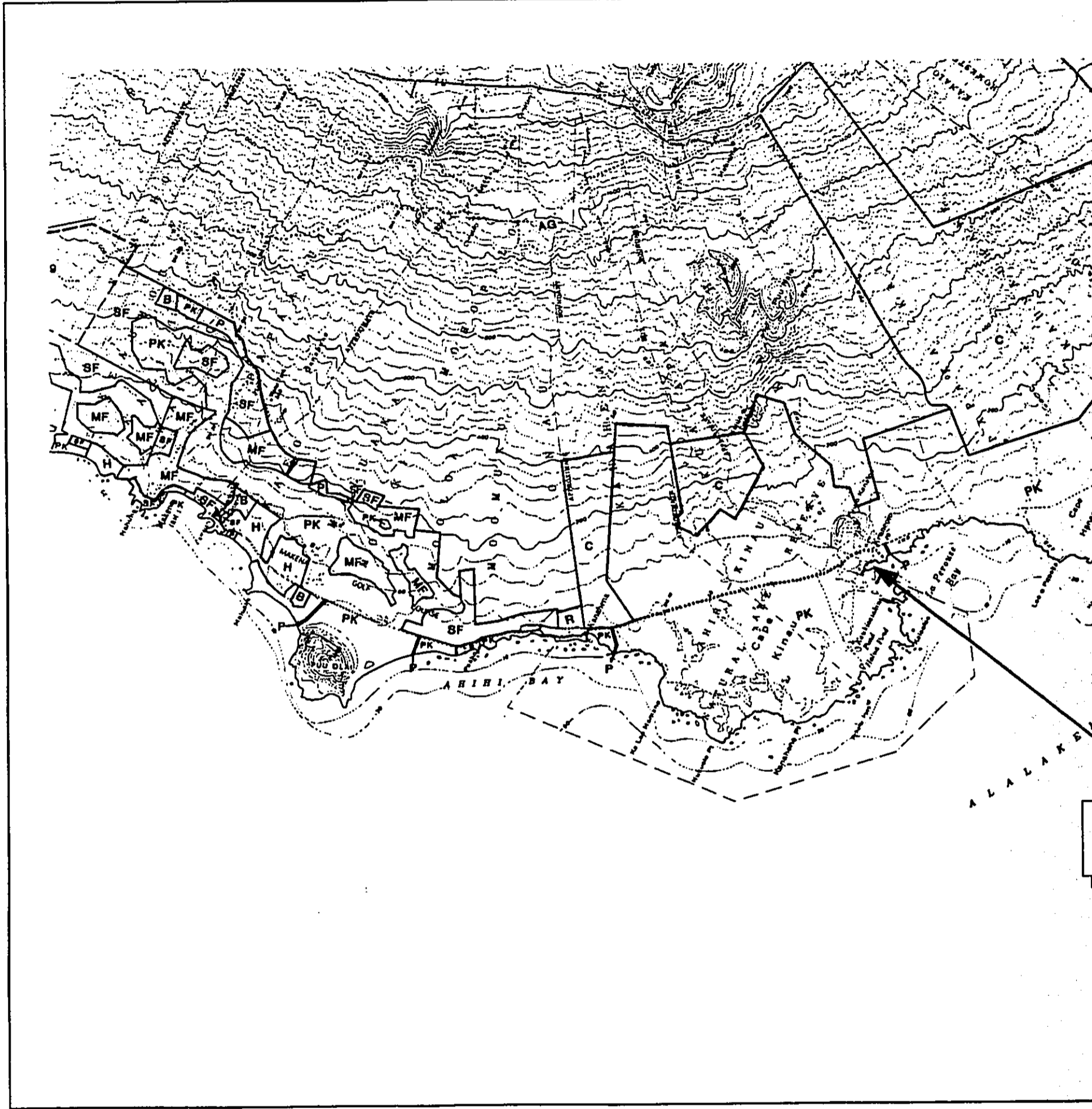


MAIN HOUSE FLOOR PLAN



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scale 1/8" = 1'-0" date 10-1-98 job # drawn by DSF sheet #
A3

Figure No. 10

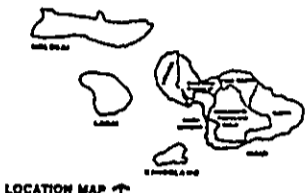




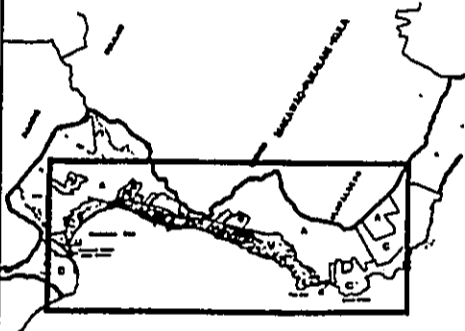
Subject Parcels

LEGEND

- AG** Agriculture
- R** Rural
- SF** Single Family Residential
- MF** Multi-Family Residential
- B** Business/Commercial
- I** Industrial
- LI** Light Industrial
- H** Hotel
- P** Public/Quasi-Public
- PK** Park
- OS** Open Space
- PD** Project District
- C** Conservation



LOCATION MAP 'T'

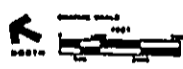


REGION MAP 'K'

**MAUI COMMUNITY PLANS
KIHEI-MAKENA**

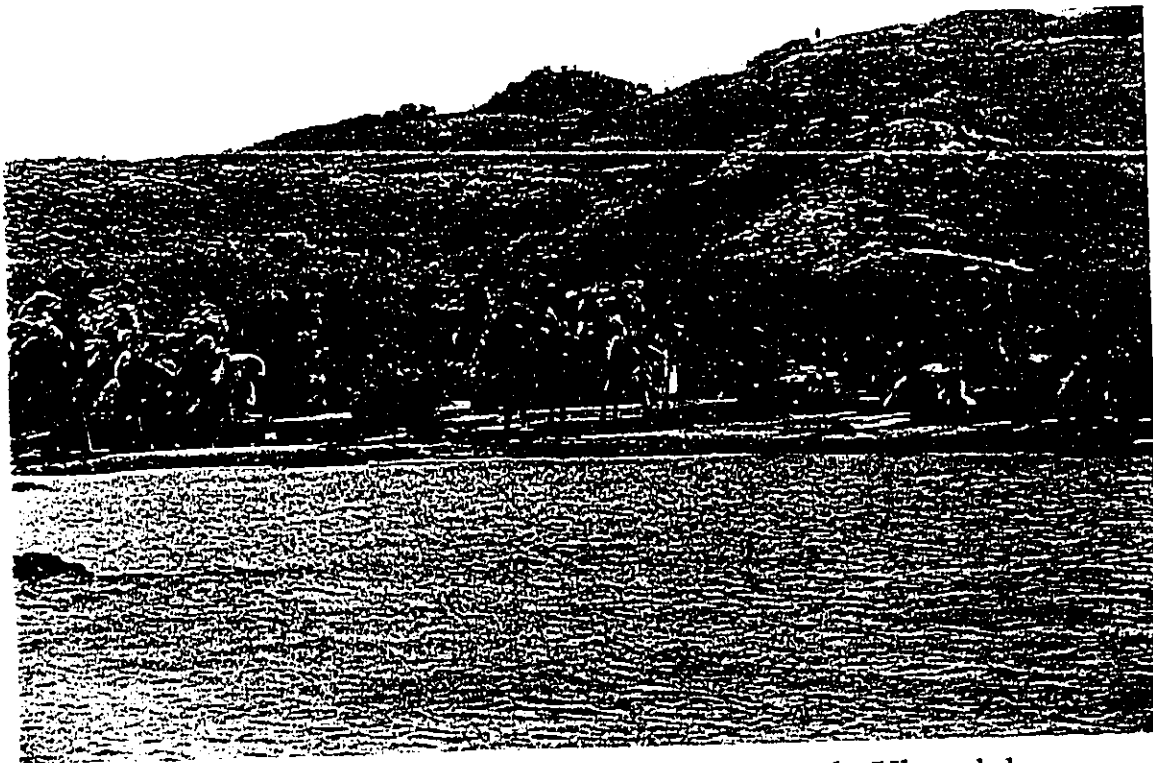
COUNTY OF MAUI

APPROVED: _____ DATE _____ PUBLIC HEARING: _____
 APPROVED: _____ DATE _____ ADOPTED: _____
 PLANNING DIRECTOR DATE _____ ORDINANCE: _____
 DATE: _____
 REVISED: _____

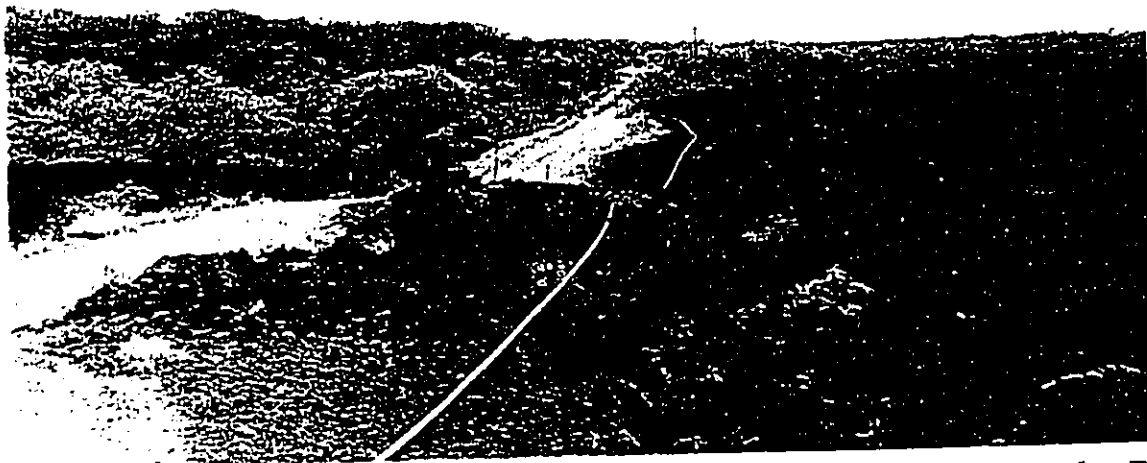


Schatz Residence Environmental Assessment
COMMUNITY PLAN MAP

**FIGURE
11**



East View Over the Parcel Looking Towards Ulupalakua.



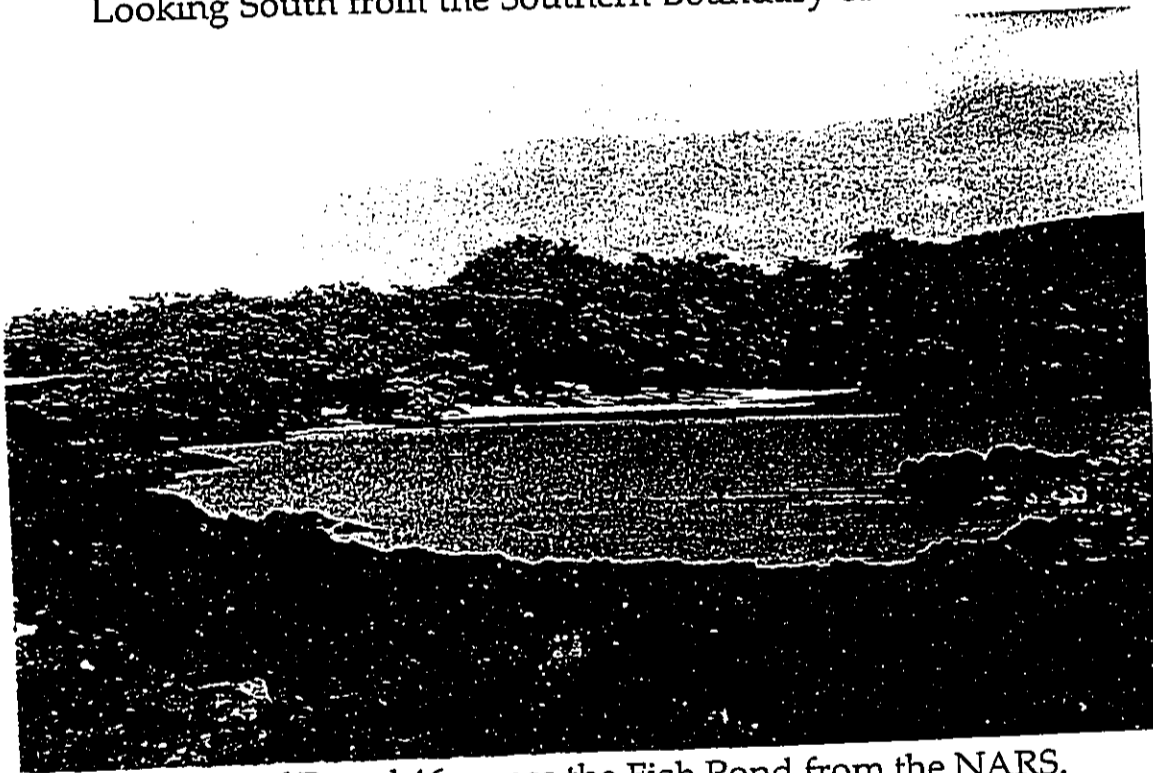
Southeast View Along Makena Road with the Subject Parcels on the Right.

Figure No. 12





Looking South from the Southern Boundary of Parcel 46.



A View of Parcel 46 across the Fish Pond from the NARS.

Figure No. 13





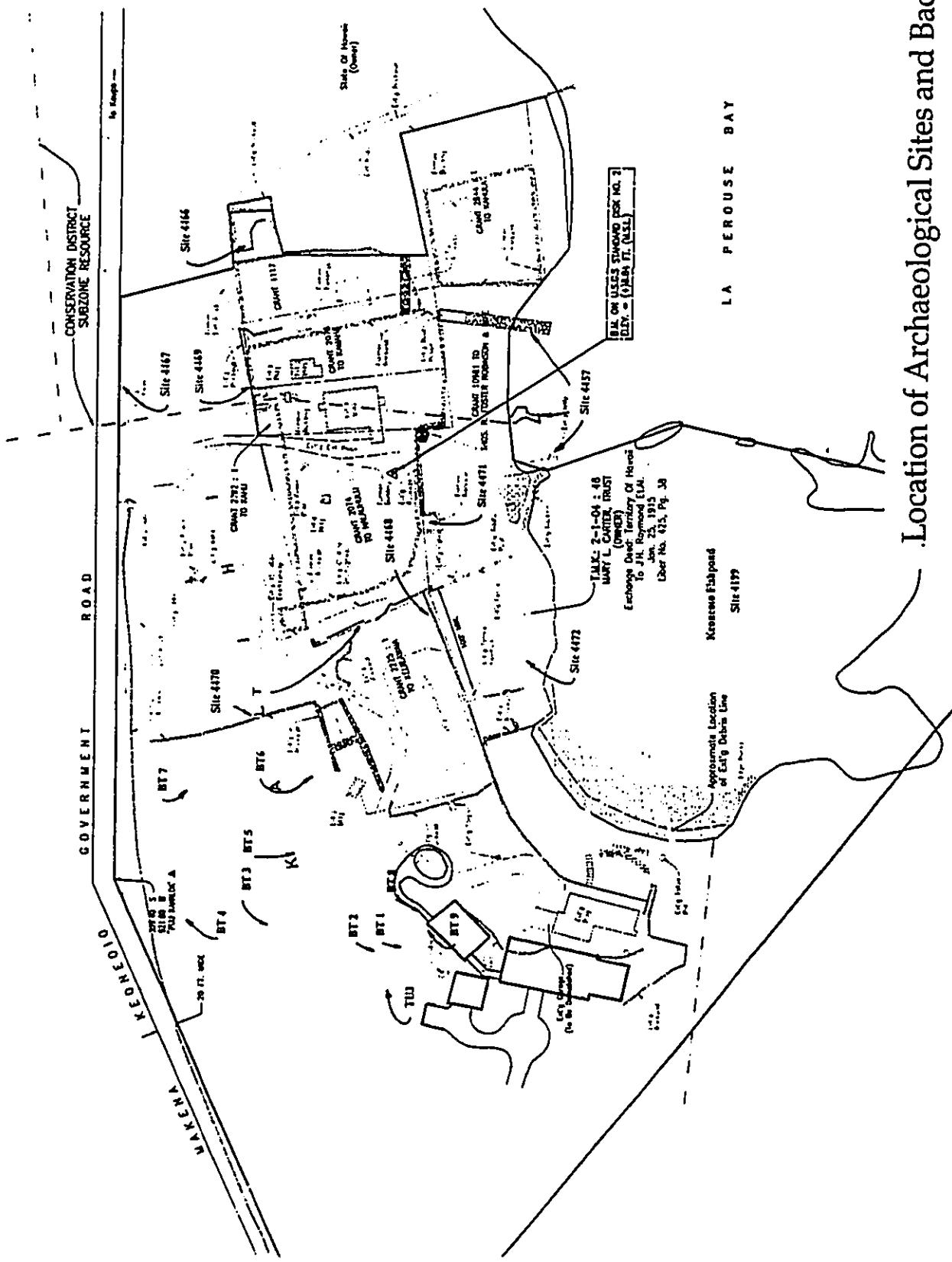
Southern View from the Existing Dwelling on Parcel 46.



Beach View on Parcel 46 and in front of Parcel 48.

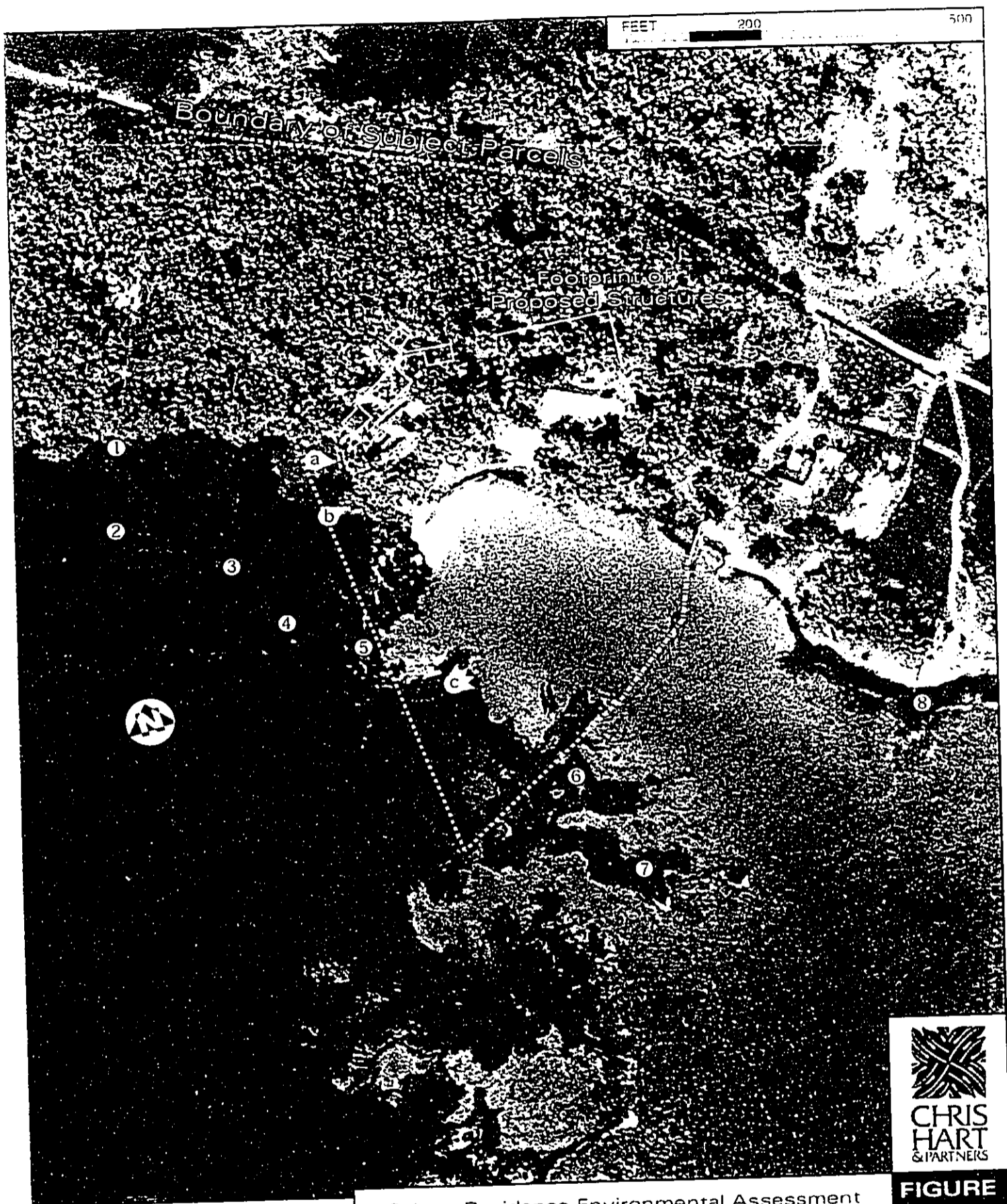
Figure No. 14





.Location of Archaeological Sites and Backhoe Trenches

Figure No. 15



Ground Photo Locations
and References

Schatz Residence Environmental Assessment
AERIAL PHOTO



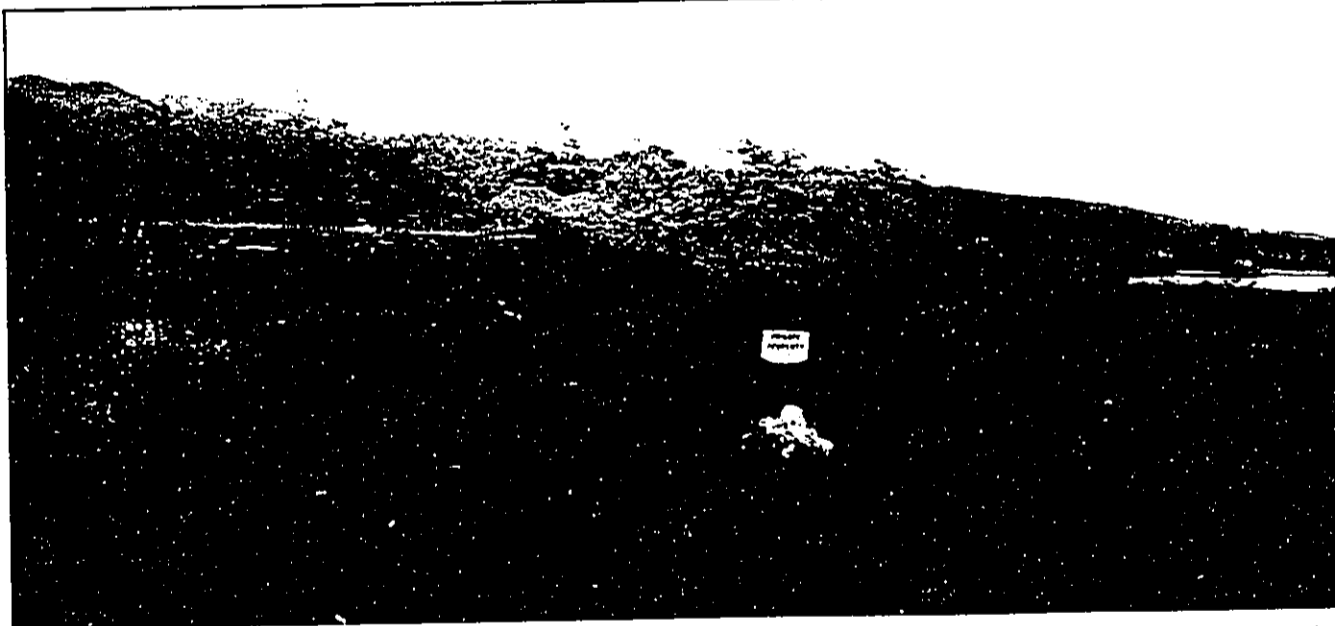
FIGURE
16



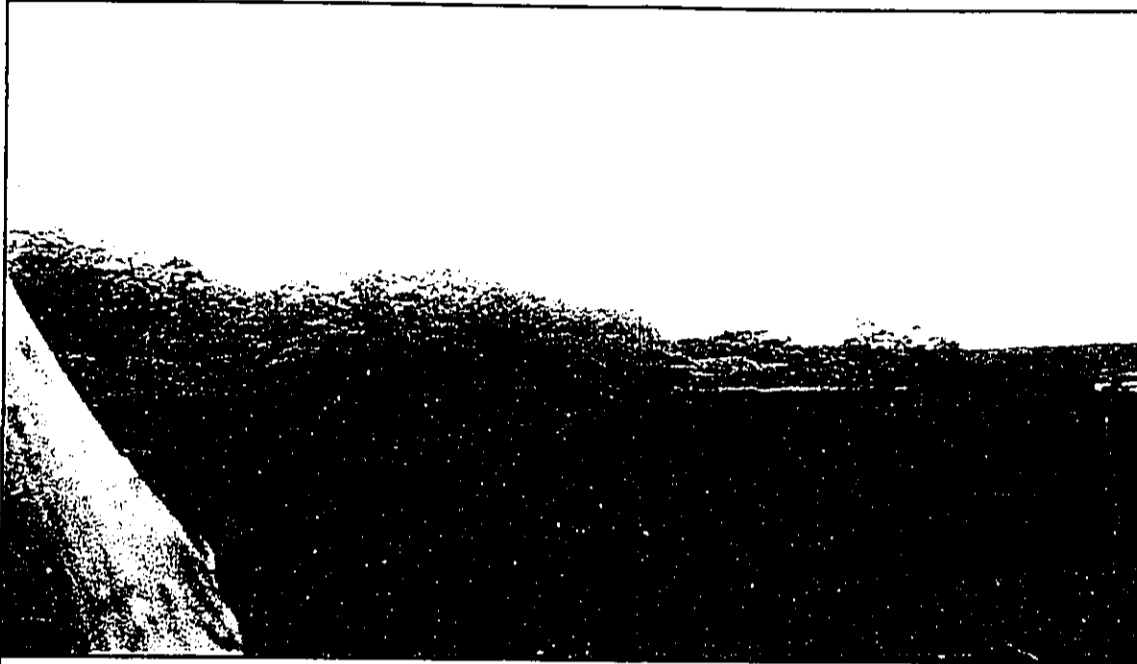
1 View towards Schatz residence from the public trail's entry onto the lava field. The roof of the existing dwelling is visible. To the left of the existing building, the proposed residence is simulated in black, with orange sections identifying portions of the structure that are anticipated to be visible without landscape improvements.



2 View towards the existing dwelling. The proposed residence is simulated in black, with orange sections identifying portions of the structure that are anticipated to be visible without landscape improvements.



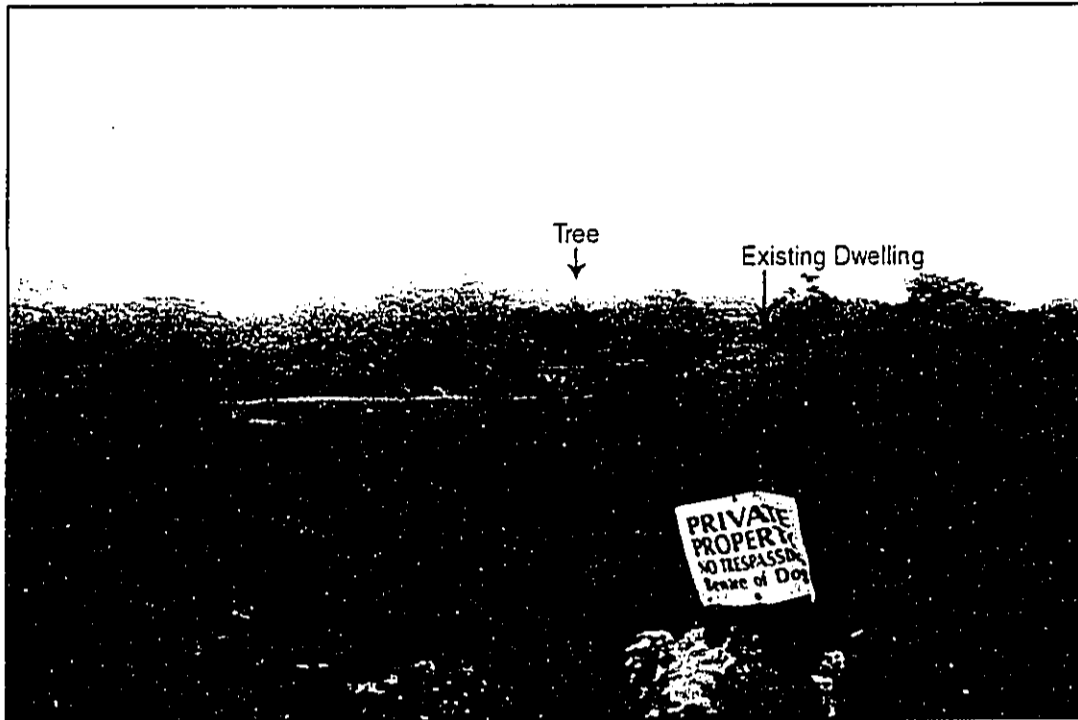
3 View along the public trail which is closest to the Schatz residence (approximately 265 feet). The roof of the existing dwelling is visible in the distance. The proposed residence is simulated in black, with orange sections identifying portions of the structure that are anticipated to be visible without landscape improvements.



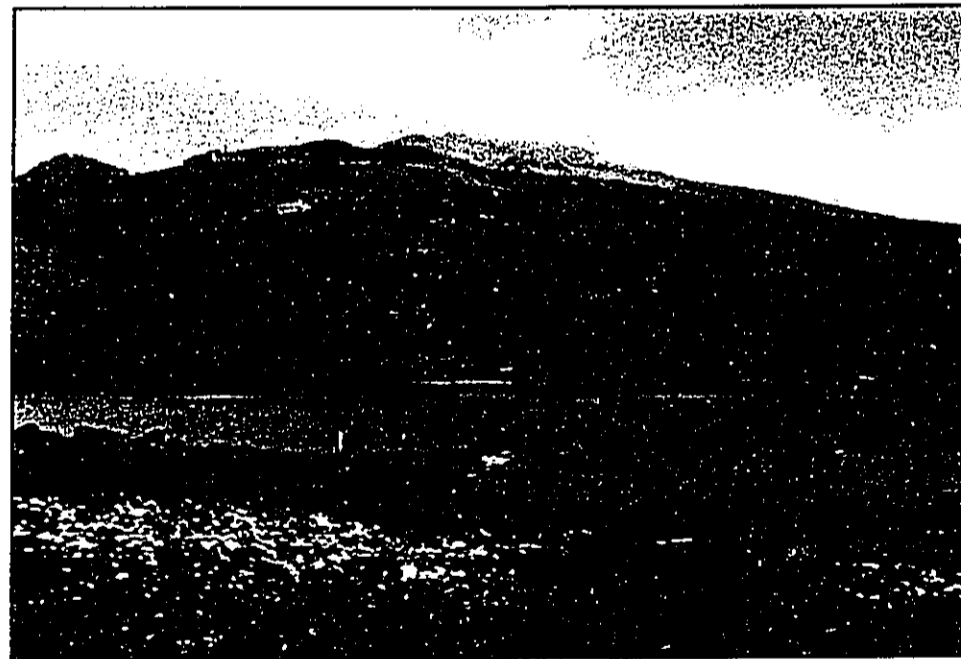
2 View towards Schatz residence south of the public trail's entry onto the lava field. The roof of the existing dwelling is visible. To the left of the existing building, the proposed residence is simulated in black, with orange sections identifying portions of the structure that are anticipated to be visible without landscape improvements.



et). The roof of the existing dwelling is visible. To the left of the existing building, the structure that are anticipated to be visible without landscape improvements.



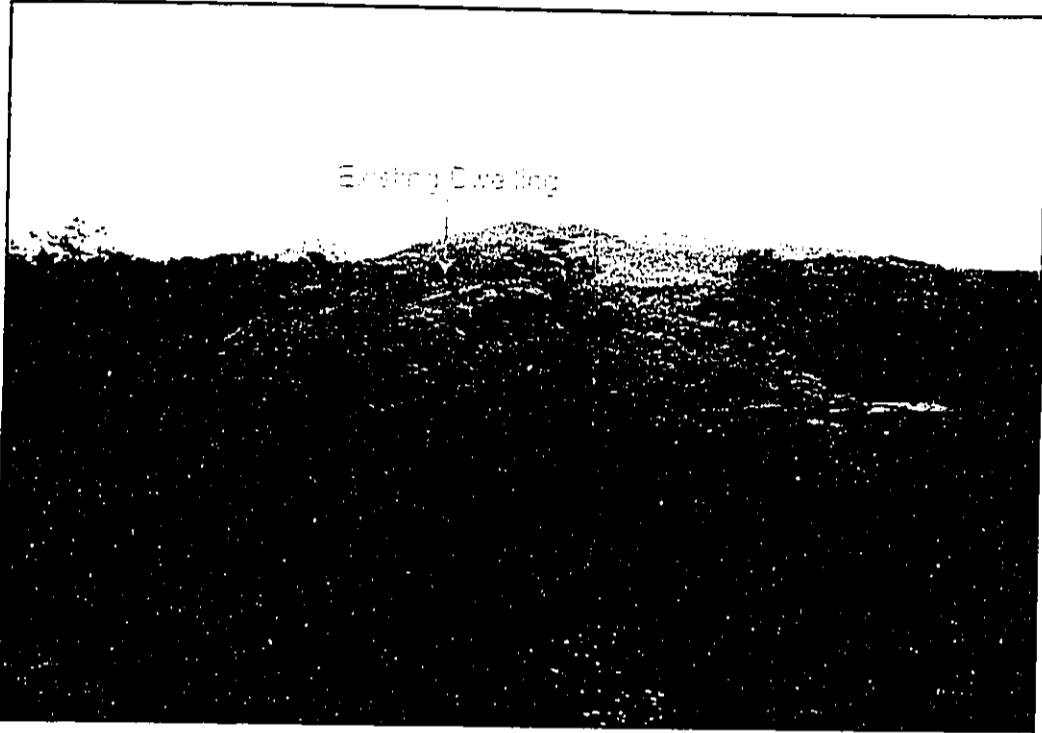
4 View along the public trail providing the greatest view of the proposed Schatz residence. The roof of the existing dwelling is visible. To the left of the existing building, the proposed residence is simulated in black, with orange sections identifying portions of the structure that are anticipated to be visible without landscape improvements. To minimize the visual impact at this angle, the large tree identified in the photo (dark green) will be relocated in front of the new structure.



6 View across the fishpond showing the caretaker's residence and the boathouse.

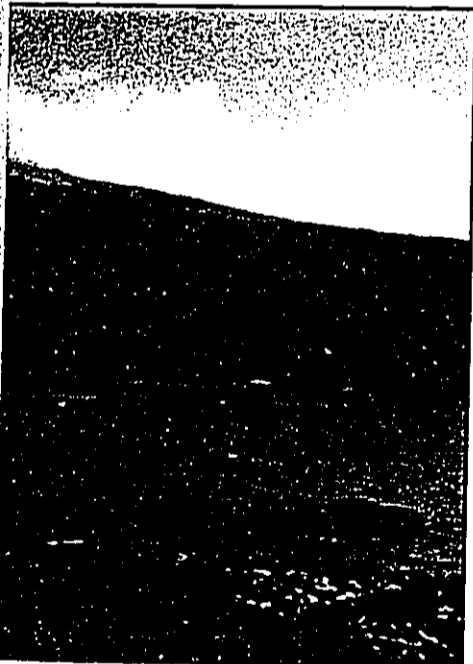


5 View the e



Existing Dwelling

5 View from the public trail south of the existing dwelling. A group of Kiawe trees shield the dwelling from view.



er's residence and the boathouse.

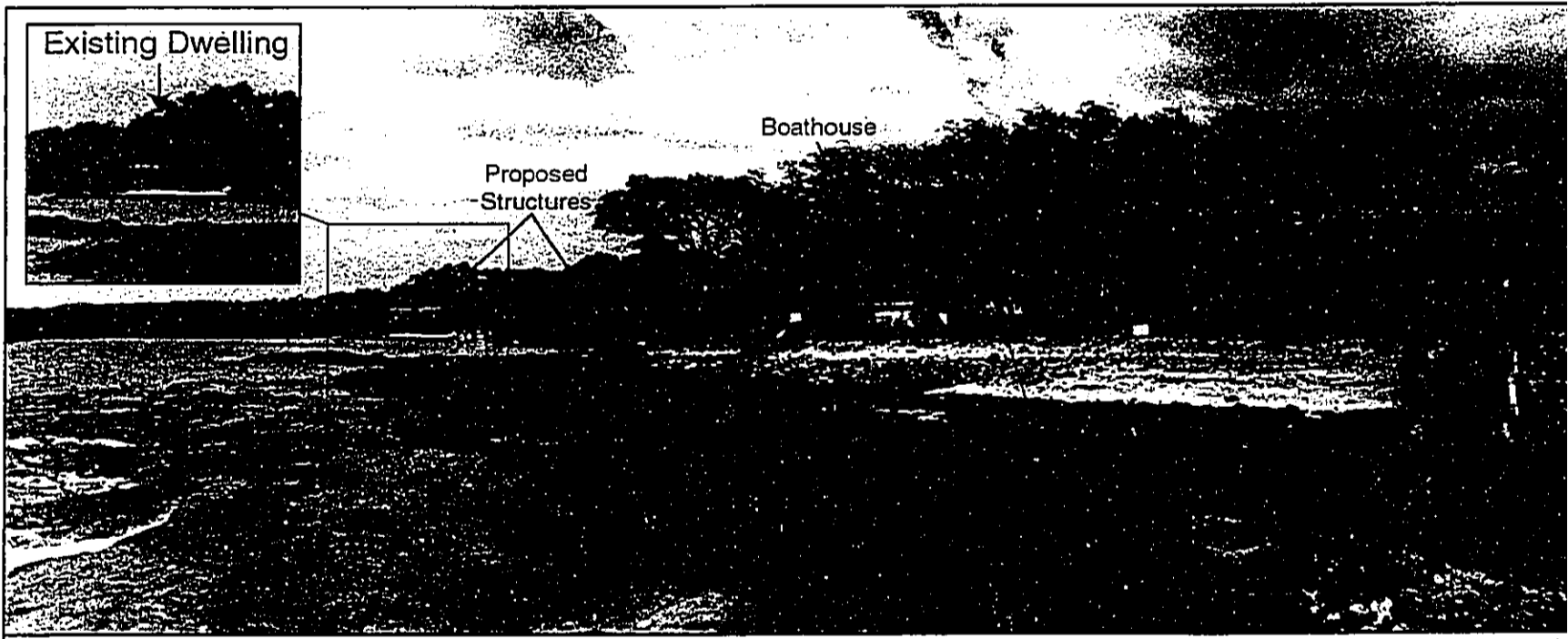


Schatz Residence Environmental Assessment
SITE PHOTOS

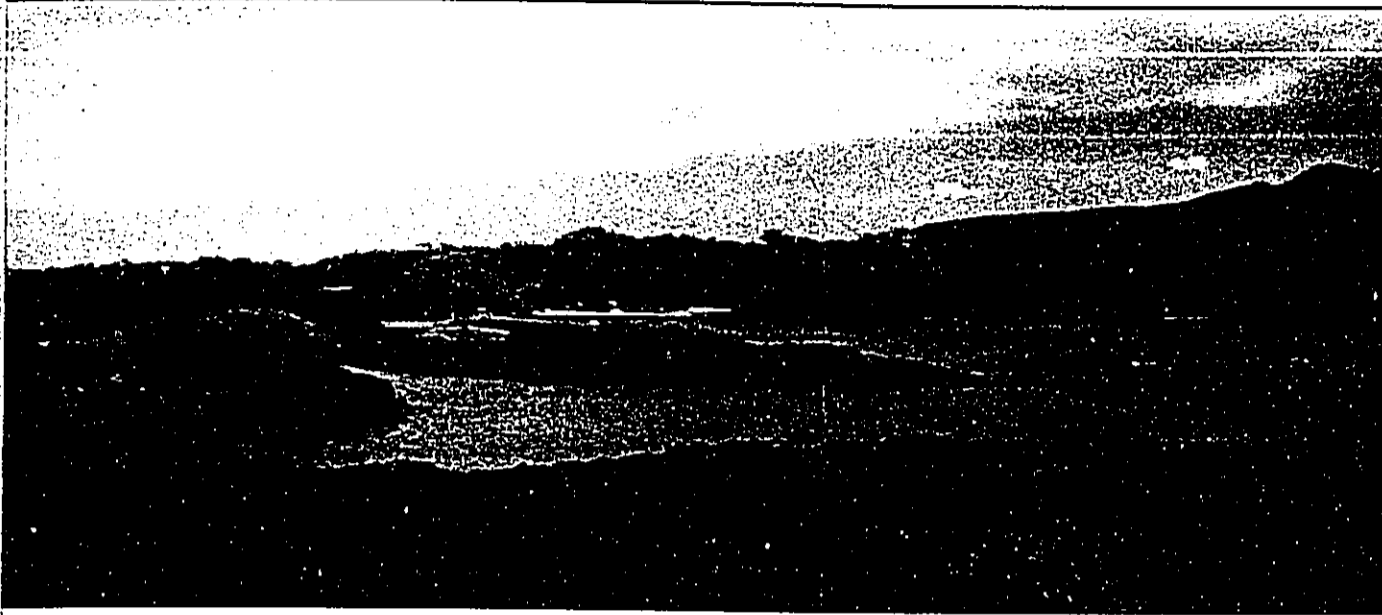
FIGURE
18



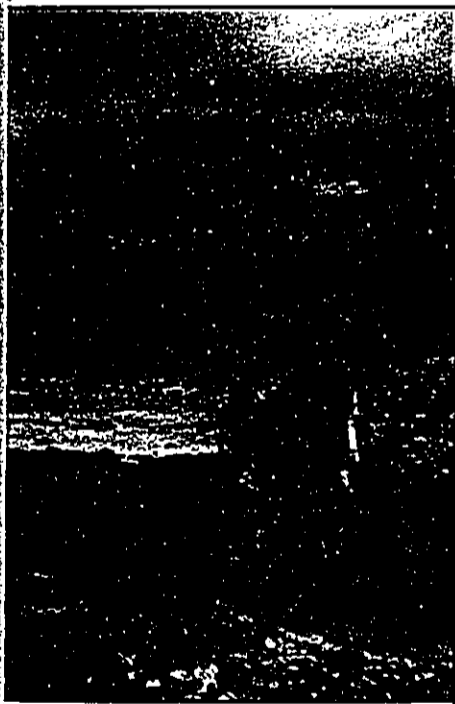
7 Public view towards the Schatz residence from an off-trail



8 Public view from the south-east corner of the property. The proposed structures are outlined in black. Portions of the structure anticipated be visible are marked in orange. The distance to the visible sections is approximately 875 feet. An enlarged view of the existing dwelling is shown in the upper left detail.

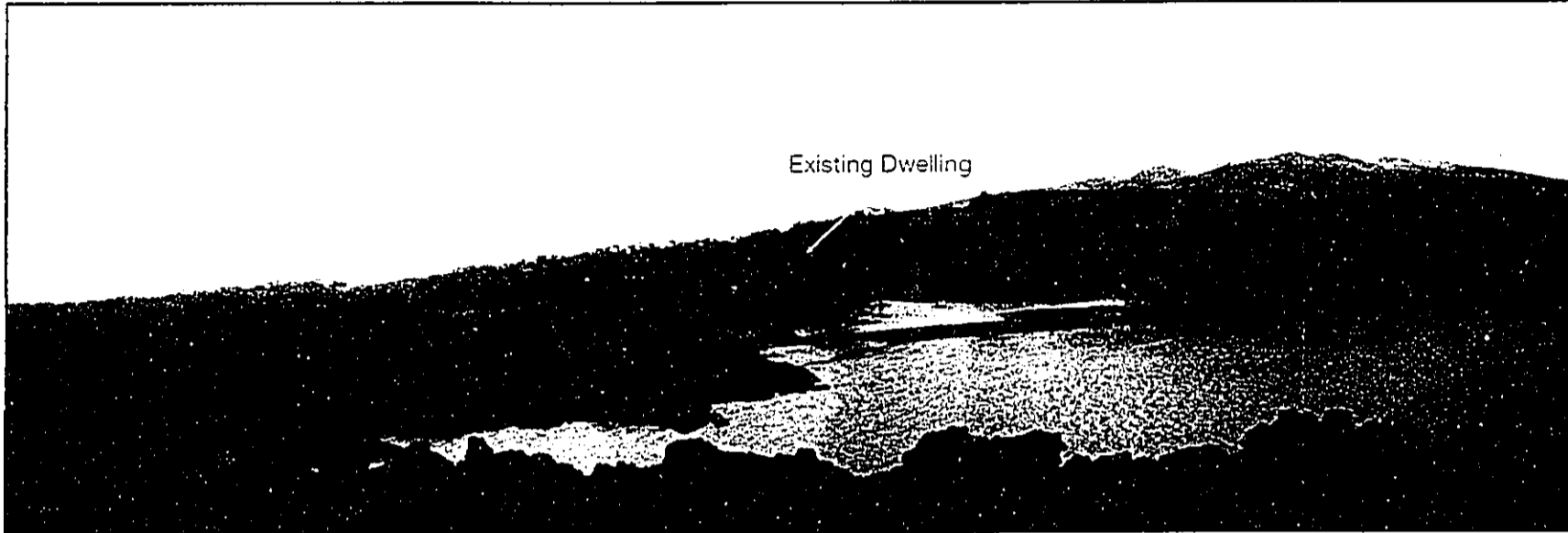


s the Schatz residence from an off-trail coastal pinnacle. The existing residence is shielded by Kiawe trees.



portions of the structure anticipated to
ged view of the existing dwelling is

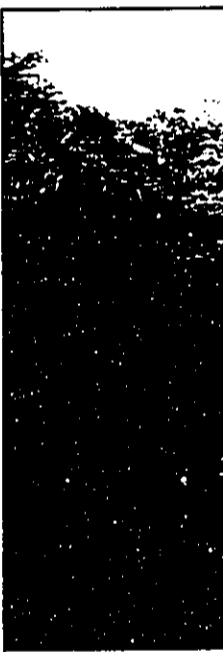




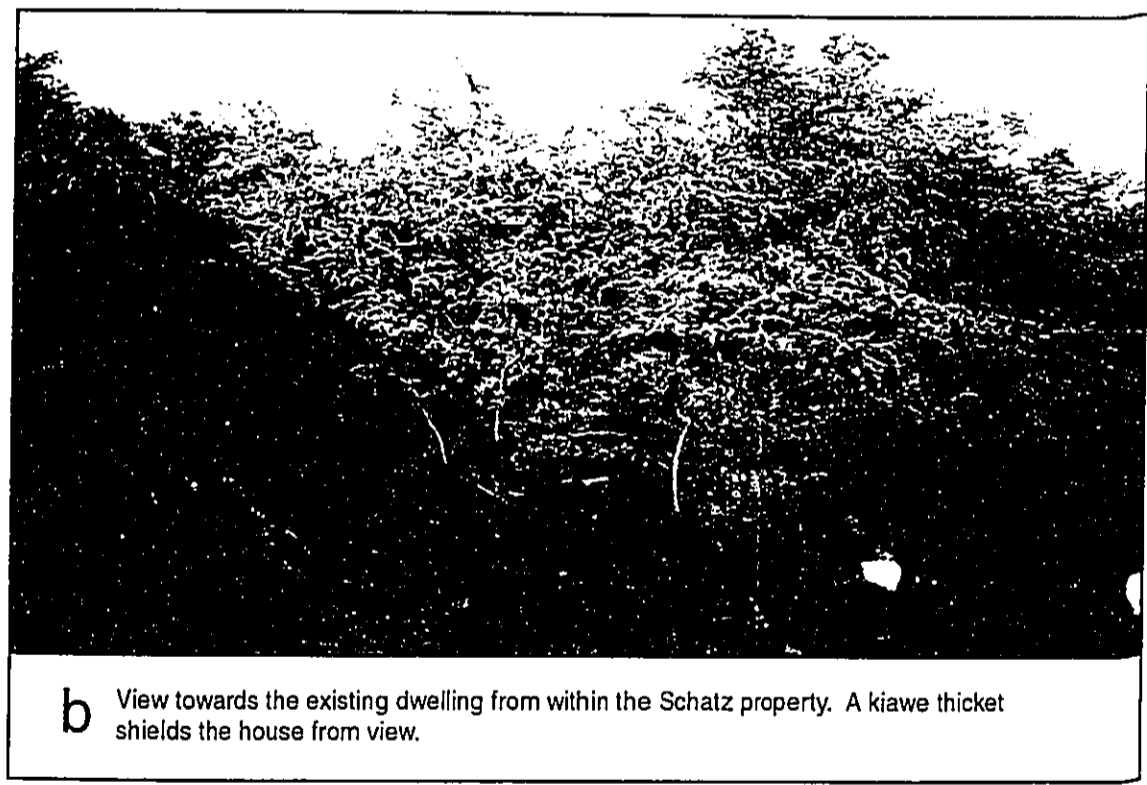
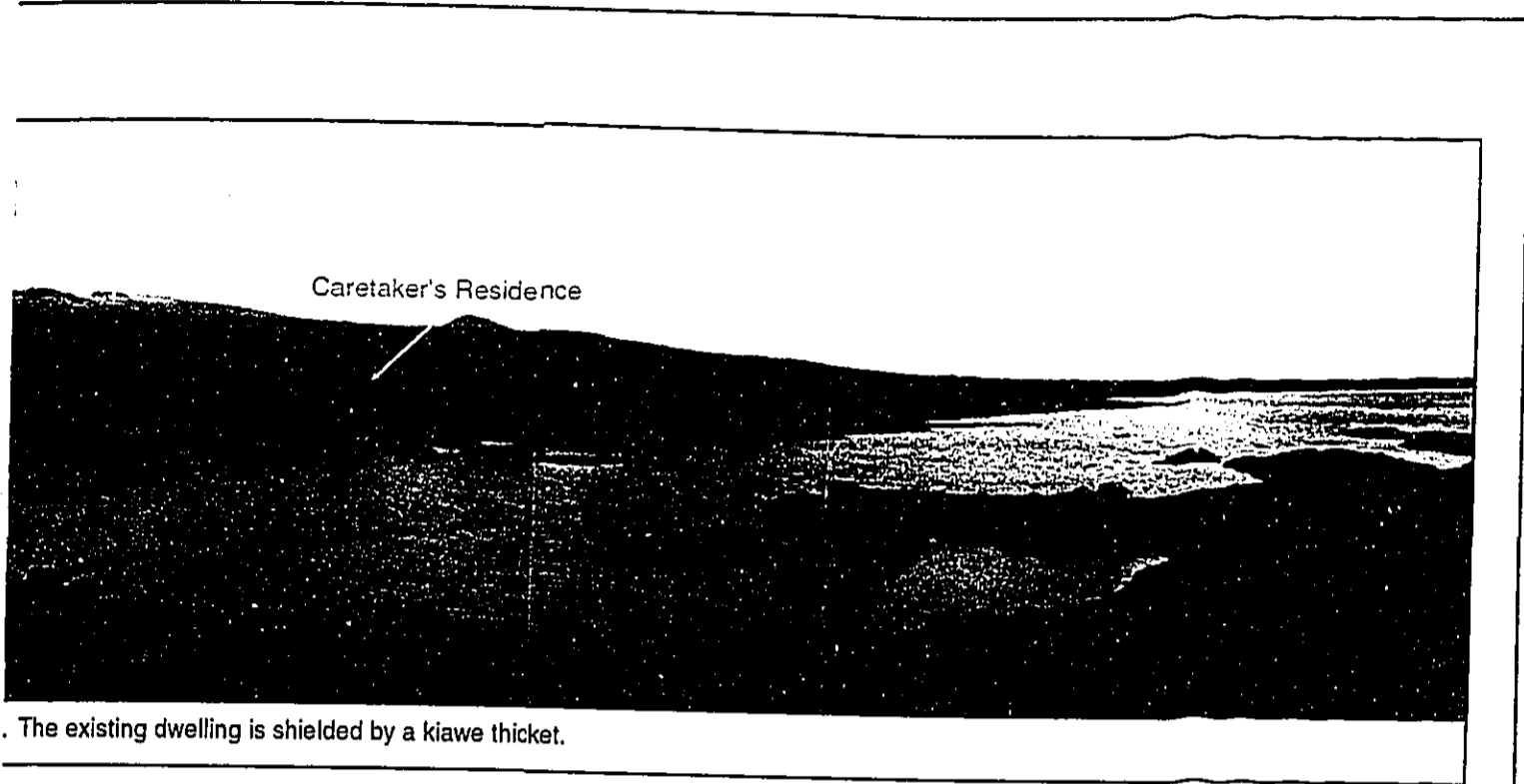
C Panoramic view of the Schatz residence including the entire fishpond. The caretaker's residence and boathouse are visible. The existing dwelling is visible in the distance.



a Elevated view of the existing dwelling from within the Schatz property. The rock wall adorned with night blooming cereus and bougainvillea shields the walls of the house and some of the roof.

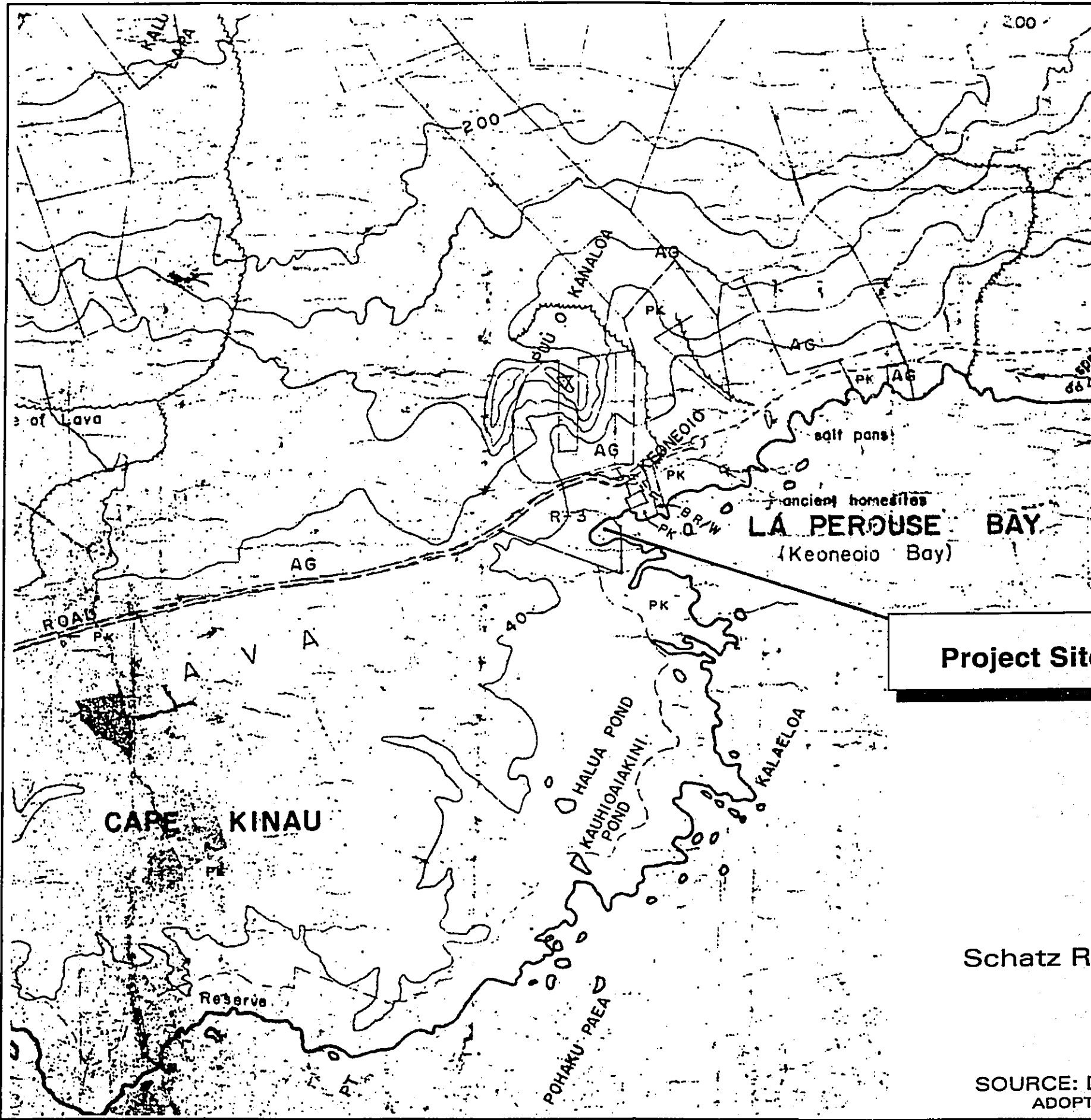


b View towards the existing dwelling, partially obscured by foliage.



CHRIS
HART
& PARTNERS

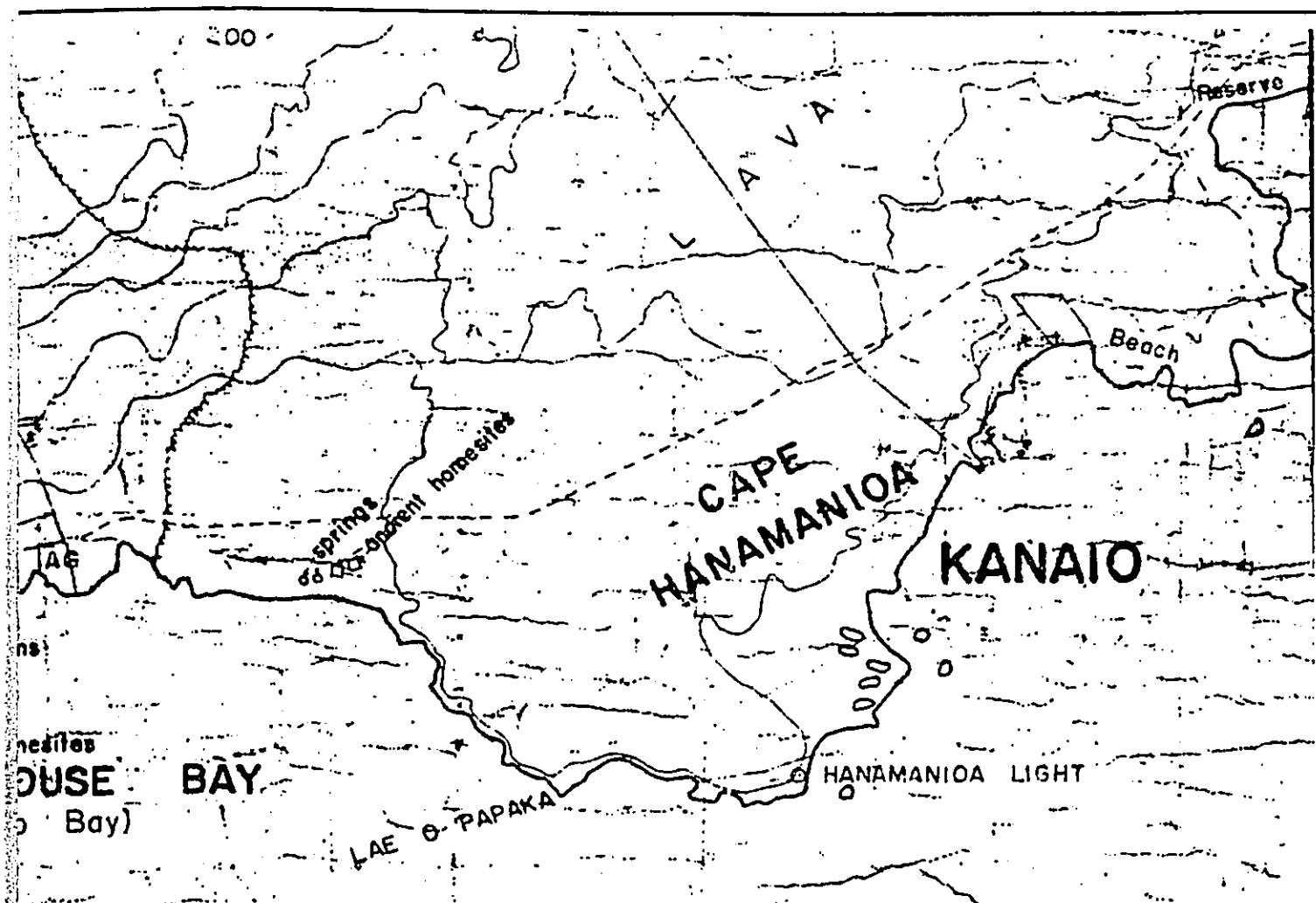
FIGURE
20



Project Site

Schatz R

SOURCE: I
ADOPT



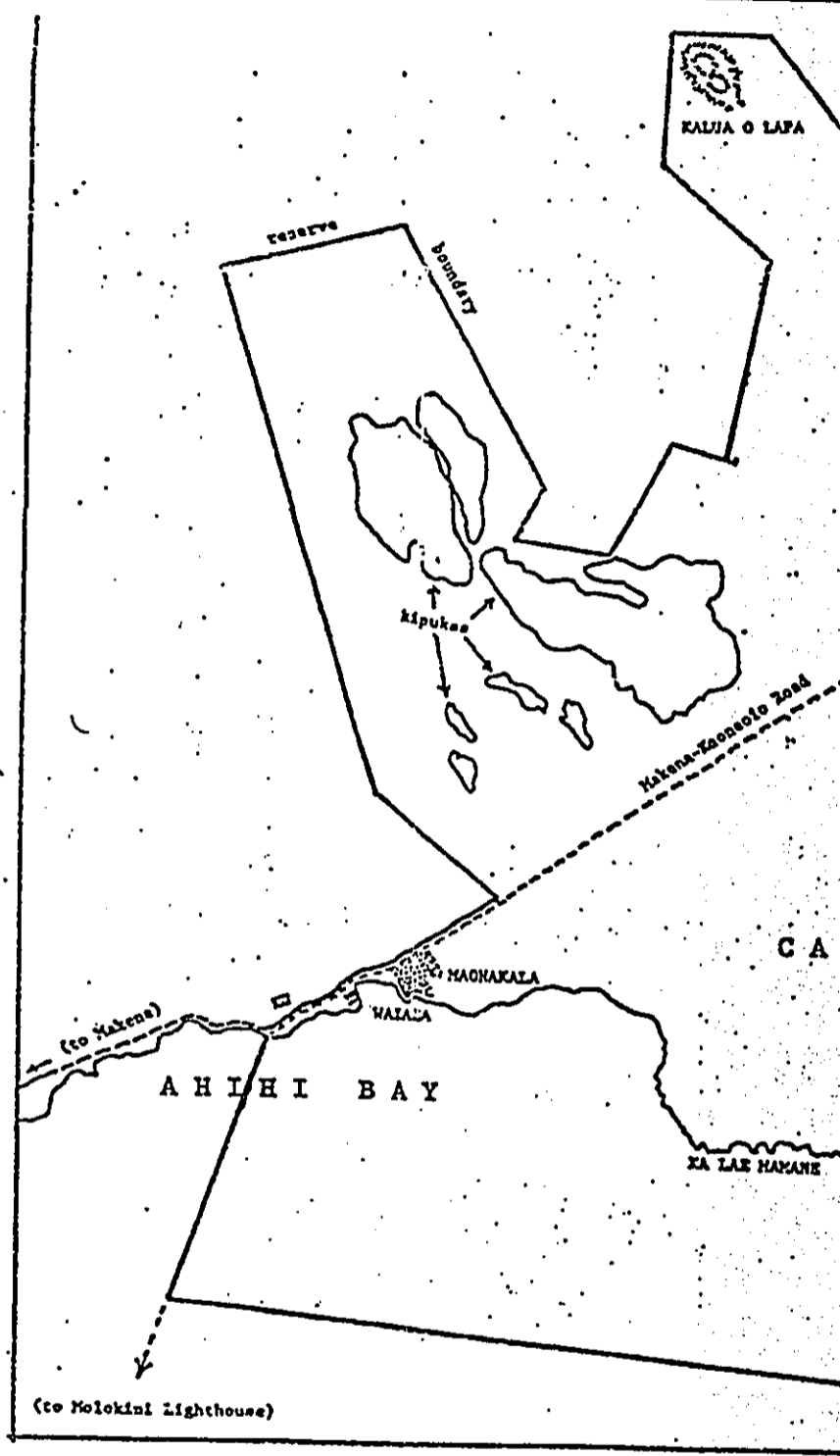
Project Site

Schatz Residence Environmental Assessment
LAND ZONING MAP NO. 5
 MAALAEA, KIHEI, MAKENA AND
 SURROUNDING AREAS

SOURCE: DEPARTMENT OF PLANNING, COUNTY OF MAUI
 ADOPTED COUNCIL 12/19/69; MAYOR 12/19/69; ORDINANCE NO. 641

**CHRIS
HART
& PARTNERS**

**FIGURE
41**



AHIHI-KINAU NATURAL AREA RESERVE

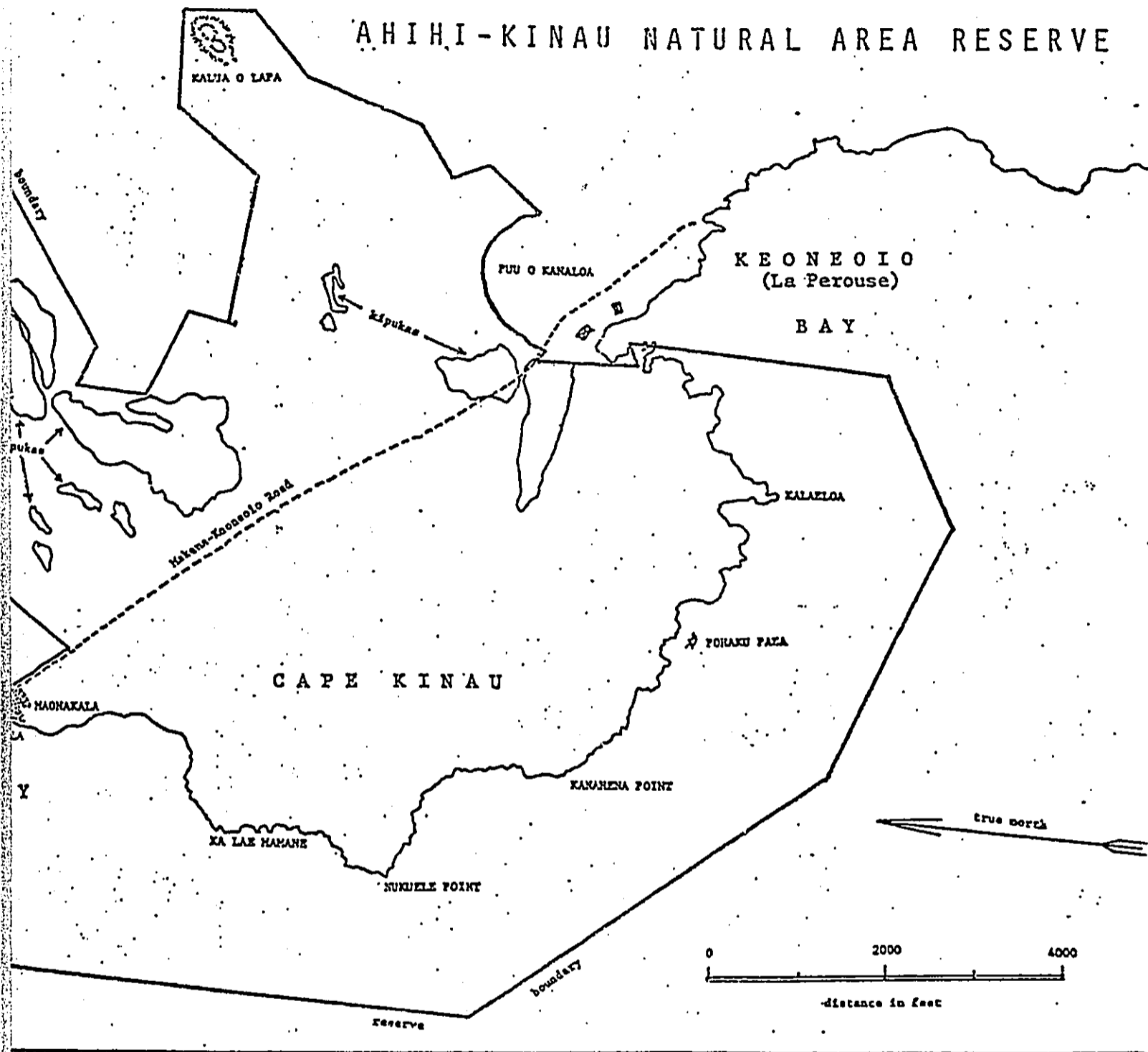
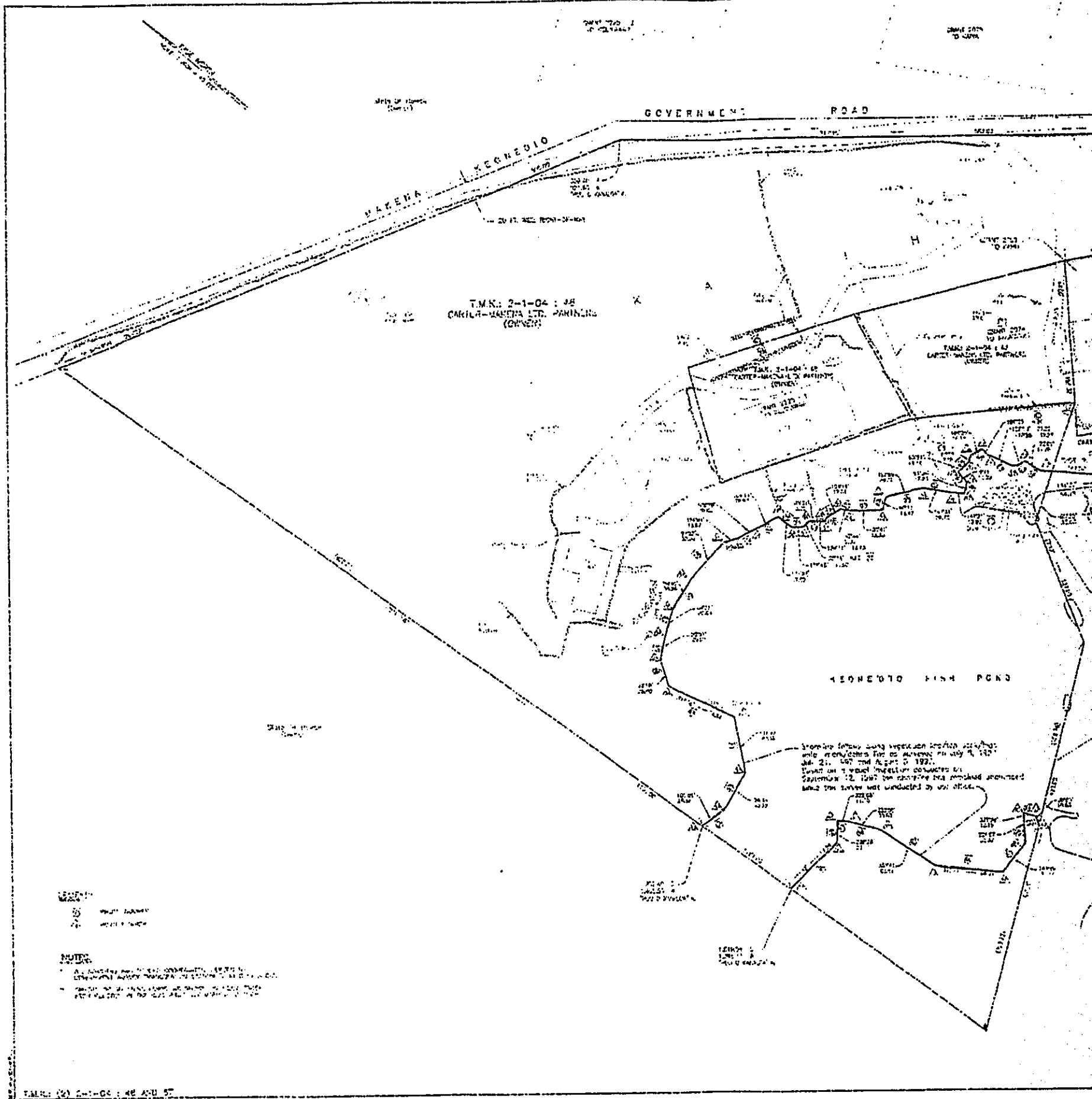


Figure No. 22



LEGEND
 (Symbol) WATER BOUNDARY
 (Symbol) LAND BOUNDARY

NOTES
 1. The boundary between the land and fish pond, as surveyed on July 9, 1921, and as amended by the Survey on a road location conducted on September 12, 1921, the boundary line marked and shown as the survey was conducted by the office.

T.M.N. (2) 2-1-04 : 48 AND 57

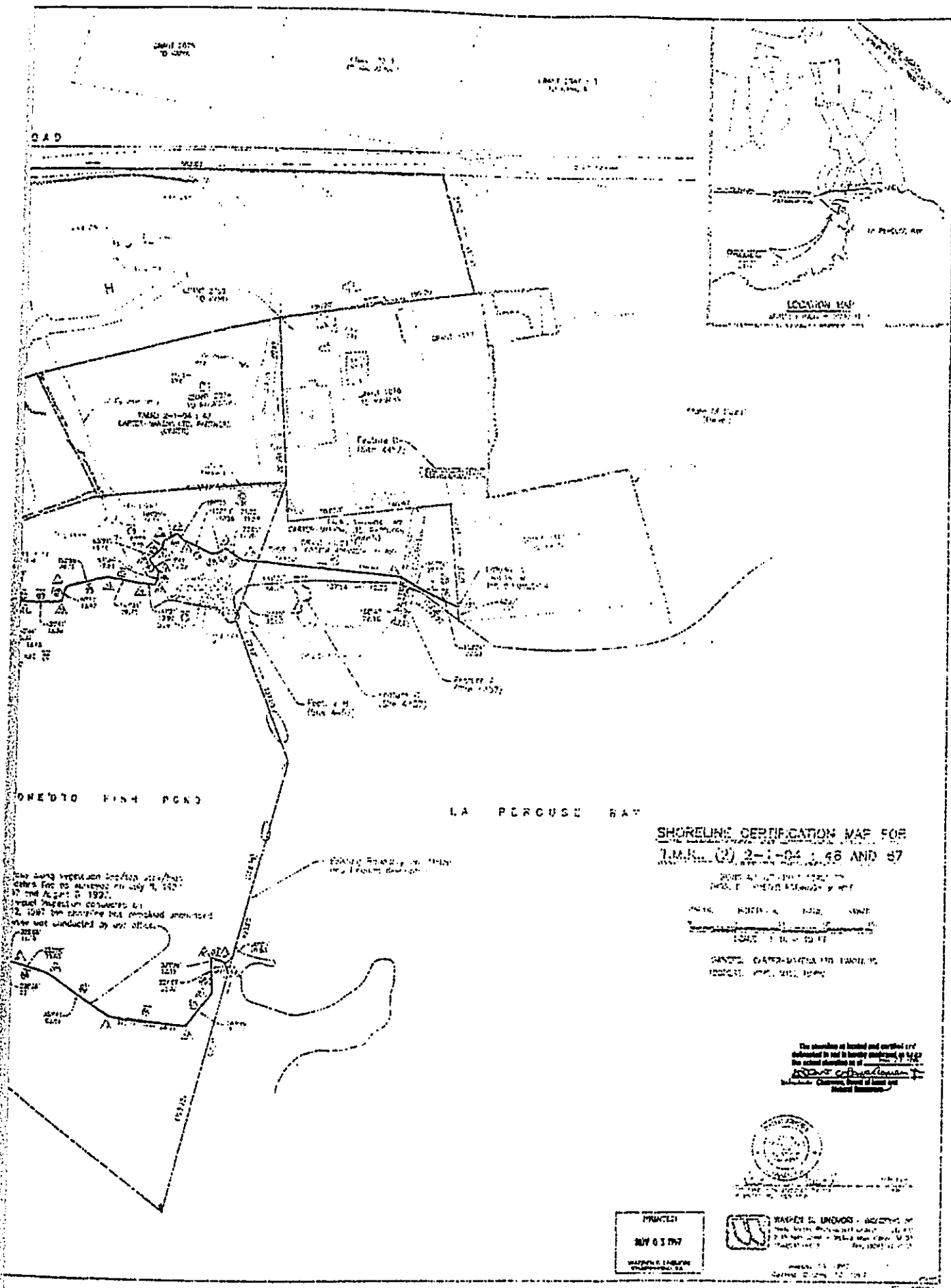


Figure No. 23

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Botanical Study
Appendix No. 1

BOTANICAL SURVEY

T.M.K. 2-1-04 : 46

CARTER-MAKENA LTD. PARTNERS

KIHEI, MAUI, HAWAII

by

Joseph Feigelson

**Botanical Research Consultants
Maui, Hawaii**

Prepared for : 1407 CORP.

July 1997

Appendix No. 1

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**BOTANICAL SURVEY
T.M.K. 2-1-04 : 46
CARTER-MAKENA PARTNERS
KIHEI, MAUI, HAWAII**

INTRODUCTION

The Carter-Makena Partners site consists of 14.516 acres. Approximately 3 acres consists of a saltwater inlet described as a Fish Pond. The surveyed site (T.M.K. 2-1-04 : 46) is bordered to the south by the ocean, to the north by the Makena Keoneoio Government Road. To the west and the east, it is bordered by vacant lava land belonging to the State of Hawaii.

Almost the entire survey site is presently under landscape due to the two homes that occupy the site. Areas that have not been landscaped occur along the northern property boundary.

Field studies to assess the botanical resources on the site were conducted in June 1997. The primary objectives of the field study were to (1) describe the major vegetation types; (2) inventory the terrestrial, vascular plants; and (3) search for threatened and endangered species on the survey site.

SURVEY METHODS

Prior to undertaking the field survey, a search was made of the pertinent literature to familiarize the principal investigator with other botanical studies conducted in the general area.

Topographic maps and a recent preliminary subdivision plat were examined to determine access, terrain characteristics, vegetation patterns and potential logistical and technical problems. Access onto most of the survey site was provided by a paved road which runs through the site.

A walk-through survey method was used. Notes were made on plant associations and distribution, substrate types, exposure, etc.

Plants which could not be positively identified in the field were collected for later determination and for comparison with the taxonomic literature. The species recorded were indicative of the season and environmental conditions under which the survey was conducted. As this survey was taken during a dry spell, it would no doubt yield slight variations in the species list, especially of the weedy annual taxa.

DESCRIPTION OF THE VEGETATION

In this report, vegetation on the survey site is described from two areas: (1) rocky and (2) sandy.

1. Rocky Areas

The rocky areas cover almost half the subject property and can be defined as the eastern portion of the survey site. Rocky area is also prevalent along the southwest portion of the survey site. The area can best be described as once having been lava field, now mechanically bulldozed to a somewhat level small rocky surface extending to the shoreline. The major vegetation type is scrub, consisting mostly of kiawe (Prosopis pallida algaroba), koa-haole shrubs (Leucaena leucocephala) and buffel grass (Cenchrus ciliaris L.). Other plants found include coconut (Cocos nucifera), milo (Thespesia populnea), virgate mimosa (Desmanthus virgatus) and little bell (Ipomea triloba).

2. Sandy Areas

The sandy area can best be described as starting from Sandy Beach and extending northwards to the northern boundary. The predominant vegetation of the sandy area is kiawe (Prosopis pallida algaroba), coconuts (Cocos nucifera), night blooming cereus, (Hylocereus undatus), a cactus that has spread vigorously into the kiawe and over the rock walls. Other species observed include false kamani (Terminalia catappa), noni, (Morinda citrifolia), hala (Pandanus odoratissimus), wili-wili (Erythrina sanwicensis). The other species that are present have been introduced to the survey area during landscaping procedures such as plumeria (Plumeria acuminata), bougainvillea (Bougainvillea spectabilis), fan palm (Washingtonia filifera), kou (Cordia sebestena), ferns and bermuda grass (Cynodon dactylon).

DISCUSSION AND RECOMMENDATIONS

Vegetation on the Carter-Makena Ltd. Partners surveyed site consists mainly of weedy species that supports largely kiawe, koa-haole shrubs and buffel grass. The majority of the plants occurring on the site are introduced or alien (see species checklist at end of report).

None of the plant species are officially listed threatened or endangered species by the federal and/or state government (U.S. Fish and Wildlife Service 1985; Herbst 1987); nor are any of them candidate or proposed for such status.

There is little of botanical interest or concern on the survey site as the site has been disturbed by landscaping activities. Any proposed development will not have an impact on the total island populations of the species involved as they occur in similar lowland situations throughout the islands.

LITERATURE CITED

Char, W.P. 1986 Botanical reconnaissance survey. Proposed widening and realignment alternatives, Hono-a-pi'ilani Highway, Puamana to Ka'anapali. Prepared for Environmental Communications, Inc., Honolulu. March 1986.

Char, W.P. 1988 Botanical survey. Hono-a-pi'ilani Highway, island of Maui. Proposed widening and realignment alternatives. Prepared for Environmental Communications, Inc., Honolulu, March 1988.

Char, W.P. and G.K. Linney. 1989. Botanical survey, South Beach mauka, Ka'anapali, Maui. Prepared for Helber, Hastert and Kimura, Honolulu. January 1989.

Char, W.P. 1989 Botanical survey, Lahaina HFDC Project. Prepared for PBR Hawaii, Honolulu September 1989.

Foote, D.E., E.L. Hill, S. Nakamura and F. Stephens. 1972 Soil survey of the islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawaii. U.S. Soil Conservation Service, Dept. of Agriculture, Washington D.C.

Herbst, D. 1987 Status of endangered Hawaiian plants. Hawaiian Botanical Society Newsletter 26(2):44-45.

Lamoreaux, C.H. 1984 Checklist of Hawaiian Pteridophytes. Manuscript.

Neal, M.C. 1965 In Gardens of Hawaii, Bishop Museum Press, Oahu.

Porter, J.R. 1972 Hawaiian names for vascular plants, Coll. Of Tropical Agriculture. Hawaiian Agricultural Experimental Station, Univ. of Hawaii. Dept. Paper No. 1. March 1972.

St. John, H. 1973 List and summary of flowering plants in the Hawaiian Islands. Pacific Tropical Garden Mem. No. 1 Lawai, Kauai.

U.S. Fish and Wildlife Service. 1985. Endangered and threatened wildlife and plants; Review of plant taxa for listing as Endangered and Threatened Species; Notice of review. Fed. Register 50(188):39526-39527 plus 57 pg. table of plant species.

Wagner, W.L., D. Herbst and S.H. Sohmer. Manual of the flowering plants of Hawaii. B.P. Bishop Museum and Univ. Press of Hawaii, Honolulu 1990.

PLANT SPECIES CHECKLIST

Following is a checklist of all those vascular plant species inventoried during the field study. Plant families are arranged alphabetically within each of three groups: Ferns and Fern Allies, Monocots and Dicots. Taxonomy and nomenclature of the Ferns and Fern Allies follow Lamoreaux (1984); the flowering plants (Monocots and Dicots) are in accordance with Wagner *et al.* (1990). In most cases, common English and/or Hawaiian names given follow St. John (1973) or Porter (1972).

For each species, the following information is provided:

1. Scientific name with author citation.
2. Common English or Hawaiian name, when known.
3. Biographic status. The following symbols are used:
P-Polynesian-plants of early polynesian introduction prior to Western contact (1778); not native.
X-introduced or alien- all those plants brought to the islands intentionally or accidentally after Western contact; not native.
4. Presence(+) or absence(-) of a particular species within each of the vegetation types recognized on the survey site. (See text for discussion):
S - Sandy areas.
R - Rocky areas.

VEGETATION TYPE

<u>Scientific Name</u>	<u>Common Name</u>	<u>Status</u>	<u>S</u>	<u>R</u>
FERN AND FERN ALLIES				
NEPHROLEPIDACEAE (Sword Fern Family)				
<i>Nephrolepis multiflora</i> (Roxb.) Jarett ex Morton	hairy sword fern, kupukupu	x	-	+
MONOCOTS				
CYPERACEA (Sedge Family)				
<i>Cyperus rotundus</i> L.	nutgrass, nut sedge	x	+	-
POACEA (Grass family)				
<i>Brachiaria mutica</i> (Forssk.) Staph.	California grass	x	+	-
<i>Cenchrus ciliaris</i> L.	buffel grass	x	-	+
<i>Cynodon dactylon</i> L.	Bermuda grass, manienie	x	+	-
PALMAE (Palm Family)				
<i>Cocos nucifera</i> (L.)	coconut tree	x	+	+
<i>Washingtonia filifera</i>	fan palm	x	-	+
DICOTS				
AMARANTHACEAE (Amaranth Family)				
<i>Amaranthus spinosus</i> L.	Spiny amaranth, pakai kuku	x	-	+
ASTERACEAE (Sunflower Family)				
<i>Bidens pilosa</i> L.	Spanish needle, beggar's tick	x	-	+
BORAGINACEAE (Heliotrope Family)				
<i>Cordia sebestena</i> (L.)	Geiger tree, kou	x	+	-
CATACEAE (Cactus Family)				
<i>Hylocereus undatus</i> (Haw.)	Night-blooming cereus, panini	x	+	+
COMBRATACEAE (Terminalia Family)				
<i>Terminalia catappa</i> (L.)	Tropical almond, false kamani	x	+	-
CONVULVULACEAE (Morning glory Family)				
<i>Ipomea triloba</i> (L.)	little bell	x	-	+
EUPHORBIACEAE (Spurge Family)				
<i>Ricinus communis</i> L.	castor bean, koli	x	-	+
LEGUMINOSAE (Bean Family)				
<i>Leucaena leucocephala</i> (Lam.) de wit.	Koa-haole	x	+	+
<i>Prosopis pallida</i> (Humb. And Bonpl. Ex Willd.)	Kiawe	x	+	+
MALVACEAE (Hibiscus Family)				
<i>Thespesia populnea</i> (L.)	Milo	x	+	+

Survey of the Avifauna and Feral Mammals

Appendix No. 2

SURVEY OF THE AVIFAUNA AND FERAL MAMMALS

AT T.M.K. 2-1-04 : 46 MAKENA, MAUI

Prepared for

CARTER-MAKENA LTD. PARTNERS

by

**Joseph Feigelson
Environmental Consultant Faunal (Bird and Mammal) Surveys
Botanical Research Consultants
Maui, Hawaii**

July 1997

Appendix No. 2

INTRODUCTION

The purpose of this report is to summarize the findings of a one day (6-23-97) bird and mammal field survey of 15 acres at T.M.K. 2-1-04 : 46, Makena, Maui. Also included are references to pertinent literature and unpublished reports.

The objectives of the field survey were to :

1. Document what bird and mammal species actually or potentially occur on the property.
2. Provide some baseline data on the relative abundance of each species.
3. Note the presence or likely occurrence of any native fauna particularly those that are considered "Endangered" or "Threatened". If such occur or may likely be found on the property identify what if any features of the habitat may be essential for these species.
4. Determine if the property contains any special or unique habitats that if lost or altered by development might result in a significant impact on the fauna in this region of the island.

SITE DESCRIPTION

The Carter-Makena Partners site consists of 14.516 acres. Approximately 3 acres consists of a saltwater inlet described as a Fish Pond. The surveyed site (T.M.K. 2-1-04 : 46) is bordered to the south by the ocean, to the north by the Makena Keoneoio Government Road. To the west and the east, it is bordered by vacant lava land belonging to the State of Hawaii.

Almost the entire survey site is presently landscaped due to the two homes that occupy the site. Areas that have not been landscaped occur along the northern property boundary. There is no wetland habitat at this location.

The weather during the survey was cloudy and warm. Winds were from the east at 15 mph.

STUDY METHODS

The property was surveyed on foot following the existing roads as well as following the property borders where applicable. Field observations were made with the aid of binoculars and by listening for vocalizations.

At scattered locations throughout the site, eight minute counts were made of all birds seen or heard. These data provide the basis for the relative abundance estimates. Unpublished reports of birds known from similar habitats nearby were also consulted in order to acquire a better perspective of the possible fauna that could occur in this region and their potential relative abundance (Bruner 1986, 1988b, 1989a, 1989b, 1991, 1992). Observations of feral animals were limited to visual sightings and evidence in the form of scats and tracks. No attempts were made to trap mammals in order to obtain data on their relative abundance and distribution..

Scientific names used in this report are those given in Hawaii's Birds (Hawaii Audubon Society 1993) ; A field guide to the birds of Hawaii and the tropical Pacific (Pratt et al. 1987) and Mammal species of the World (Honacki et al. 1982).

RESULTS AND DISCUSSION

Resident Endemic and Indigenous (Native) Birds:

No resident endemic or indigenous birds were recorded on the survey. A possible species which may at times occur in this region is the Short-eared Owl or Pueo (Asio flammeus sanwicensis.)

Migratory Indigenous (Native) Birds :

Migratory shorebirds winter in Hawaii between the months of August through May. Some juveniles will stay over the summer months as well (Johnson et al. 1981, 1983, 1989). The most abundant shore-bird species which winters in Hawaii is the Pacific Golden Plover (Pluvialis fulva). Plover forage in open areas such as mud flats, lawns pastures, plowed agricultural fields and roadsides. They arrive in Hawaii from their breeding grounds in the arctic during early August. Their departure back to the arctic takes place in April. Plover are extremely site-faithful and many establish winter foraging territories which they vigorously defend. Such behavior makes it possible to acquire a fairly good estimate of the abundance of Plover in any one area. These populations likewise remain relatively stable over many years (Johnson et al. 1989). No Plover were recorded on the survey.

Resident Indigenous (Native) Seabirds :

No seabirds were recorded nor would any be expected at this location. Predators such as dogs, cats and the Small Indian Mongoose (Herpestes auropunctatus), along with a human disturbance inhibit seabird nesting at all but a few isolated locations on the main Hawaiian Islands.

Exotic (Introduced) Birds :

A total of 3 species of exotic birds were recorded during the field survey. In addition to these species, other exotic birds which potentially could occur on the property include : Cattle Egret (Bubulcus ibis), Barn Owl (Tyto alba), Ring-necked Pheasant (Phasianus colchicus), Northern Mockingbird (Mimus polyglottus), Eurasian Skylark (Alauda arvensis), Gray Francolin (Francolinus pascuarius), Spotted Dove (Streptopelia chinensis), Zebra Dove (Geopelia striata), Common Myna (Acridotheres tristis), Northern Cardinal (Cardinalis cardinalis), Japanese White-eye (Zosterops japonicus), Nutmeg Mannikin (Lonchura punctulata), Warbling Silverbill (Lonchura malabarica) and the House Finch (Carpodacus mexicanus). (Pratt et al. 1987 ; Hawaii Audubon Society 1993 ; Bruner 1986, 1988a, 1988b, 1989a, 1989b, 1991, 1992.)

The 3 recorded species are House Sparrow (Passer domesticus), Red-crested Cardinal (Paroaria coronata) and the Black Francolin (Francolinus francolinus).

Feral Mammals :

No feral mammals were observed on the survey. Records of the endemic and endangered Hawaiian Hoary Bat (*Lasiurus cinereus semotus*) on Maui are limited (Tomich 1986 ; Kepler and Scott 1990). None were observed on this field survey. This species is known to roost solitarily in trees and is often observed foraging over ponds and bays. The life history of this species is poorly known. Kepler and Scott (1990) suggest that bats occur on Maui only as a "migrant, probably from the Big Island". Others (Duvall and Duvall 1991), report evidence that would suggest there may be a resident breeding population of bats on Maui.

CONCLUSION

A short field survey can only provide a limited view of the wildlife that may use the site. The number of species and their relative abundance may vary throughout the year due to resource (food, water) availability and reproductive success. Species which are migratory will only be an important part of the faunal picture at certain times during the year. Exotic species sometimes prosper for a time only to later disappear or become a less significant part of the faunal community (Williams 1987; Moulton 1990). Thus only long term studies can provide a comprehensive view of the bird and mammal populations in a particular area. However, some general conclusions related to bird and mammal activity at this site can be made. Below is a summary of the findings of this survey.

1. The site was surveyed on one day by walking the roads which access the property as well as by traversing the property. The weather was partly sunny with winds from the east at 15 mph. Data was obtained at random locations throughout the property.
2. No resident native birds were recorded.
3. No mongoose were recorded at this site. No endangered species such as the Hawaiian Hoary Bat were recorded.
4. No wildlife habitats were found on this property.

SOURCES CITED

- Bruner, P.L. 1986. An avifaunal and feral mammals survey of Kapalua development subdivision, Honokahua, Lahaina, Maui. Unpubl. ms.
- _____ 1988a. Survey of the avifauna and feral mammals at South Beach Mauka, Kaanapali, Maui. Unpubl. ms.
- _____ 1988b. Survey of the avifauna and feral mammals at North Beach Mauka, Kaanapali, Maui. Unpubl. ms.
- _____ 1989a. Field survey of the avifauna and feral mammals at Kapalua, Maui. Unpubl. ms.
- _____ 1989b. Field survey of the avifauna and feral mammals for the Lahaina HFDC Master Plan Project/Offsite sewer and water improvements. Unpubl. ms.
- _____ 1992. Survey of the avifauna and feral mammals at the proposed site of Puukolii Village, Lahaina, Maui. Unpubl. ms.
- Duvall, F. and R.G. Duvall. 1991. No bats on Maui? Look again 'Elepaio 51(3) :1-2 .
- Hawaii Audubon Society. 1993. Hawaii's Birds. Fourth Edition. Hawaii Audubon Society, Honolulu.
- Honacki, J.H. and K.E. Kinman and J.W. Koepl ed. 1982. Mammal species of the World: A taxonomic and geographic reference. Allen Press, Inc. and the Association of Systemic Collections, Lawrence, Kansas.
- Johnson, O.W. and P.M. Johnson and P/L/ Bruner. 1981 Wintering behavior and site-faithfulness of Golden Plovers on Oahu. 'Elepaio 41(12):123-130.
- Kepler, C.B. and J.M. Scott. 1990. Notes on distribution and behavior of the endangered Hawaiiin Hoary Bat (Lasiurus cinereus semotus). 'Elepaio 50(7):59-64.
- Pratt, H.D., P.L. Bruner and D.G. Berrett. 1987. A field guide to the birds of Hawaii and the tropical Pacific. Princeton Univ. Press.
- Tomich, P.Q. 1986. Mammals in Hawaii. Bishop Museum Press. Honolulu.

Preliminary Drainage Report

Appendix No. 3

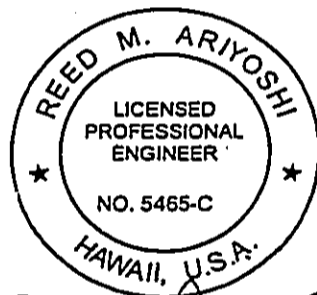
Established 1969

Preliminary Drainage Report

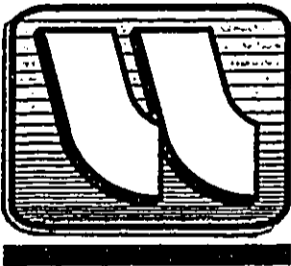
The Schatz Residence

Kalihi, Honuaula, Maui, Hawaii
TMK: (2) 2-1-04: 46 and 48

DEVELOPER: Douglas Schatz
ADDRESS: Kihei, Maui, Hawaii



A handwritten signature in cursive script that reads "Reed M. Ariyoshi".



WARREN S. UNEMORI ENGINEERING, INC.
Civil and Structural Engineers - Land Surveyors
Wells Street Professional Center - Suite 403
2145 Wells Street
Wailuku, Maui, Hawaii 96793

October, 1998

Appendix No. 3

Preliminary Drainage Report
for
The Schatz Residence

I. INTRODUCTION

This preliminary drainage report has been prepared to examine the drainage conditions before and after development, as well as the proposed drainage plan for the subject project.

II. PROPOSED PROJECT

A. Site Location:

The project site is located in Honuaula, on the island of Maui, in the State of Hawaii. It is situated on the southerly side of the Makena-Keoneoio Government Road and on the northerly side of La Perouse Bay. (See Exhibit 1)

The project site encompasses an area of approximately 4.8 acres.

B. Project Description:

The proposed project will consist of demolishing the existing residence and tennis court located on the southerly portion of the

Preliminary Drainage Report
for
The Schatz Residence

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The project site encompasses an area of approximately 4.8 acres.

B. Project Description:

The proposed project will consist of demolishing the existing residence and tennis court located on the southerly portion of the

project site, and constructing a new residence and guest house to replace the existing residence and tennis court. A new asphalt concrete paved driveway will be constructed from the Makena-Keoneoio Government Road to the new residence as part of this project.

Utility improvements will consist of relocating three (3) existing water tanks and the installation of a new sewer septic tank system.

III. EXISTING CONDITIONS

A. Topography and Soil Conditions:

Presently, the project site contains an asphalt paved access road, a existing residence, and a tennis court. The majority of the project site consists of open land which is not being used for any particular purpose. The majority of the project site is well vegetated with feather fingergrass, ilima, kiawe, coconut trees, klu, koa haole, lantana, natal redtop and pitted beardgrass. The remaining portion of the project site near the shoreline is minimally vegetated with lichens, a few grasses, herbs, shrubs, and scrubby trees.

The existing ground of the project site slopes in a northerly to southerly direction from an elevation of (+) 40 feet \pm MSL to (+) 3 feet \pm MSL, with an average slope of approximately 7.1%.

According to the "Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii (August 1972)", the existing soil types on the project site are the Oanapuka extremely stony silt loam, 7 to 15 percent slopes (OED) and Lava Flows, Aa (rLw). The predominant Oanapuka extremely stony silt loam is characterized as having moderately rapid permeability, slow runoff and a slight to moderate erosion hazard. The Lava Flows is characterized as geologically recent lava flows which consist of a mass of clinkery, hard, glassy, sharp pieces of lava on rough to undulating topography. (See Exhibit 2)

B. Drainage:

Presently, the pre-development surface runoff volume generated by the project site is calculated to be approximately 6.8 cfs based on a 10 year recurrence interval, 1 hour duration storm. (See Appendix A). This existing surface runoff volume sheet flows across the project site in a northerly to southerly direction into the ocean.

C. Flood and Tsunami Zone:

According to the Flood Insurance Rate Map, effective June 1, 1981, prepared by the U.S. Federal Emergency Management Agency, Federal Insurance Administration, the project site is situated in an area which has Zones V18, A4 and C designated within the site. Zone V18 is an area which is subject to the 100-year coastal flood with velocity and has a base coastal flood elevation of 11 feet. Zone A4 is an area which is subject to the 100 year flood and has a base flood elevation of 11 feet. The majority of the project site is designated as Zone C which is prone to minimal flooding. (See Exhibit 3)

IV. DRAINAGE PLAN

A. General:

Based on our calculations, the post development surface runoff volume generated by the project site is calculated to be approximately 6.8 cfs. Accordingly there will be no increase in surface runoff volume as a result of the subject project. This is mainly due to the impervious areas before and after development being

approximately the same. Additionally all exposed areas will be either landscaped or grassed.

The design criteria for the proposed development will include minimal alterations to the natural drainage pattern. It is expected that after development, the surface runoff would continue to sheet flow off the project site and into the ocean as it is presently doing.

B. Hydrology Calculations:

The hydrologic calculations are based on the "Rules for the Design of Storm Drainage Facilities in the County of Maui".

Rational Formula Used: $Q = CIA$

Where Q = Rate of Flow (cfs)

C = Runoff Coefficient

I = Rainfall Intensity (inches/hour)

A = Area (acres)

C. Conclusion:

Based on our calculations, there will be no net increase in surface runoff volume due to the proposed development. This is primarily due to the impervious area before and after development being approximately the same. The surface runoff volume will be allowed to sheet flow off the project site and into the ocean as it is

presently doing. Therefore it is our professional opinion that the proposed development will not adversely affect the adjoining properties.

Report Prepared By:

Carlos R. Rivera
Carlos R. Rivera

Report Reviewed By:

Reed M. Ariyoshi
Reed M. Ariyoshi, P.E.

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V. REFERENCES

1. *Soil Survey of Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii.* August 1972. United States Department of Agriculture, Soil Conservation Service.
2. *Flood Insurance Rate Map, Maui County, Hawaii.* Community-Panel Number 150003 0340B. June 1, 1981. Federal Emergency Management Agency, Federal Insurance Administration.
3. *Rainfall Frequency Atlas of the Hawaiian Islands, Technical Paper No. 43.* 1962. U.S. Department of Commerce, Weather Bureau.
4. *Rules for the Design of Storm Drainage Facilities in the County of Maui.* July, 1995. Department of Public Works and Waste Management, County of Maui.

EXHIBITS

1. Location Map
2. Soil Survey Map
3. Flood Insurance Rate Map

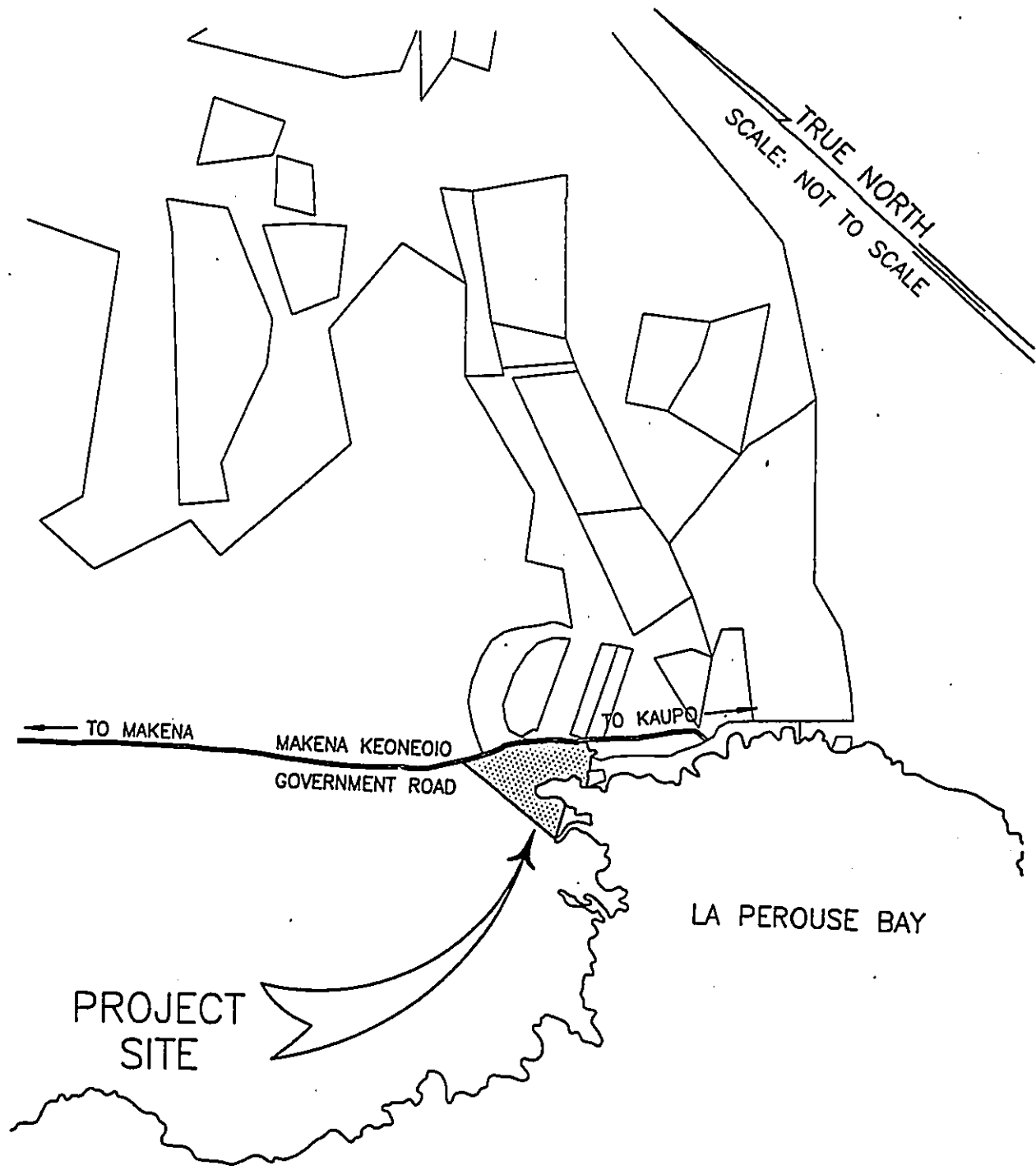


EXHIBIT 1
LOCATION MAP
SCALE: NOT TO SCALE

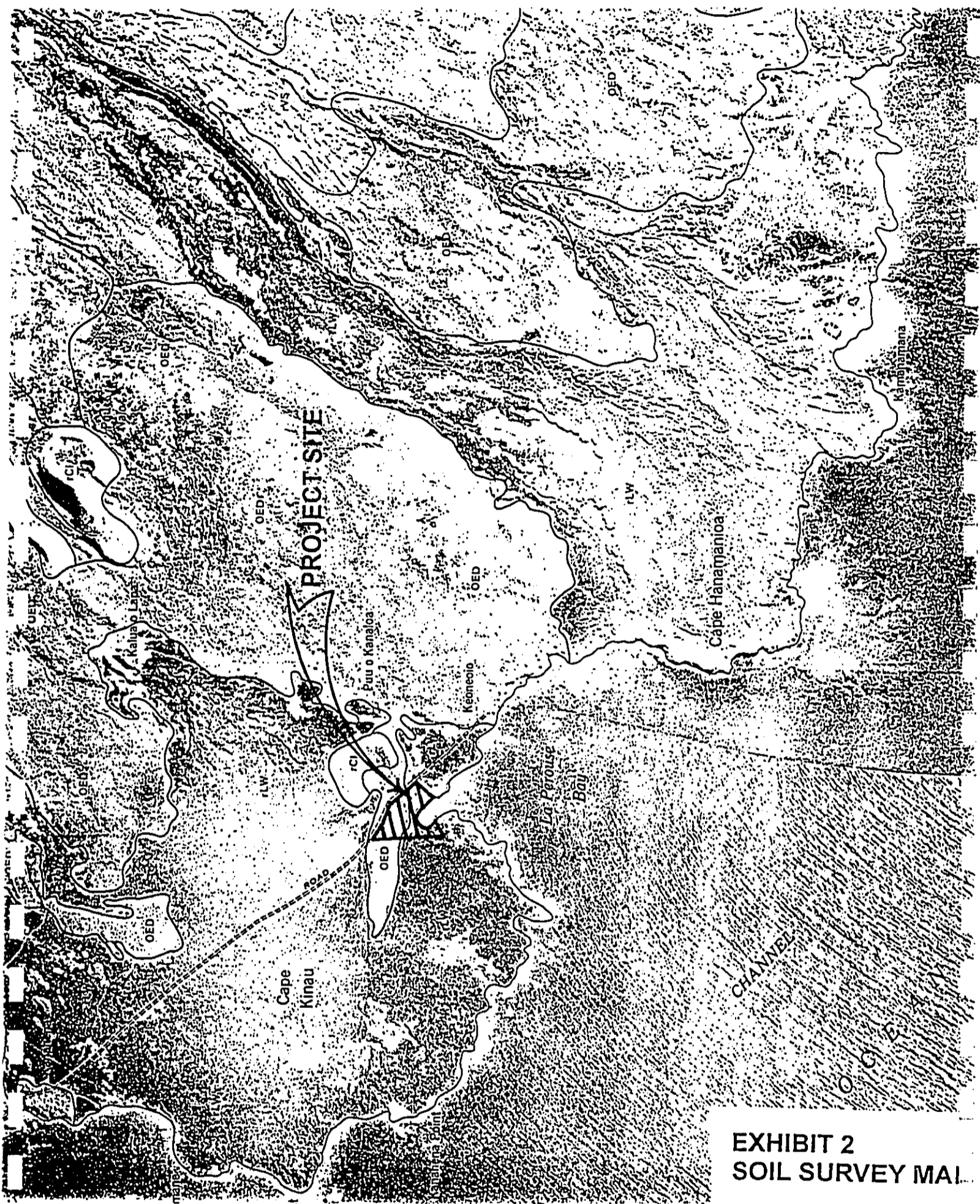


EXHIBIT 2
SOIL SURVEY MA...

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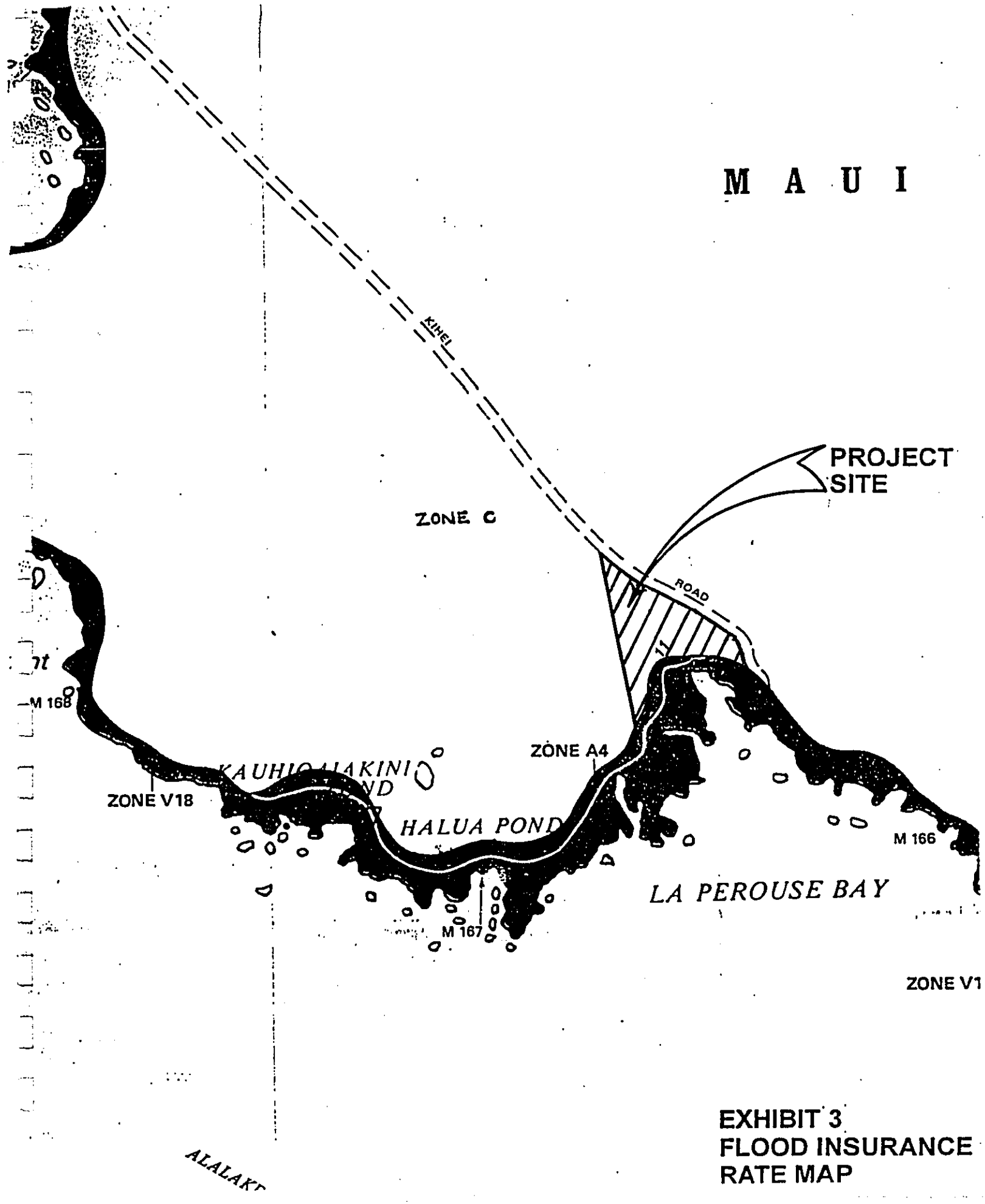


EXHIBIT 3
FLOOD INSURANCE
RATE MAP

Page 2 of 2
W.S. UNEMORI ENGINEERING, INC.
2145 Wells Street Suite 403
Wailuku, Maui, Hawaii 96793

BY: CRR
DATE: October 16, 1998

THE SCHATZ RESIDENCE
[continued]

TABULATION OF RUNOFF COEFFICIENTS & AREAS:

SUB-BASIN 1 OF 1 : PROJECT SITE

INFILTRATION: Medium	0.07	
RELIEF: Rolling (5-15%)	0.03	>>> COMPOSITE C = 0.430
VEGETAL COVER: Good (10-50%)	0.03	>>> AREA = 4.800 acres
DEVELOPMENT: Rural	0.30	

APPENDIX A
Hydrologic Calculations

Page 1 of 2
W.S. UNEMORI ENGINEERING, INC.
2145 Wells Street Suite 403
Wailuku, Maui, Hawaii 96793

BY: CRR
DATE: October 16, 1998

HYDROLOGIC STUDY
FOR
THE SCHATZ RESIDENCE

HONUULA, MAUI, HAWAII

PRE-DEV ONSITE SURFACE RUNOFF VOLUME

RECURRENCE INTERVAL:	10 years	HYDRAULIC LENGTH:	520.0 ft.
ONE-HOUR RAINFALL:	2.00 inches	ELEV'N. DIFFERENTIAL:	37.00 ft.
		HYDRAULIC SLOPE:	0.071 ft./ft.
WEIGHTED RUNOFF		TIME OF CONCENTRATION:	20.0 min.
COEFFICIENT, C:	0.43	SUB BASINS CONSIDERED:	1
INTENSITY, I:	3.30 inches		
AREA, A:	4.80 acres		

$Q = C * I * A = 6.81 \text{ cfs}$

COMMENTS:

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THE SCHATZ RESIDENCE
[continued]

TABULATION OF RUNOFF COEFFICIENTS & AREAS:

SUB-BASIN 1 OF 1 : PROJECT SITE

INFILTRATION:	Medium	0.07	
RELIEF:	Rolling (5-15%)	0.03	>>> COMPOSITE C = 0.430
VEGETAL COVER:	Good (10-50%)	0.03	>>> AREA = 4.800 acres
DEVELOPMENT:	Rural	0.30	

Archaeological Reports

Appendix No. 4

ARCHAEOLOGICAL INVENTORY
SURVEY OF A 15 ACRE PARCEL
LOCATED IN KALIHI AHUPUA'A,
HONUA'ULA, MAKAWAO DISTRICT,
MAUI ISLAND (TMK: 2-1-04: 46)

Prepared for:

*Carter-Makena Ltd. Partners
Kihei, Hawaii*

Prepared by:

*Xamanek Researches
Pukalani, Hawaii*

**Erik M. Fredericksen
Demaris L. Fredericksen**

*August 1997
(Revised November 1997)*

Appendix No. 4

ABSTRACT

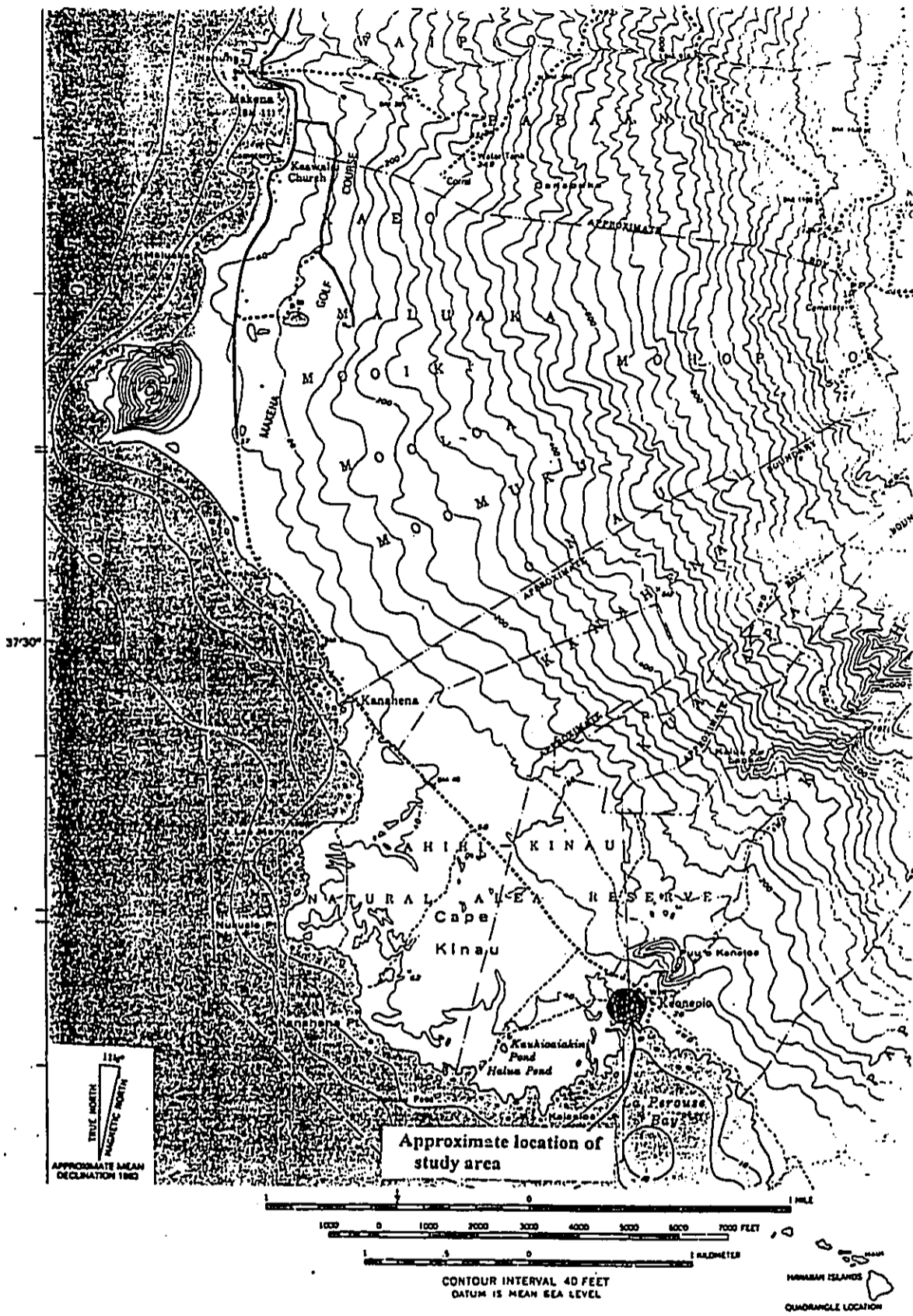
An archaeological inventory survey was conducted in the summer of 1997 for Carter-Makena Ltd. Partners by Xamanek Researches on a c. 15 acre portion of land located in Kalihi, Honua'lua, Maui, Hawaii (TMK 2-1-04: 46). Although the subject parcel has been disturbed by past ranching, military and land owner actions, it contains 10 archaeological sites.

These cultural resources consist of 2 known sites and 8 newly identified ones. The 2 previously recorded sites include an old slaughterhouse and landing site (Site 50-50-14-1580) and Keone'o'io Fishpond (Site 50-50-14-4199). Site 1580 has apparently been destroyed. The 8 previously unrecorded sites were identified during our 1997 inventory survey. These cultural resources were assigned SIHP No. 50-50-14-4457, and 4466 through 4472. They include a World War II military site, an old Hawaiian congregational church, 3 boundary wall sections, a boundary wall section and an enclosure, an old well, and a rock overhang shelter. Preservation in place is the recommended mitigation for Site 4199 (Keone'o'io Fishpond), and Site 4466 (old Hawaiian church). Data recovery is the recommended mitigation for Sites 4457, 4467 through 4470, and Site 4472 (rock overhang shelter), in the event that any or all of them are impacted by future development. No further archaeological work is required for Sites 1580 and 4471. Archaeological monitoring is the recommended mitigation for any grubbing and/or earthmoving activities that occur on the sand dune deposits on the northwestern portion of the subject parcel.

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Map 1 - U.S.G.S. Topographic Map, Makena Quadrangle, 1983.

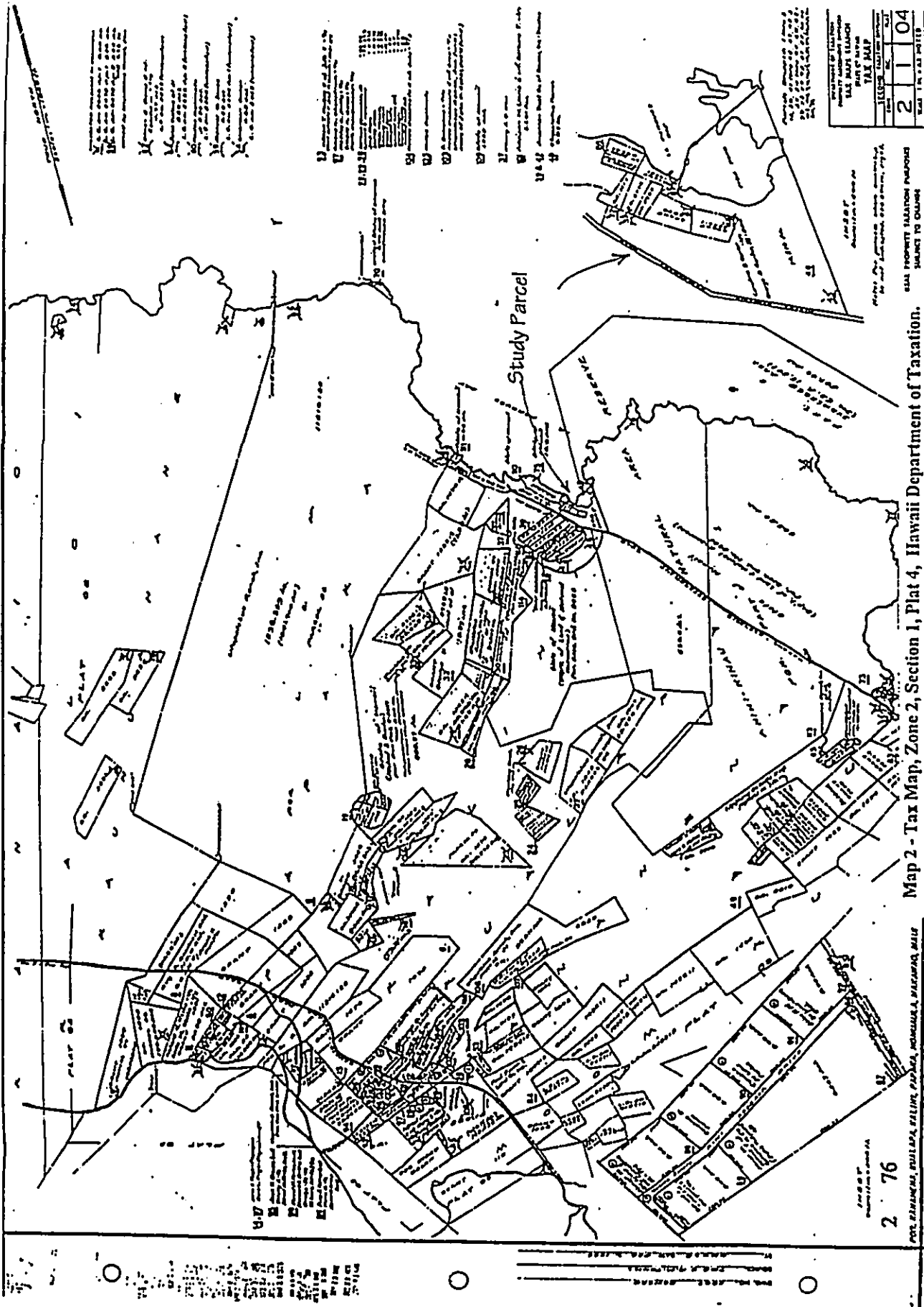
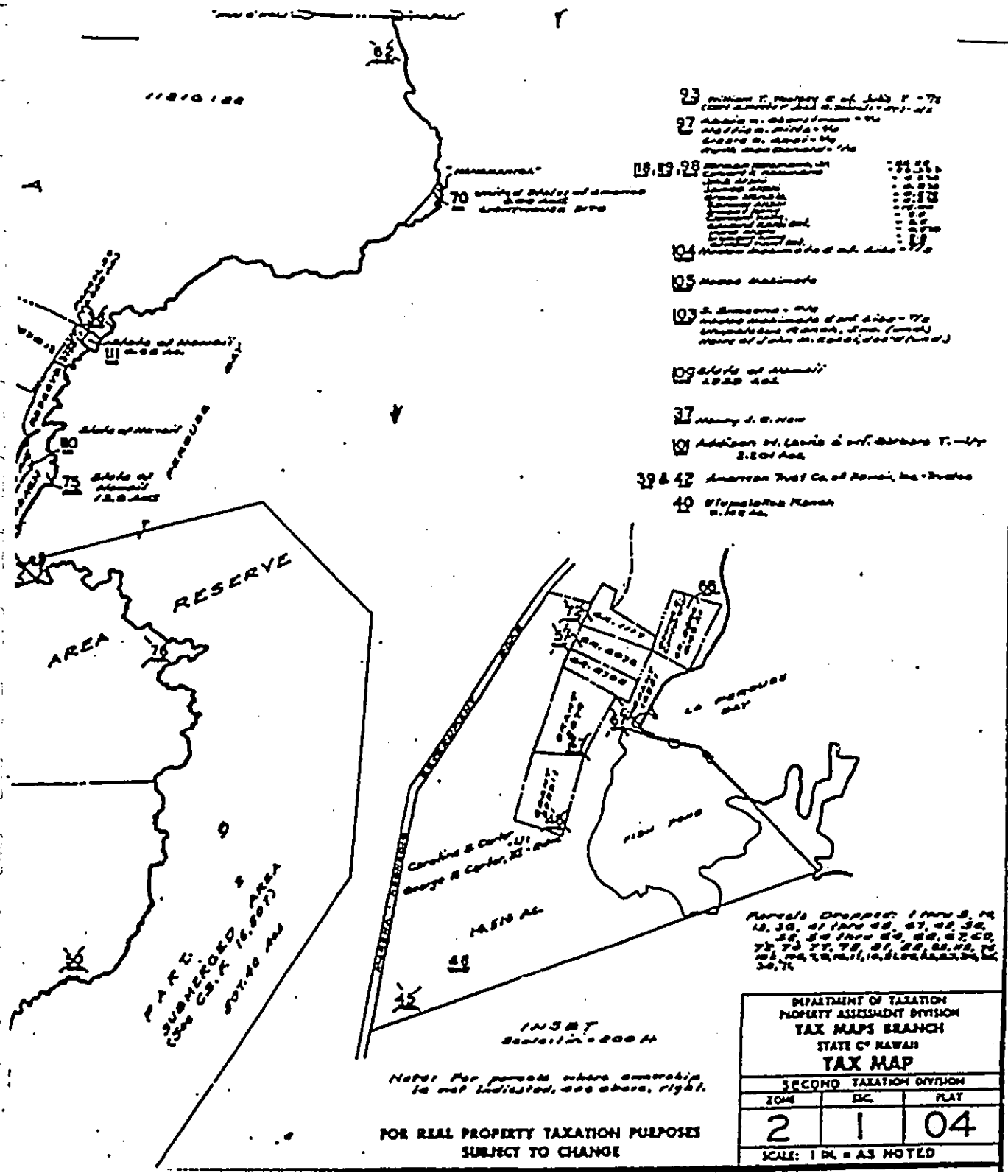
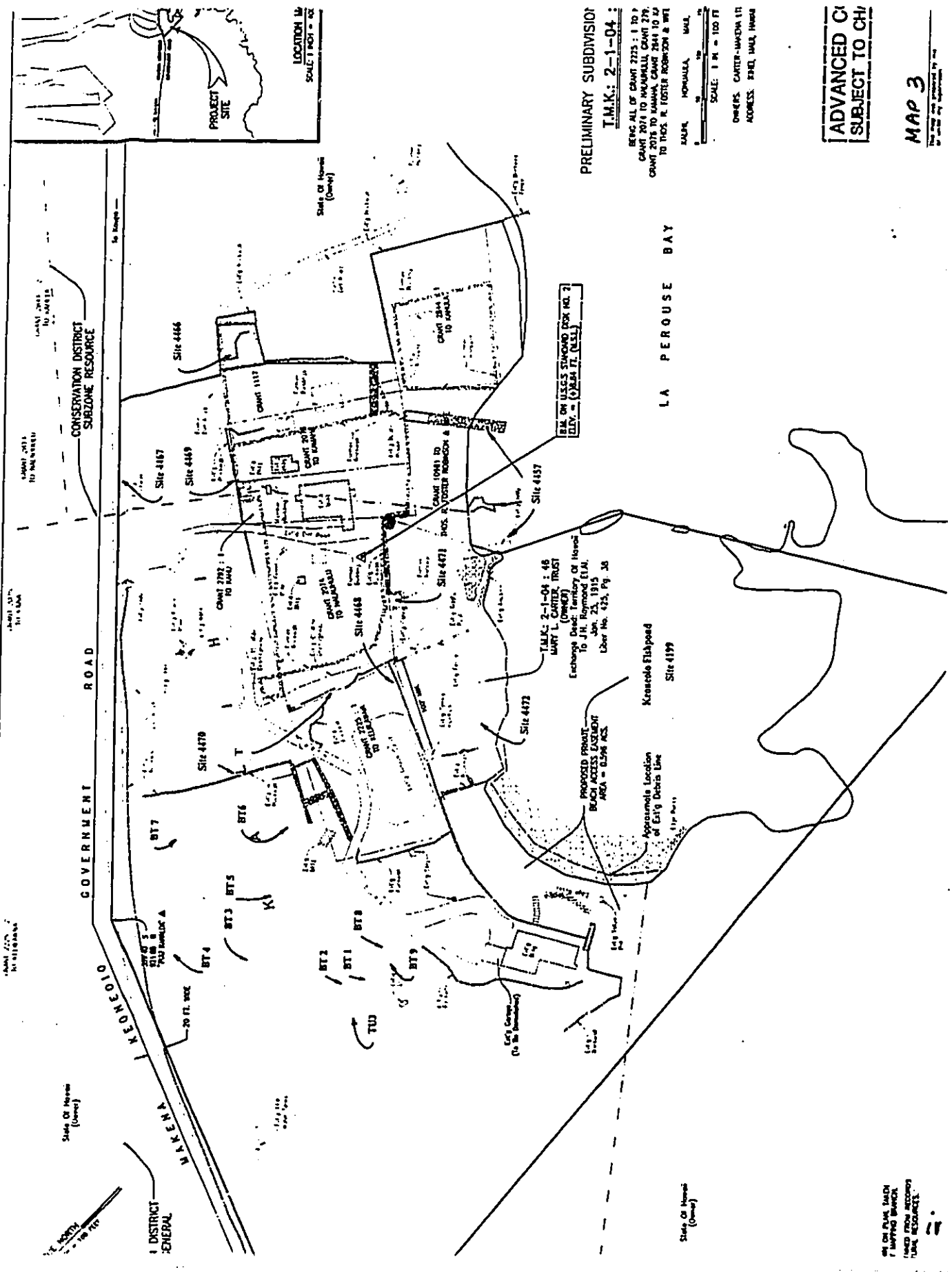


EXHIBIT "A"



Map 2a - Insert from Tax Map 2-1-04, showing parcel 46.



PRELIMINARY SUBDIVISION
 T.M.K.: 2-1-04

RECORD OF DEEDS: 1 TO 7
 CHART 204 TO HAWAIIAN CHART 279
 CHART 205 TO HAWAIIAN CHART 284 TO 42
 TO 1162, R. FOSTER ROBINSON & WIFE

KAUAI HONOLULU HAWAII
 SCALE: 1" = 100 FT

OWNERS: CARTER-WARDEN LTD
 ADDRESS: 2401 HALE, HONOLULU

ADVANCED CITY ENGINEERS
 SUBJECT TO CHANGES

MAP 3

LA PEROUSE BAY

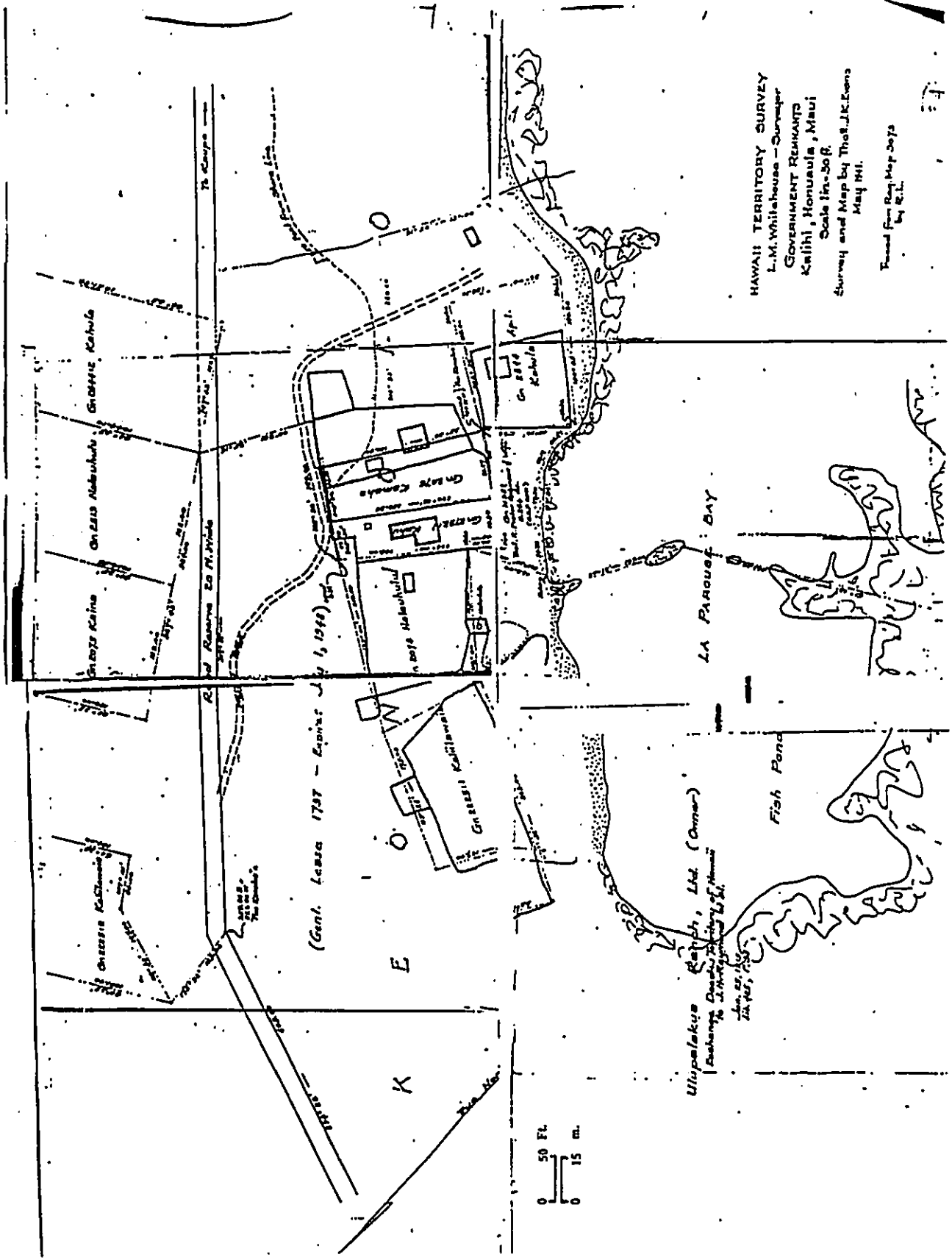
RECORD OF DEEDS: 1 TO 7
 CHART 204 TO HAWAIIAN CHART 279
 CHART 205 TO HAWAIIAN CHART 284 TO 42
 TO 1162, R. FOSTER ROBINSON & WIFE

T.M.K.: 2-1-04 : 46
 WARDEN TRUST
 Exchange Deed: Territory of Hawaii
 To J.H. Raymond (E.A.)
 Jan. 23, 1915
 Liber No. 425, Pg. 38

PROPOSED PRIVATE
 BEACH ACCESS EASEMENT
 AREA = 0.596 ACS

Approximate Location
 of Eri's Debris Line

ON THE PLAT MAPS
 PLANNED FROM RECORDS
 T.M.K. RECORDS

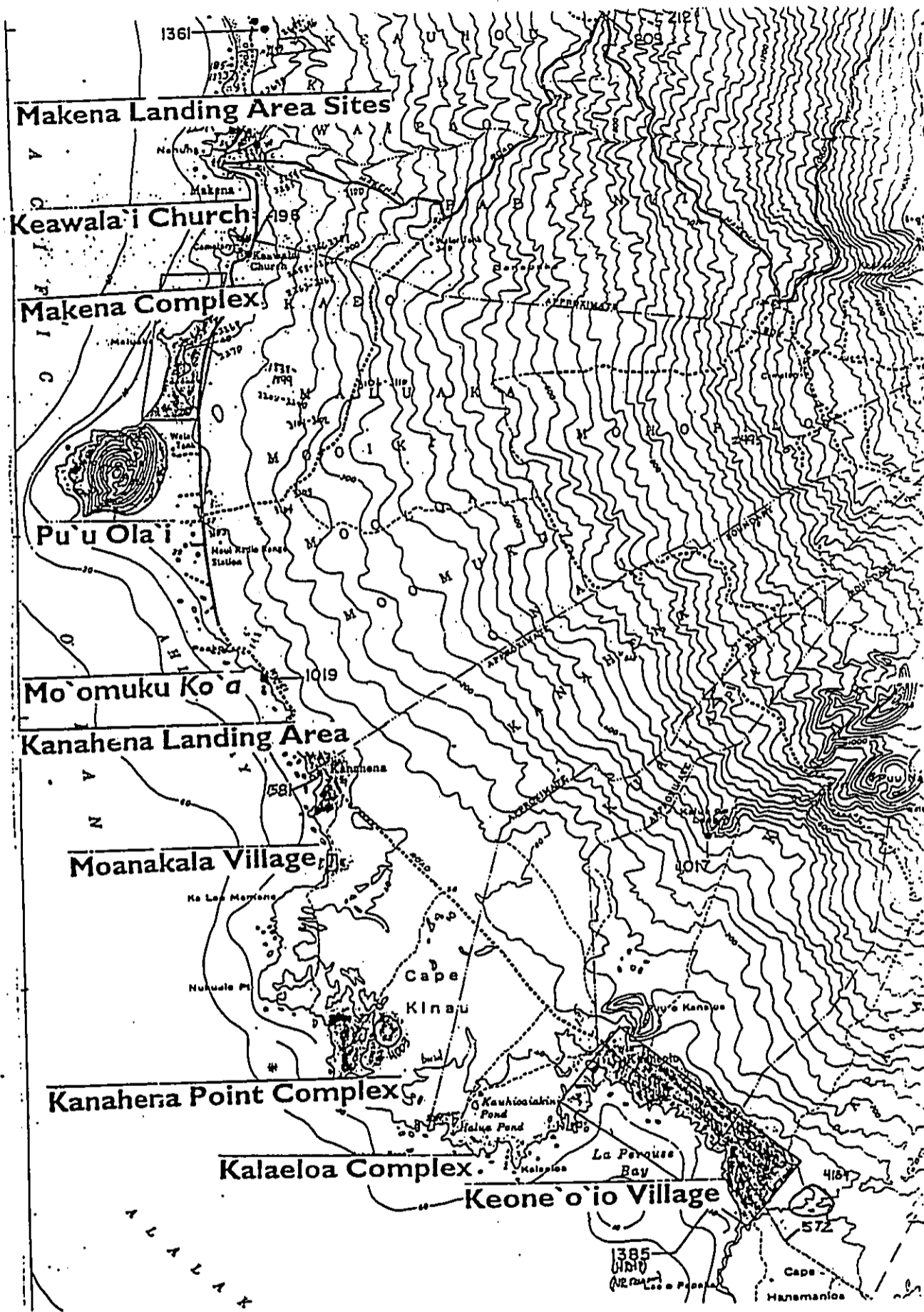


HAWAII TERRITORY SURVEY
 L.M. Whitehouse - Surveyor
 GOVERNMENT REMNANTS
 Kalaheo, Honolulu, Maui
 Scale 1/4" = 50 ft.
 Survey and Map by Thos. J.K. Evans
 May 1941.

Transferred from Map No. 2072
 by G.L.

Map 4 - 1941 Map of Government Remnants (Map by L.M. Whitehouse, Surveyor)

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Map 5 - Topographic map showing locations of sites in Makena area (created by Theresa Donham for the Kihei-Makena Community Plan review—1997). vi

INTRODUCTION

In November of 1996 we were contacted by Mr. Steve Fulton, and asked to undertake an archaeological reconnaissance of TMK: 2-1-04: 46 and 68, a 15 acre property located on the shore at La Perouse Bay. This parcel is located Keone`o`io (La Perouse) Bay, Kalihi *Ahupua`a*, Honua`ula, Makawao District, Maui Island. It is bordered on three sides by the Keone`o`io Archaeological District (Site 50-50-14-1385). A large fish pond is included within the property boundaries. Development plans call for dividing the parcel into several residential sections. Ms. Theresa Donham, Maui Archaeologist for the State Historic Preservation Division¹, made a site visit in June of 1996, and requested that a study be conducted before any subdivision work be done on the parcel.

After a field visit in January by our field archaeologists, which confirmed her findings, we submitted a proposal for an archaeological inventory survey of the area. Fieldwork took the form of a surface walk-over and subsurface testing, and was undertaken at several intervals over a period of several weeks in May and June, 1997.

STUDY PARCEL

Natural History

The project area is situated on the western flank of Haleakala volcano in East Maui. The area lies in the rain shadow of Haleakala Volcano, and therefore is a rather dry region with an annual rainfall of about 20 inches.

To the north, about 2 miles distant, stands Pu`u Ola`i, which is a geologically recent volcanic vent. It is from the Hana series of eruptions of Haleakala Volcano, which is the same series that forms Molokini Islet directly offshore (Macdonald, Abbott, and Peterson, 1983). Soils are part of the Keawakapu-Makena association—gently sloping to moderately steep, well-drained soils that have a fine-textured to medium-textured subsoil and vary from shallow to deep over fragmental lava. The soil is classified as Makena (MXC), which is considered to be silt loam soil noted for stony occurrence in places, and interspersed with occasional `a`a outcroppings (Foote, et. al, 1972).

¹ Ms. Donham subsequently left the DLNR-SHPD position at the end of January, 1997.

The parcel ranges from sea level to approximately 50 feet AMSL, and contains exposed 'a'a lava rock and vegetated sand dunes. Portions of the property are landscaped around 2 existing homes, a tennis court, and 2 paved driveways. The study parcel is bordered by State Conservation District land which primarily consists of the La Perouse lava flow. The property itself is a *kipuka*, or area which was not covered by this lava flow in the 1790s.

Vegetation on the parcel consists primarily of drought tolerant native and alien species. The dominant overstory consists of *kiawe* (*Prosopis pallida*), which covers over half of the parcel. Alien species include annual weeds, landscaping plants, and grasses covering open and cleared areas. One of the more noticeable alien plant species is night blooming cereus (*Hylocereus* sp.) which has overgrown many of the *a'a* rock walls present on the parcel. The indigenous plant *'ilima* (*Sida fallax*) is relatively common on the northwestern section of the property. Scattered indigenous *'uhaloa* (*Waltheria americana*) were also observed during the survey. Non-alien tree species present on the study parcel include scattered coconut (*Cocos nucifera*), *noni* (*Morinda citrifolia*), several *hao* (*Hibiscus tiliaceus*), and a single *kukui* (*Aleurites moluccana*) nut adjacent to the caretaker's home.

BACKGROUND RESEARCH

Traditional History

There are not many references in traditional literature to the Makena or Honua'ula region of the island of Maui. However, one reference is to be found in the "Myths of Sacred Hills", related in Beckworth (1970, pg. 189). Here she tells of the formation of Pu'u Ola'i, a prominent cinder cone which lies about 3 miles northwest of Keone'o'io:

"The two hills beyond Maalaea bay on Maui are named Pu'u-hele and Pu'u-o-kali. They are mo'o beings and their first child is a daughter born of Pu'u-o-kali and named Pu'u-o-inaina. She is placed on the sacred island of Kahoolawe, called at that time Kohe-malamalama. She becomes the wife of the two sons of the kahuna of Hua, Kaakakai and Kaanahua, who take the form of birds and retreat to Hanu-ula when the great drought comes and there alone rain falls. Pu'u-o-inaina takes Lohiau for her husband while he is living at Maalaea. Pele is angry and cuts her in two in the middle.

The tail becomes the hill Pu`u-o-lai at Makena, and the head becomes the rock islet of Molokini."

Another reference is contained in Inez Ashdown's *Ke Alaloe o Maui* (1971) and a synopsis is found in Carpenter and Yent (1995, p. 6):

Inez Ashdown mentions a sacred cave at Pu`u Ola`i associated with "guardian angels" and shark deities:

The large cave beneath Pu`u O-lai between One-uli and Nau-paka beaches at Makena has ever been a sacred dwelling-place for these ancestral dieties [Ashdown 1970:22].

Ashdown makes several references to Oneuli and the area around Keawala`i Church, about a mile north of Pu`u Ola`i. She mentions a "bowling field for rolling the `ulu mai-ka stones in the game of that name, and a holu-sled [sic] slide also, in the area mauka of One`uli, but they are gone now" (ibid.:51). She also states that Makena was known for a "coconut grove where many types of niu grew, including the sacred Niu Hiwa used only for ceremonial purposes (ibid.:67)." This coconut grove is called Nahawale and the remnants of the grove remain around Keawala`i Church. Nahawale was also known as a pu`uhonua. The heiau for Oneuli is just mauka of the church and is recorded as a healing heiau (ibid.: 50). These sites of Oneuli reflect the cultural importance of this area as a chiefly residence for the Honua`ula district.

Handy interviewed older informants concerning the Keoneoio region which is paraphrased below (Handy and Handy, 1972, p. 147, in Bördner, 1995, pp. 91-92).

"At Keoneoio on the southern flank of Haleakala, which is a sweet-potato planting area on Maui, there is a story of a man who mistakenly prayed to Makali`i, a demigod whose name he had heard associated with bountiful provender, asking to give him fish. Makali`i (a name for the constellation Pleiades) finally appeared to him and told him that he could not give him fish. 'But,' said Makali`i, 'plant sweet potatoes'; and the advised that the planting be done in the months of Ikuwa, Welehu, and Makali`i (late October into January, the months of south winds and rains). If he did so, Makali`i promised him a crop of big potatoes. The man did as he was told and had a big crop. One potato was so big he could not dig it out. A hill at Keoneoio was formed by the earth he threw out in trying to dig it up."

The land section called Honua`ula is a flatland (*honua*) which is distinctive for its red (*`ula*) dust. The name Honua`ula can be translated as "Red Earth". Prior to the introduction of cattle, the dry land forest had extended much closer to the sea, and there was considerably more rainfall, according to informants, and Hawaiians lived along the coasts wherever potable water could be found—either from brackish springs or submarine springs offshore (Ibid., p. 93).

There were two recent lava flows which erupted about AD 1750 from fissures below the crater of Haleakala, only a few miles inland. These covered many square miles of land, but apparently did not disrupt the eastern and coastal portions of Honua'ula, which continued to be thickly populated until fairly recent times (Ibid.).

The study parcel is the location of a large fishpond, known as Keone'o'io Fishpond (Site 50-50-14-4199). Abraham Fornander writes about the construction of this site in the late 1400s to early 1500s (1996, p. 70-71):

"Kauholanuimahu was the son of Kahoukapu and Laakapu, and followed his father as Moi, or sovereign of Hawaii. No mention occurs in the traditions of any wars between Hawaii and Maui during this and the preceding reign, nor of any conquests made; yet the tradition is positive, and has not been contradicted that Kauholanuimahu resided a great portion of this time at Honuaula, Maui, where he exercised royal authority, and among other useful works, built the fishpond at 'Keoneoio,' which still remains. During one of his long sojourns on Maui, his wife Neula remained on Hawaii and took another husband... The new husband and rival revolted from Kauholanui and assumed the government of Hawaii. Informed of the treachery and the revolt, Kauholanui hastened back to Hawaii, suppressed the rebellion, and slew his opponent. After that Kauholanui remained on Hawaii until his death.

Kauholanui's wife, Neula, is said in some traditions to have been a Maui chiefess; if so, the district of Honuaula may have been her patrimonial estate, and that may account for the frequent and protracted residences there by Kauholanui."

Precontact Period

A brief history of the significant Maui chiefs is contained in Dorothy Barrere's work on Wailea, prepared in 1975. She relies heavily on the collection of traditions and chants by Judge Abraham Fornander, who arrived in the Hawaiian Islands in 1842. He served as the circuit judge of Maui for more than 15 years. His genealogical reckoning begins with Kamaloohua, who ruled over the greater part of Maui, probably in the 15th century (Barrere, p. 5). Three generations after him, his descendants—2 brothers named Kaka'e and Kaka-'alaneo—ruled jointly over Maui and Lanai. The older Kaka'e's son was Kahekili I, who inherited the rule. Kahekili's son, Ka-wa-o-Kaohela succeeded his father as ruler. His sister's daughter, La'ie-lohelohe, married his son, Pi'ilani, linking the two branches of the senior line establishing the dynastic line for the descendants of Pi'ilani (Ibid.).

Lono-a-Pi'ilnai, the eldest son of Pi'ilani, succeeded his father, but his younger brother Kiha-a-Pi'ilani, with the help of their sister and her husband who was a paramount chief of Hawaii, wrested power from him. Kiha-a-Pi'ilani's eldest son, Kamalalawalu, became the paramount chief of the island of Maui sometime in the 16th

century. The island is still referred to as Maui-a-Kama, or Kamalalawalu—and the people of Maui are “his children” (Ibid., p. 1).

The fifth generation descendant of Kamalalawalu to become ruler was Kekaulike. While his reign began peacefully following the pattern established by his ancestors, he decided to try to seize power from chiefs of the island of Hawaii. Unsuccessful, he retreated to Kaupo, Maui, intending to undertake another raid. However, his health failed and he chose a younger son Kamehameha-nui to succeed him, thus breaking the previous pattern of primogeniture. There is some question as to how long Kamehameha-nui reigned—but upon his death his brother, Kahekili became the ruler of Maui (Ibid., pp.7-9).

We know that it was during Kahekili's time that Europeans first came to Maui. On November 27, 1778 his presence aboard Captain James Cook's ship, Discovery, is noted by the ship's surgeon, David Samwell:

In the afternoon Ka-he-kere [Kahekili] the King of this Island & of another which we saw to Leeward called Morotai came on board the Discovery in a large double Canoe attended by a large Train dressed in red feathered Cloaks and Caps. As the Canoe approached the Ship one man stood up and waved his Cloak about his Head while the rest sung in concert much after the manner of the Otaheiteans. The King & some of his Courtiers were taken into the cabin & some presents were made to them, he himself is a middle aged Man, is rather of a mean appearance, the Hair on each side of his head is cut short & a ridge left on the upper part from the forehead to the Occiput; this is a common Custom among all of these people, but each side of his head where the Hair was off was tattawed in lines forming half Circles which I never saw any other person have (Samwell, in Beaglehole, 1967, 2:1151) [in Barrere, p. 11].

Samuel Kamakau (1992, p. 166) notes that

"Ka-hekili was a famous chief, a tabu chief, one who ruled men, and so sacred that whatever had touched his body was burned with fire [after he was through with it, so that no one else could use it]. He was a famous leaper from a cliff into water (lelekawa), sometimes from a height of 500 or 600 feet or even higher, and he could climb cliffs which no other person could ascend. He elected to have his skin black; one half of his body from head to foot was tattooed black, and his face was tattooed black, and this became an established law with him: Any person taken in crime who passed his dark side, escaped with his life."

Kahekili's brother-in-law was Kalani'opu'u, a high chief from Hawaii. Almost continuous warfare occurred between these two leaders from 1775 to 1782, at which time Kalani'opu'u died (Barrere, p. 13). Kamakau tells of one battle in 1776, where Kalani'opu'u and his army landed at Keone'o'io:

"their double canoes extending to Makena at Honua`ula. There they ravaged the countryside, and many of the people of Honua`ula fled to the bush. When Ka-hekili heard of the fighting at Honua`ula he got his forces together—chiefs, fighting men, and left-handed warriors whose sling-shots missed not a hair of the head or a blade of grass." (1972, p. 85).

Post-contact Period

Following the visit of Captain James Cook, who did not actually set foot upon the island of Maui, other European explorers showed up on the shores of Maui. The French captain Jean-Francois Galaup de la Perouse² visited Maui on May 29, 1786 and noted in his journal:

At nine in the morning the point of Mowee bore west 15° north, and a small island also appeared...The aspect of the island of Mowee was delightful. I coasted along it's shore at the distance of a league. It projects into the channel in the direction of south-west by west. We beheld water falling in cascades from the mountains, and running in streams to the sea. After having watered the habitations of the natives, which are so numerous tha a space of three or four leagues may be taken for a single village: but all the huts are on the sea-coast, and the mountains are so near, that the habitable part of the island appeared to be less than half a league in depth. ...

The breeze had freshened, and we were running at the rate of two leagues an hour, which encouraged me in an endeavour before night to explore this part of the island as far as Morokinne, near which I hoped to find an anchoring place sheltered from the trade winds. ...After having steered south-west by west, as far as the south-west point of the island of Mowee, I hauled to the west, and afterwards to the northwest, in order to gain the anchorage [Keoneoio] where the Astrolabe had already brought up in twenty-three fathoms, hard grey sand, about a mile from the shore. ...

The Indians of the villages of this part of the island hastened alongside in their canoes, bringing us articles of commerce, hogs, potatoes, bananas, roots of arum, which they call tarro, with cloth and some other curiosities making part of their dress. I told them that I was taboo, a word which I had learned from the English accounts, and which was attended with all the success I expected. Mr. De Langle, who had not taken the same precaution, had his decks in a instant crowded with a multitude of Indians. But they were so docile and so apprehensive of giving offense, that it was extremely easy to prevail on them to return to their boats. I had no idea of a people so mild and so attentive. ...

² La Perouse was the name of a farm, which was one of his family's country properties. He added this to his own name in later years, and when he attended court he was known as Comte de la Perouse (Dunmore, 1991, p. 151).

It was so late before our sails were handed, that I was obliged to postpone going on shore at this place till the next day, where nothing could detain me but a convenient watering-place: but we had already observed, that this part of the coast as altogether destitute of running water, the slope of the mountains having directed the fall of all the rains towards the weather side. It is probably that the labour of a few days might be sufficient to supply the whole island with so valuable a necessary [sic] of life; but these Indians are not yet arrived at the requisite degree of industry, though in many other respects so greatly advance. ...

At eight in the morning four boats belonging to the two frigates were ready to set off. ...About a hundred and twenty persons, men and women, waited for us on the shore. The soldiers, with their officers, landed first. We marked the space we wished to reserve to ourselves. ... These formalities made no impression on the natives. The women showed by the most expressive gestures, that there was no mark of kindness which they were not disposed to confer upon us; and the men, in the most respectful attitude, endeavoured to discover the motive of our visit, in order to anticipate our desires. Two Indians, who appeared to have some authority over the others, advanced, and with great gravity made a speech of considerable length, of which I did not understand a single word; and each offered me a present of a hog, which I accepted. In return, I gave them medals, hatchets and other pieces of iron, which were of inestimable value to them. ...

The soil of this island is entirely formed of decomposed lava, and other volcanic substances. The inhabitants have no other drink but a brackish water, obtained from shallow wells, which afford scarcely more than half a barrel a day. During our excursion we observe four small villages of about ten or twenty houses each, built and covered with straw in the same manner as those of our poorest peasants. [La Perouse, 1798: 341-351, in Barrere, pp. 15-18].

Meanwhile, the warfare between Kahekili and the Hawaiian chiefs continued. By 1786, Kamehameha of Hawaii was powerful enough to begin sending expeditions of warriors to the districts of Hana and Kipahulu. These were repelled by Maui forces. By 1790, Kamehameha had consolidated his power on Hawaii, and invaded Maui himself with a large army. With him were two Europeans, whom he had "detained" from foreign ships. One, Isaac Davis, was the sole survivor of the tender Fair American, which had been captained by the son of Captain Simon Metcalf, the man responsible for the "massacre of Olowalu" in February of 1790. On the same day as the sacking of the Fair American, the boatswain of the elder Metcalf's ship, Eleanor, John Young, went ashore at Kealakekua Bay, where he was held lest he relay the news of the death of the younger Metcalf and his crew. After a couple of days, the Eleanor sailed away without him (Barrere, p. 21).

The two young men became Kamehameha's advisors, particularly in the tactics of foreign warfare. When they accompanied Kamehameha's army to Maui in 1790, they brought along a cannon called Lopaka, which played a decisive part in the defeat of the Maui forces at the battle of Kepaniwai in Iao Valley. This proved to be a turning point

for Kamehameha in his quest for power over Kahekili. Though still seen as the leader of Maui, Kahekili's power was on the wane.

Captain George Vancouver, commander of the British surveying ships Discovery and Chatam, reports on his March 1793 meeting with Kahekili in Lahaina:

...his arrival [was not] attended by any accumulation in the number of natives on the shores or in the canoes about the vessels. He came boldly alongside, but entered the ship with a sort of partial confidence, accompanied by several chiefs who constantly attended him. His age, I suppose, must have exceeded sixty. He was greatly debilitated and emaciated, and from the colour of his skin I judged his feebleness to have been brought on by an excessive use of the ava [awa]. His faltering voice bespoke the decline of life, and his countenance, though furrowed by his years and irregularities, still preserved marks of his having been in his juvenile days a man of cheerful and pleasing manners, with a considerable degree of sensibility, which the iron hand of time had not entirely obliterated [1801, 3:305] (in Barrere, p. 22).

The increasing presence of foreigners brought about extensive changes to the traditional culture. Kamehameha saw the *haole* as an element which could be manipulated to increase his power—but the relentless impact of foreign desires—particularly for land, slowly took these powers from the Hawaiian rulers. By 1848, the Mahele divided the lands of the kingdom. On the island of Maui, the lands of Honua`ula were claimed as government lands.

In the historic period between 1831 and 1836, the Honua`ula District saw a severe population decline—believed to be the result of both economics and disease. Those who remained in the district were primarily fishermen (Carpenter and Yent, 1995, p. 9). The population of the *moku* of Honua`ula was 3,340 in 1831, and 1,911 in 1836. The data supports the argument that depopulation was greater in marginal, rural areas, due to both increased mortality and outmigration to developing port towns such as Lahaina (Bordner, p. 98). It is noted that a visitor to Honua`ula in 1846 estimated that the population was only 80—and that long-time residents remembered it as having numbered as many as 2000 laboring men (Ibid.).

Post-1850s

The Mahele of 1848, or division of lands, saw the transference of land titles from the king to his subjects.³ The largest portion of Honua`ula was designated as government lands. The entire population of the Honua`ula District in 1853 was estimated to be 750, with the bulk concentrated along the coast north of Pu`u Ola`i (Carpenter and Yent, p. 9).

³ The district of Honua`ula was one of 12 traditional districts of Maui. However, in 1859 it became part of Wailuku District for tax and judicial purposes, and in 1909 it was incorporated the Makawao District (Barrere, p. 56).

During the Mahele period, a "potato boom" appears to have occurred in the Makena-Honua'ula region. The 1848 gold rush in California created a great need for Irish Potatoes, as it was cheaper to import them from Hawaii than from other parts of the mainland. Native Hawaiians, as well as the *haole* plantations engaged in this lucrative production, but much seems to have taken place to the north of Keone'o'io, and at higher elevations, where more abundant rainfall was present.

In 1865, Abraham Fornander, the Inspector General of Schools, toured the Maui schools in the Wailuku District. He reported on the school located at Keone'o'io (Barrere, p. 58):

House of cobble stones, leaf-roof. This site is a perfect mass of black lava clinkers, unrelieved by a single blade of vegetation. Not far off, however, is a depression between two hills, with grass growing on it, and a well near it. And when the time arrives to rebuild the schoolhouse, here is the proper spot to build it. As the land belongs to the Government, I think an exchange may easily be effected. ...

All the schools in Honuaula were in vacation when I passed through the district. The population of Honuaula—what is not employed on the Makee Plantation—are chiefly fishermen, apparently a thrifty, handy set of people, to judge from the general appearance of their houses, not a few of which were of wood, and many of the others, especially along the seaboard, being neatly built and looking tidy and clean within. The children seem to be numerous and those that I observed were decently clad and looked bright and healthy."

The earliest commercial cultivation of sugarcane in Honua'ula, was undertaken by M. J. Nowlein and S. D. Burrows. They had leased lands from Kamehameha III at Ulupalakua (Kaeo *ahupua'a*) in 1841. After only a few years, they transferred their lease and other interests to Linton L. Torbert in 1845. These holdings encompassed 2087 acres of land with growing cane, a mill and animal stock. The Torbert plantation, as it was called, was acquired by Captain James Makee in 1856, and renamed the Rose Ranch. While Makee planned to raise cattle⁴ as the primary activity of the ranch, in 1865 he was growing and processing sugarcane in a steam-mill erected for that purpose at Ulupalakua⁵ (Barrere, p. 50).

⁴ Cattle were first introduced to the Big Island by Captain George Vancouver in 1793. Later the same year he presented Kahekili with some goats, which were considered to be a valuable present. Vancouver requested that Kamehameha place a *kapu* on the cattle for a period of ten years, at the end of which time, wild cattle roamed the mountain slopes of northern Hawaii. There is no record of when cattle were brought to Maui, but by 1845 they were so many running loose on the isthmus, that numerous complaints were lodged from people whose lands were being destroyed. Many Hawaiians were driven from their homes and fields. The legislature finally passed a joint resolution in 1846 providing penalties for those who allowed their animals to trespass on others' lands. Soon "cattle walls" became a prominent feature of the landscape (Barrere, pp. 52-53).

⁵ The Civil War provided an active market for sugar.

A drought in 1878 caused the Makee Plantation to cut back on sugar cultivation, and the last crop was milled at Ulupalakua mill in March of 1883.⁶ Cattle were turned onto the remaining cane fields and ranching became the dominant activity of this region (Ibid., p. 59). Makena Landing, about 8 kilometers to the north, served as the cattle loading port, and during this period over a hundred families lived in the area around Makena. In the 1920s, commercial shipping shifted to Kahului Harbor, and families began to move away from Makena (Carpenter and Yent, P. 10).

In personal communication with Mrs. Marie Olson, caretaker on the present study parcel, she indicated that Ulupalakua Ranch used to land cattle at Keone'o'io Landing as well. Research done by Elspeth P. Sterling, reveals more details of this activity. In 1900, Dr. and Mrs. J. H. Raymond became owners of the former Rose Ranch.⁷ In 1901, they acquired leasehold rights of Kahikinui Ranch, adding considerable acreage to their holdings. Dr. Raymond built a slaughterhouse, cold storage plant and boat landing at Keone'o'io for the purpose of shipping beef to markets in Lahaina and Honolulu. The cargo ship, Makena, was used in this trade. Dr. Raymond worked to improve the breeding stock, adding Hereford bulls to his herd, and cutting down on the large numbers of wild cattle (in Barrere, p. 70).

After the sale of the ranch to Frank F. Baldwin in 1923, the Raymond Ranch became the Ulupalakua Ranch—the Hawaiian name for that area of Maui. Work on improvement of the breeding herd, and the culling of wild cattle was continued. A slaughterhouse was built at Ulupalakua in 1929, and from that time on, Ulupalakua beef was processed at their coldstorage plant in Kahului—thus abandoning the older facility located at Keone'o'io (Ibid.).

The remains of the old slaughterhouse associated with the Raymond Ranch are thought to be on the present study parcel, and have been assigned SIHP⁸ Site 50-50-14-1580. Mr. Edward Chang, a long time Makena resident, recalls that the slaughterhouse was located on the parcel. However, it was in ruins around the advent of World War II. Mr. Chang's uncle, Mr. David Chang, vaguely remembers the ruins prior to WWII. He thinks that much of the wooden structure may have been dismantled during the war.

During World War II, the military presence in Makena area was considerable. Amphibious beach landings were practiced on a large scale, as part of the training preparing troops for combat in the Pacific Islands. Remnants of this activity can be seen today in the form of a bunker on the southern end of Oneloa Beach, and at other locations

⁶ Beginning in the 1880s, the ranch passed through several owners: James Dowsett in 1886; his son-in-law J. Raymond in 1900; Frank Baldwin in 1923; and P. Erdman in 1963 (Cordy and Athens, 1988, p. 15).

⁷ Captain Makee died on September 16, 1879. Prior to his death, he had divided his property interests in Rose Ranch into eight shares—one for each of his 2 sons and 6 daughters. In 1886, the Makee family sold its holdings to James Isaac Dowsett of Honolulu, for the sum of \$84,500 (Thrum, 1925, in Barrere, p 87). Dowsett's daughter, Phoebe, was married to the youngest Makee son, Charles, and later wed Dr. J. H. Raymond.

⁸ State Inventory of Historic Places.

near the beaches. The study parcel itself was impacted by considerable military activity. In the shore area at the southeastern end of the property, the landscape was leveled to allow for the construction of 2 military buildings on the portion that was part of Grant 2844:1. In addition, a concrete ramp was built into the fish pond as a landing area for various kinds of water craft, according to Mrs. Marie Olson (personal communication, 1997). She also reported that the 2 military structures (houses) were destroyed by the tsunami which occurred on April 1, 1946. This intense military activity no doubt impacted many of the archaeological sites in the general area—to what degree can only be speculated.

By the late 1970s, Seibu Corporation purchased much of the area around Makena to the north of the study parcel, for an extensive resort community and golf course. The resort development complex does not extend to the south much beyond Pu'u Ola'i. There are a number of residential properties developed along the shoreline, however.

The Makena-Keone'o'io Road ends for all intents and purposes at the study parcel. A monument to the explorer, La Perouse, stands just south of the property on the *mauka* side of the road. This geographical area has been put in conservation and is known as Keone'o'io/La Perouse Archaeological District cultural preserve. It was placed on the National Register of Historic Places in 1988. To the northwest is the Ahihi-Kinau Natural Area Reserve, which consists of recent lava flows that make up Cape Kinau. A 4-wheel drive vehicle road is shown on the 1983 USGS topographical map, which runs from a well on the *mauka* side of the road bordering the property, to upper Kanaio Road and Ulupalakua Ranch. Such trails very likely follow traditional *makai-mauka* trails in the region—on which Hawaiians depended—linking the coastal fishermen with the dry taro and sweet potato cultivators living inland.

Settlement Patterns

The traditional settlement pattern in the study area had been based on subsistence agriculture and fishing. Handy discusses:

Between Makena and the lava-covered terrain of Keoneoio (another famous fishing locality) the coastal region includes the small ahupua'a of Onau, Moomuku, Mooloa, Mooiki, Maluaka, and Kaeo. According to an old kamaaina, these ahupua'a had in former times a continuous population of fisher folk who cultivated potatoes and exchanged their fish for taro, bananas, and sweet potatoes grown by the upland residents of the Ulupalakua section. A few Hawaiians still live here. One living near Puu Olai has a sizable sweet potato patch in the dusty soil near the shore; another raises fine potatoes in a low flatland of white sand near the abandoned schoolhouse of Makena (Handy, 1940, p. 159).

Another reference, discussing the 5 centers of population on the island of Maui, described the area further:

On the south coast of East Maui, from Kula to ʻUlupalakua, a consistently dry and lava-strewn country, Makena and Keʻoneoʻio were notable for good fishing; this brought many people to live by the shore and inland. There were some patches of upland taro, not irrigated; but this was a notable area for sweet potato, which combined with the fishing, must have supported a sizable population although it cannot be counted as one of the chief centers (Handy, Handy, & Pukui, 1972, p. 272).

Continuing the discussion, they state:

Maui, despite the high mountains forming the west and east sections, had an even more extensive dry area than Hawaii. All the country below the west and south slopes of Haleakala, specifically Kula, Honuaʻula, Kahikinui, and Kaupo, in old Hawaiian times depended on the sweet potato. ... There was excellent deep-water fishing available to the folk of Kula and Honuaʻula, but it was very poor along the Kahikinui and Kaupo shores; and there was little shellfish and limu. The coast and coast lands of southern Maui are perhaps the poorest in the islands. The sparse population there must have suffered severe famine at times (Ibid., p. 276).

This area of Maui did not have the rich soils and abundant rainfall which was necessary to maintain a large population. It appears to have been not used extensively until the late precontact period when overall population on the island caused agriculture to expand into less this favorable area.

Following a period of post-contact depopulation in the mid-1800s, the next usage of lands in this region of Maui centered around ranching activities which extended into the 20th century. World War II also left an impact on the landscape, as this area of Makena was an important base for military training activities.

HISTORY OF OWNERSHIP OF STUDY PARCEL

Land Grants Associated

There are a number of Land Grants included in the study parcel. Information provided by Pacific Rim Land, Inc., and Carter Makena Limited Partnership document the grants and the succession of ownership up to the ownership of Mr. George R. Carter and his descendents. Although not specifically stated, all of the land grants imply that they are residential properties.

Royal Patent Grant Number 2074 consisting of 0.58 acre, was issued to Nalahulu. Kapuahelani and Keleau on August 7, 1856. By a deed dated March 27, 1877,

Kapuahelani conveyed to Noa (K) his 1/3 of the hui land. It appears that Keleau's portion was inherited by his son, Kaina, and was in turn conveyed to Keala (W) on May 21, 1879. A deed dated July 6, 1935, records that Pepee Kapiki (K), Noa Kapiko (K) and Keala Kapiko (K) [grandsons of Nalahulu] conveyed to Hiakutaro Mirikatani, all their right, title and interest in those parcels described in Grant 2092 [sic.] to Nalahulu. "containing an area of 0.58 acres".

By deed on July 8, 1935, H. Mirikatani conveyed this and other lands to Elizabeth Isaac Ahu Chockfoo (W). Subsequently on December 21, 1935 conveyed the property to Mrs. Lucy K. Young (W). On May 15, 1940 Mrs. Young conveyed the area containing Land Grant 2074 issued to Nalahulu, Kapuahelani and Keleau, to Thomas R. Foster Robinson and Virginia Leilani Robinson.

Royal Patent Grant 2792 was made to S. E. Kahu in 1861. On November 4, 1884 he conveyed his land to Okela. On May 1, 1940, William Okela Keamo conveyed the land to Foster and Virginia Robinson.

Royal Patent Grant 2076 (0.32 acre) was issued to Kamaha on August 7, 1856. Kamaha conveyed the land to S. E. Kahu, who conveyed same to "Lilia Kahu and all her children, born of her and their heirs on October 16, 1888. Her children and grandchildren gave up their claim on the land and Lilia Kahu conveyed it to William N. Kahalewailua on May 21, 1921. This portion passed down straight and unbroken.

Concerning Royal Patent Grant Number 2225 to Keliilawaia, said parcel contained 0.52 acre and was issued on September 2, 1857. This property (Apana 1 of Grant 2225) went to his children, J. Kapohakimohewa and Kalahanohano. The property passed to John Kapohakimohewa's son, David. Upon his death, his wife Julia Kaluai Kapohakimohewa, took title to the parcel on May 2, 1929. On November 16, 1931, she conveyed the property to James Kapohakimohewa, with whom it remained until being purchased by Carter.

No records were found concerning Kahula (Grant 2844, Apana 1). However, the following references were located. A deed recorded May 27, 1909 states:

"Grantor: Niauho (k), husband of Keliikoliola, who release [sic.] her dower interest, as an heir of Kahula (k)
Grantee: Kawai Mahalo, no marital status shown
Dated: May 27, 1909
Conveys: R.P. Grant 2844, containing an area of 4.29 acres.
Cites: "...all my interest in the real property of my father, Kahula (k) of Keoneio [sic.], Honuaula, Maui, deceased, intestate..."

Kawai Mahalo died in March of 1913, and was apparently the son of Keliikoliola. Presumably his descendent, Mrs. Malia Kawai, granted Grant 2944 to Young Wa in October of 1929. Young Wa then granted it to William Namakaeha Kahalewailua on April 26, 1930. The latter died intestate on February 26, 1935, and Probate No. 2839

cites that his widow, Emma, inherited ½ of the undivided interest in Grant 2844. She was later declared incompetent and A. K. Jim, guardian of her property granted it to Thomas R. Foster Robinson and his wife, Virginia on October 30, 1940. Recently, a descendent of Kahula has entered a claim to part of this grant, and ownership is still unsettled.

As to Land Patent Grant Number 10981 (0.264 acre) to Thomas and Virginia Robinson, there were certain restrictions imposed. These are:

"...The lot herein granted, was sold at public auction to the Grantees herein named, and is hereby conveyed in accordance with the Notice of sale thereof, dated May 6, 1941...upon the express understanding that there is no right-of-way to said lot and the Territory does not obligate itself to provide any right-of-way thereto. This conveyance is therefore made subject to said understanding.

Pursuant to Section 73 of the Organic Act and to the condition of the above Notice of Sale, the lot hereby conveyed shall be use for residence purposes only. In the event of violation of the foregoing provision said lot shall forthwith be forfeited and resume the status of government land and may be recovered by the Territory or its successors in an action of ejectment or other appropriate proceedings. ..."

On May 16, 1958, George and Caroline Carter obtained from the Robinsons: "that certain piece, parcel or lot of land situate at Keonioio in Kualapa and Kalihi, Honuaula, Maui, being all of Grant 2225, Ap 1 to Keliilawaia, Grant 2074 to Nalauhulu, Kapuahelani and Keleau, and Grant 2844m Apana 1 to Kahula (BESIDES OTHER LANDS) containing an area of 14.516 acres, more or less."

Upon the death of George Robert Carter, Jr. in 1980, the lands passed to his widow, Caroline Balding Carter, and his and son, George R. Carter III. The latter died in 1985, and his wife, Mary Louise Carter inherited his right, title and interest to TMK: 2-1-04: 46 and 68, subject to the life and interest of Caroline Balding Carter. She passed away on April 1, 1993, and Mary Louise Carter died on February 6, 1995. Hawaiian Trust Company Limited acted as Trustee for the estate of Mary Louise Carter, and "with full powers and authority to sell, convey, exchange, mortgage, lease and otherwise dispose of the property" granted the property to Carter-Makena Limited Partnership, a Hawaii limited partnership on August 23, 1996.

PREVIOUS ARCHAEOLOGICAL WORK

The earliest archaeological survey in Makena was done in 1931 by Winslow Walker. A single *heiau* was identified by him near Keawala'i Church at Makena Landing

(#196).⁹ According to Walker (1931, p. 267) this feature was named *Kalani*, and was located in the *kiawe* and cactus not far from the church on the *mauka* side of the road. He described it as a large structure, said to have been used for sacrifice, but now largely a shapeless pile of rocks. It measured 126 feet across the front and had a width of 98 feet. No walls were apparent—only an open platform 8 feet above the surrounding countryside. It was built of rough *a'a* blocks with some coral and pebbles on top. He notes that the interior structure had been demolished by cattle.

Another *heiau*, a short distance to the north, named Pohakunahaha (#197) was identified. It was a fairly well preserved structure 60 feet long by 38 feet wide. It was built of basalt blocks, with pebbles and coral pavement. The front of the platform was 3 feet high, but the wall at the back was 5 feet high and 3 feet thick. It contained a platform in the center and a paved enclosure on the northeast side (Ibid.).

What remains of these structures probably lie within the Makena Complex (Site 50-50-14-1266), which extends 200 meters south of Keawala'i Church. This area was identified by the Statewide Inventory of Historic Places conducted in 1973.

Seibu Project

In 1974, the Bishop Museum conducted a brief archaeological reconnaissance survey of the Seibu project area and surrounding land. Ninety-two sites were recorded, consisting of 101 features such as rectangular and circular enclosures, caves, platforms, terraces, pits, walls and burials (Clark, 1974).

Parcel III-A and Parcel III-B lies inland of Makena-Keone'o'io Road. Parcel III-A contains a cluster of sites with state numbers of 1838 to 1899, which consisted of 10 platforms, 4 walls, 35 enclosures, 3 shelter caves, 2 terraces, 4 pits, 1 possible burial, 1 well, 1 *heiau* complex, 2 mounds, and 1 terraced platform. Another cluster of sites (Sites 2200 to 2250) consists of 3 walls, 27 enclosures, 5 shelter caves, 1 pit, 5 platforms, 3 c-shaped enclosures, 1 oval mound, 1 pen, 1 terraced platform, 2 terraces, and 1 *ahu* (Ibid., pp. 9-25). These site clusters are between 80 and 200 feet AMSL, making them somewhat higher in elevation than the study parcel.

In 1978 the Bishop Museum conducted salvage excavations on sites located by Clark (1974), and on some newly discovered ones, as part of an effort to mitigate the adverse impact on them by the construction of Makena Golf Course. A total of 85 sites were located, including 17 previously identified by Clark, and 68 additional ones between 40 to 130 foot elevation levels. Some of Clark's sites were not easily identifiable and were probably given new numbers—and some may have been destroyed in the interim (Haun, 1978, p. 5). The sites consisted of 51 enclosures, many of which appeared to be associated with historic cattle ranching activity. There were 21 C-shaped structures, 6

⁹ This was later recorded by a Bishop Museum in a 1978 study for Seibu Hawaii, Inc., as Site B8-1 (Haun, 1978, p.3).

L-shaped structures, 9 circular enclosures, 14 historic walls and 26 probable prehistoric walls. Five terraces were interpreted as prehistoric retaining walls and 14 as having had an agricultural function. One stone-filled terrace was thought to have been a residential site. Four prehistoric platforms, and 1 historic one were identified. Four small caves were recorded which contained midden, but which were deemed too small for habitation, so a storage function was suggested (Ibid., pp. 5-10).

The settlement pattern suggested by the data from this study

"...is one of extensive utilization of exposed areas of lava, particularly on knolls and ridges. These areas are frequently characterized by clusters of features (e.g., walls, C-shapes, enclosures, modified depressions, etc.). In part, this may be explainable by the abundance of building materials at these locations. Also, the occasional occurrence of flash-floods, which have deposited thick layers of soil in some low-lying areas, may have been an influence. The higher locations receive more breezes, are cooler, and often command a view of the ocean, which would be important for fishermen.

A distribution pattern on a larger scale is also discernible. ... Fourteen ...clusters of sites are identifiable in the survey area. ...The possibility that most of these clusters represent single residential groups is a reasonably derivable hypothesis." (Ibid., p. 86).

Other work for Seibu, Inc. was conducted by Cordy (1978) and Cordy and Athens (1985) in the *ahupua'a* of Kaeo, farther to the north. These studies tended to support the earlier findings of the clustering of temporary habitation sites around agricultural features. Also the sites fell into the late-precontact period. Cordy concludes:

The different sources of information indicate that the area of Makena from about 0.25 mile inland (the 80 foot contour) up to the old forest line at the 1,200 foot elevation, 2.1 miles inland, was the cultivation zone. This zone was divided into land sections with fields which were used by households. (Cordy and Athens, p. 22).

Additional work on Makena Resort Corporation lands (formerly Seibu, Inc.) has been done more recently by the Bishop Museum (Gosser et. al., 1996) and Aki Sinoto Consulting (Titchenal, 1996). The former study reports on the data recovery phase of the portions of Parcel III which were impacted by the Makena Golf Course. The latter concentrated on a largely unsurveyed 20-acre portion of Parcel III-B which lies between 190 and 260 feet of elevation. Six sites and 34 associated features were recorded, consisting of stone boundary walls, agricultural complexes, temporary shelters, and a large enclosure. The sites are interpreted as being associated with an expansion of historic agricultural activities between the period of 1780 and 1850.

Makena State Park

This park, which lies to the north of La Perouse Bay, has been the location of several archaeological studies. Three burials (Site 50-50-14-1814) were recovered from the southern slope of Pu'u Ola'i and the north end of Oneloa Beach (Carpenter and Yent.

p. 14). Just outside the southern park boundary lies Paniaka Fishpond, and to the south of that—Site 2909 was inventoried, and 11 features were identified, including walls, probable enclosures, and mounds. Some may have been used for habitation, and several others appeared to be associated with an historic house site (Donham, 1992).

Three archaeological complexes have been identified within the park boundaries—Site 3136, 3137 and 3138. Site 3136 appears to be a complex of enclosures, platforms and low walls on the coastline and lower slopes of the northwestern side of Pu'u Ola'i. Site 3137 is a complex of stacked 'a'a structures within the central crater of Pu'u Ola'i. Some may be of recent origin, but others appear to be traditional Hawaiian features. Site 3138 is complex of short walls and natural platforms on the southern end of Oneloa Beach. An historic cistern and fireplace were also recorded (Carpenter and Yent, p. 15).

There are also 5 concrete foundations within the park. One is associated with the Maui Radio Range Station, another appears to have been a slaughterhouse from the ranching era, and the remainder seem to be associated with ranching. A military bunker is situated at the southern end of Oneloa Beach, as well (Ibid., p. 16).

A precontact burial was exposed during high surf in 1995. It was located in the dune at the southern end of Oneloa Beach, and given the site number 50-50-14-4120 (Ibid.).

A 4.186 acre parcel across from Makena State Park was surveyed by Xamanek Researches in 1996 and 1997. A total of 7 sites were located—Sites 4185 to 4191. These consisted of boundary walls and part of an historic building associated with ranch activity; lava outcrops which had been modified by the addition of 'a'a cobbles; a possible agricultural feature; a rock overhang which had been utilized as a temporary shelter; and a ceremonial structure (Site 4185), and is slated for preservation. This site consists of a 'a'a rock enclosure, a low 'a'a rock mound interpreted as a possible burial, an 'a'a cobble platform, and a surface scatter. It is located about 100 m. from the ocean on an outcrop of bedrock. The enclosure measures c. 16 meters N-S by as much as 20 meters E-W, and was disturbed on its eastern side during the installation of a Maui Electric Company power pole about 10 years ago. A radiocarbon sample from excavations at the site yielded a date of 360 +/- 80 RCYBP, and calibrated precontact dates of AD 1420-1670; and AD 1780-1795. These date brackets are consistent with other precontact sites studied in the Makena Golf Course mitigation excavations to the north.

A few hundred meters to the south of Makena State Park, along Makena-Keone'o'io Road, is Mo'omuku Ko'a (Site 1019). This was a *ko'a* located by Walker (1931, p. 102-103), which consisted of 3 rectangular platforms with neatly faced walls. The interior one (14 x 15 m.) was paved with medium-sized stones and some 'ili'ili. Coral was also noted on the platform. A second platform, located to the south measured 6 x 5 m. and rose .5 to .9 m. above ground surface. The third platform is one on which the other 2 were built. It was in rather poor condition, but coral and 'ili'ili stones were

noted. It was relocated during the Statewide survey to register historic places, and is still in fair condition. It is located close to the road, and has been afforded reserve status (Connolly, 1973).

Kanahena Landing area and Moanakala Village are all site clusters which have been identified but not documented or studied extensively. On the Cape Kinau lava fields is the Kanahena Point Complex and the Kalaeloa Complex, which have also not been extensively studied. See Map 5 for the locations of these cultural resources.

The study parcel is bordered on 3 sides by the Keone'o'io Archaeological District (Hawaii Register of Historic Places Site 50-50-14-1385), which was included in the 1973 survey by Dr. Rob Hommon. The complex was placed on the National Register for Historic Places in 1988. It is a 65 acre complex which consists of over 50 major archaeological features in four clusters along the shoreline of La Perouse Bay. The famous Ho'apili Trail, built by Pi'ilani in the 1600s, also crosses the complex.

A group of students from Chaminade University, under the supervision of Mr. Richard Bordner and Dr. Bryan Man, conducted a reconnaissance survey in the vicinity of the Kualapa Cluster (Site 1385), between June 9 and June 12, 1988. They also conducted a field check on the Carter property which lies adjacent to the lava flow, but did not locate any sites within the private property boundaries (Bordner and Man, 1988). This survey was primarily intended to collect data for the La Perouse National Register Nomination form. Due to time constraints and the number and complexity of the features present in the landscape, they were not able to cover as much territory as had been expected. They were not able to extend the survey to Kalaeloa Point or to the inland ponds (Kauhioaiakini and Halua Ponds), located on Cape Kinau to the northwest of the study parcel.

The results of this survey was to briefly document 76 features. From this effort they were able to conclude that there were 3 environmental factors which affected human use patterns—water availability; access to marine resources, especially lagoon-fishpond systems; and the strong prevailing winds. They were surprised to find relatively abundant fresh water in the study area, which is located along fissures in the lava flow, sometimes collecting in sufficient amounts to support patches of vegetation. Since the lava flow precludes any attempts at cultivation, marine resources are the major source of food. Lagoon fish ponds were walled-off areas, between fingers of lava which stretched out over the reef. Some were in excess of 3 meters in depth, and were probably used year round (Ibid., p. 6).

The winds are constant and range from 25 to 35 mph during much of the day. Such wind conditions, and the heat generated by the dark lava fields, seem to have prompted use of lava tubes and rock overhang features for temporary shelter and protection from the elements. However, most of the human activity were concentrated in the immediate coastal zone in the proximity of the lagoon fish ponds (Ibid.).

Summary of land use patterns of the study parcel

Within the context of regional history, the study parcel should contain remnants of 4 time periods. The fish pond represents the precontact period, and is situated in the significant precontact/early post-contact location—next to Keone`o`io village that was visited by La Perouse in 1786. Because of this close proximity, there was the likelihood that permanent house sites could also be present on the parcel. Other features similar to the ones found in Keone`o`io village were expected to be found on the study parcel, if they had not been obliterated by the considerable activity associated with World War II military use.

The property was also associated with 19th century settlement, which included a church, and numerous residential land grants, and boundary walls. The early 20th century saw activity associated with Ulupalakua Ranch, represented by a slaughterhouse, and a landing for loading cattle onto ships bound for markets like Lahaina and Honolulu. Finally, there was the activity of the military during World War II. Although its impact was considerable, it was expected that some remnants of this prior activity was still present on the study parcel.

ARCHAEOLOGICAL FIELD METHODS

Field work was conducted at various times during May, June and July 1997 by 2 to 4 personnel. The field director was Erik M. Fredericksen (M.A.), and project coordinators were Walter M. Fredericksen (Professor emeritus—UH) and Demaris L. Fredericksen (Ph.D., ABD).

Our archaeological inventory level survey of the project area was carried out in 2 phases. A surface walk-over of the c. 15 acre parcel was first undertaken by field members.¹⁰ A c. 5 m. spacing between personnel was maintained and sweeps were oriented approximately east and west. Cultural resources were flagged in the field and located on the map provided by the property owners. Mapping was carried out with metric tapes and digital compasses. Following the pedestrian survey, limited manual subsurface testing was undertaken at 3 locations, and a total of 9 backhoe trenches were placed in the northwestern quadrant of the study area.

¹⁰ Grant 2844:1 to Kahula was excluded from the present survey because it will not be developed due to unclear title concerns. It is c. 0.45 acre in area.

This subsurface testing comprised the second portion of the inventory survey. One test unit was excavated at what was interpreted to be a probable rock shelter and another subsurface test was located at a possible rock shelter, and a third was placed in sand dune deposit. The 9 backhoe trenches were utilized to gain more information about the nature of sand dune deposits on the northwestern quadrant of the parcel.

The 3 test units were 0.5 by 0.5 m. by up to 0.5 m. deep. All soil from the 3 manually excavated units was screened through 1/8 inch hardware cloth. Test Unit 1 contained portable remains which were collected for later analysis. A small charcoal sample was recovered from TU 1 and placed in aluminum foil in the field. It was subsequently submitted to Beta Analytic, Inc. for analysis. The 9 backhoe trenches were excavated into sterile layers. Dimensions for these trenches ranged from c. 5 to 6 m. in length by 1.4 m. in width by up to 2.5 m. in depth. Backdirt from the trenches was both visually inspected and spot-screened with 1/8 inch mesh hardware cloth. In addition, trench profiles were visually inspected and, when possible, recorded. Four trenches (BT 3, 4, 6 and 9) were not profiled because they were too unstable and/or collapsed. Written descriptive notes were kept in the field, while photographs were taken with color film. Material culture remains consisting of a box of portable remains and a small box of artifacts are currently curated by Xamanek Researches, Pukalani, Hawaii.

ARCHAEOLOGICAL FIELD RESULTS

The walk-over survey yielded 8 sites. These newly identified sites were subsequently assigned SIHP No. 50-50-14-4457 and 50-50-14-4466 through 4472. Site 4457 consists of 4 WWII military (army) features. Site 4466, according to oral history interviews, is the remains of an old Hawaiian congregational church. Sites 4467, 4468 and 4469 are boundary walls and/or wall remnants. Site 4470 is composed of a wall and an enclosure. Site 4471 consists of an old well, while Site 4472 is interpreted as a rock overhang shelter. In addition, 2 previously identified cultural resources are located on the property. Site 1580 identifies the former Raymond slaughterhouse and boat landing. Site 4199, Keone'o'io Fishpond, is the largest cultural resource on the c. 15 acre parcel.

One of the 3 manual test units, TU 1, was placed at the Site 4472 *makai* rock shelter. Results from this unit indicated that the rock shelter was most likely utilized for temporary habitation during both late precontact and post-contact times. The second unit, TU 2, was located inland at a possible rock shelter. No evidence of material culture remains was located in this unit. Test Unit 3 was excavated near the base of an outcrop above Backhoe Trenches 1 and 2. No cultural materials were found in TU 3. The 9

backhoe trenches were excavated in order to investigate sand dune deposits on the northwestern quadrant of the study area. Results from these subsurface tests indicate that sand dune deposits are 2 m. or more in thickness along the base of an 'a'a ridge outcrop which rises c. 4 to 6 m. above the ground surface. A brief discussion of the archaeological inventory results is presented below. Refer to Table 1 for inventory level significance assessments for sites located on the parcel. Tables 2 and 3 present subsurface results for the Site 4472 rock shelter, while Table 4 presents subsurface results for the backhoe trenches. See Map 3 for locations of the above noted sites and subsurface tests.

Site 50-50-14-1580

There was little visible evidence of the former slaughterhouse and landing built by Dr. J.H. Raymond and abandoned prior to 1929. It was recorded in 1973 during the State wide survey by John C. Wright, and historical information came from an article in The Maui News, dated May 5, 1916. The report reads:

"Just how early there was a landing at this site is not known, except that the location, as a landing, is ideal. It is not, however, easily accessible to upland points.

The general historical use of Keoneoio dates from about 1905, when Dr. J.H. Raymond was managing the ranch then called Raymond Ranch, now known as Ulupalakua (see HRHP 1534). His efforts to develop the herd included building a slaughterhouse and cold storage plant at Keoneoio so that better beef would reach the Honolulu market. The operation at this too distant location proved too costly, and was closed down when new facilities were built closer to Makena in 1916.

Two 6 foot diameter iron pans, for preparing tallow, are the major remaining fragments. The pier has been removed."(Wright, 1973)

During our survey, there were scattered bovine bones found in the sand dune area on the subject parcel. In addition, one of the 6 ft. iron tallow pans, now utilized as a fire pit, was noted near the main dwelling (Photo 1). Three narrow gauge axles were also found near a segment of the Site 4468 boundary wall under heavy undergrowth. Oral history information from Mrs. Marie Olson suggests that this site may have been bulldozed by the Carter family. Mr. David Chang recalled that the slaughterhouse was in ruins before World War II and thought that it might have been completely demolished during the war. There were few remains left during the 1974 survey. The remains, if any, of Site 1580 have low research value.

Site 50-50-14-4199

This site, known as Keone'o'io Fishpond, was assigned SIHD No. 50-50-14-4199 in June 1996 by former SHPD archaeologist Theresa Donham. It consists of a natural bay that was formerly used to raise and harvest fish (Map 3, Photos 1-4). The bay measures c. 105 m. N-S by a maximum of 137 m. E-W by up to 4.5 m. in depth. The bottom of the fishpond is covered with sand. There are 2 small basalt islets along its

southeastern or La Perouse Bay side. This essentially open water area measures a total of c. 60 m. across. However, oral history information and inspection of this area indicate that it was likely walled off with 'a'a rocks in the past. Mr. Edward Chang, a long-time Makena resident, recalled that the pond was mostly used in the mid 20th century to store or "corral" fish when they were in season. Mrs. Marie Olson, caretaker since 1970, was told that the pond was used during Foster Robinson's time for this purpose. Mrs. Olson trapped 'oio in the fishpond in the 1960s. She also recalled being told by former landowner George Carter that the fishpond had once been enclosed along its southeastern or La Perouse Bay side by a wall of 'a'a cobbles and boulders. Many of these rocks were apparently removed by the military during WWII, and remnants were probably swept away by the 1946 tsunami.

A letter from Don Hibbard, Administrator of the Historic Preservation Division, to Mr. Steve Fulton, dated June 27, 1996, notes: "According to oral histories recorded by Fornander, this fishpond was constructed by the Hawai'i Island Chief Kauholanuimahu during the late 1400's to early 1500's. The fishpond was modified in the late nineteenth century for use as a landing."

Inspection of the fishpond during our 1997 inventory survey revealed a few boulders and cobbles between the 2 islets of basalt. The walled portion of the pond apparently was not repaired following WWII and the 1946 tsunami. We observed schools of large 'ama 'ama, or mullet (Mugil cephalus) in the pond on every occasion that we visited the study parcel. Site 4199 has medium research potential. It is scheduled for preservation.

Site 50-50-14-4457

This former military site consists of 4 features—a concrete and rock boat ramp with a winch house (Feature A), an 'a'a rock and concrete jetty (Feature B) [Photo 3], an 'a'a rock and concrete platform (Feature C), and a low, dry laid rock wall (Feature D) [Figure 1; Map 3; Photo 2]. Site 4457 lies on the southeastern quadrant of the study area. Features A, B and C are located partly in the ocean, while Feature D is c. 10 m. mauka or east of the Feature A winch house. Vegetation in the area consists of scattered *kiawe* trees, c. 20 year old coconut trees, alien grasses and annual weeds, and 2 relatively young *noni* plants. Features A, B and C were apparently associated with ocean training maneuvers that were based at the subject parcel. It is not known what function the low (c. 0.5 m. high) Feature D wall served. These structures along with 2 former houses were built by the army during WWII. According to Marie Olson and Edward Chang, the 2 military houses were destroyed by the 1946 tsunami. These houses were formerly located on Grant 2844:1. All 4 features are in generally good to fair condition. The Site 4457 complex is interpreted as having generally low research potential.

Site 50-50-14-4466

This site represents the ruins of a former Hawaiian congregational church. It lies midway along the southeastern boundary of the subject parcel in an open, weathered *a`a* flow (Figure 2; Photo 5). Oral history information gathered from Marie Olson, Edward Chang and David Chang suggests that the church was abandoned well before the advent of World War II. Marie Olson recalled that a recently deceased friend had gone to the church as a child, before it was abandoned. Her friend passed away at about 83 years of age, suggesting that the church could have been abandoned for over 70 years.¹¹ Both Edward and his uncle David Chang only recalled the church in ruins during the World War II era. Neither man ever saw it in its former form.

Site 4466 consists of a large *a`a* rock enclosure, a concrete and *a`a* rock outhouse base, an old well and a crushed cinder path (Figure 2; Photo 5). The church itself was likely c. 16 m. N-S by c. 18 m. E-W. The remaining walls range from about 40 to 100 cm. in height. Its western portion was probably impacted when a portion of the Site 4467 boundary wall was rebuilt in order to provide the Carter family privacy from tourists (Marie Olson, personal communication 1997). The church ruins are composed of a roughly rectangular enclosure which is constructed of dry laid *a`a* cobbles up to 20 cm. in diameter with some larger rocks. Some scattered pieces of coral along with early 20th century and modern bottle glass fragments, metal and wood were noted on this relatively large structure. Marie Olson recalled finding 1 or 2 "old" bottles in the outhouse which is now filled with more recent refuse. A probable well lies some 5 m. off the subject parcel to the southwest of the enclosure. This feature consists of a wooden rectangle c. 0.9 by 1 m. A crushed cinder pathway passes near the well and may have formerly serviced the church. This pathway is also off the subject parcel. Site 4466 is in fair condition. It has medium research potential and is scheduled for preservation.

Site 50-50-14-4467

This site is composed of a boundary wall which borders the subject parcel to the north and southeast (Photos 6 & 7). It extends along the Makena Keone`o`io Government Road and La Perouse Bay Park which is State land. This boundary wall is generally well constructed from *a`a* cobbles ranging from c. 10 to 40 cm. in diameter. The Site 4467 boundary wall ranges from c. 60 to 130 cm. in height by up to 70 cm. in thickness. It is in fair condition. The bulk of the wall is faced on both sides. It does not appear to be core filled. Sections of the wall have likely been rebuilt especially in the vicinity of the 3 redwood water tanks on the northwestern quadrant of the parcel, and near

¹¹ Efforts to obtain information about the church from church records were not successful. No mission was ever established in Honua`ula. However, the efforts of a lay preacher named Bartimeus are noted by Barrere (1975, p. 55): "In February of 1843 he was stationed as an evangelist at Honuaula, ...in accordance with the repeated solicitation of the church at that place, and the people in that vicinity...". Whether there is any connection between this and the church ruins on the property cannot be confirmed.

the existing driveway entrance to the property (see Photo). Site 4467 has low research potential.

Site 50-50-14-4468

This site is composed of remnant boundary wall segments (Photo 8), primarily along Grant 2225:1 and a segment along Grant 2074. Portions of these segments appear to have been partly rebuilt, while the segments between Grants 2225:1 and 2074 are not shown on the 1941 Hawaii Territory Survey Map by L.M. Whitehouse (see Map 4). These wall segments range from 50 to 110 cm. in height by up to 80 cm. in width. The segments are generally well constructed with 'a'a cobbles, small boulders, and basalt cobbles ranging from 10 to 60 cm. in diameter. The 1941 L.M. Whitehouse map indicates that each of these grants was formerly partly surrounded by separate boundary walls. While a former structure was shown on Grant 2074, no sign of it was found during the inventory survey. Marie Olson and Edward Chang indicated that the former structure had been a wooden post house with a tin roof. Portions of the old boundary wall around the existing tennis court (Grant 2225:1) especially to the northwest appear to have been partly rebuilt. The bulk of the Grant 2225:1 boundary wall was destroyed by the subsequent placement of an access driveway to the main dwelling on the parcel and a tennis court. Site 4468 is in fair condition and has low research potential.

Site 50-50-14-4469

This site consists of old boundary wall remnants along the northeastern sides of Grants 2792:1, 2076 and 1117. The 1941 L.M. Whitehouse map indicates that a wall formerly enclosed Grant 2792:1 and the bulk of Grant 2076, and an additional wall enclosed the bulk of the remnant of Grant 2076 and most of Grant 1117. Four buildings were shown on this map as well. These were wooden post and tin roofed houses according to Marie Olson, Edward Chang, and David Chang. No signs of the structures were found during the pedestrian survey. The 2 boundary wall remnants range from 70 to 130 cm. in height by up to 80 cm. in thickness. The wall segments are generally well built with cobbles ranging from 10 to 50 cm. in diameter. A driveway which services Mrs. Olson's home cuts through the wall which formerly enclosed Grant 2792:1 and most of Grant 2076. Marie Olson believes that much of the boundary walls were removed by the army, with some additional portions taken out by the Carter family.

Site 50-50-14-4470

This Site consists of an 'a'a rock wall and an enclosure. The enclosure, according to Marie Olson, was utilized during Robinson's time by a Hawaiian family. This enclosure is shown on the 1941 J.M. Whitehouse map attached to the Grant 2225:1 wall. However, the bulk of this former boundary wall was destroyed by the placement of the access driveway to the main dwelling and the construction of the tennis court. It is not known whether the 'a'a rock wall which presently extends to the northeast of the enclosure was present on the subject parcel at the time of the 1941 survey. At the time,

the land *mauka* or northeast of Grant 2225:1 was held in lease [1737 - with expiration date of July 1, 1948] and apparently not surveyed. While Marie Olson did not live on the parcel at that time, she recalls that George Carter said that the wall was "old". She thinks that the wall which extends *mauka* or northeast of the enclosure was attached to it. While it is probable that the enclosure was once attached the former Grant 2225:1 wall, it is now separated by a driveway and a tennis court. Consequently, the enclosure and wall have been given a different site number.

The enclosure is heavily overgrown by night blooming cereus and bougainvillea. In addition, a large *kiawe* tree (c. 15 m. high) is growing in its interior. The rectangular enclosure is well constructed of 'a`a cobbles and small boulders ranging from c. 10 to 60 cm. in diameter. This feature is more correctly depicted on the 1941 L.M. Whitehouse map rather than 1997 map (see Maps 3 and 4). Its dimensions are c. 9.5 m. N-S by 11.5 m. E-W by up to 1.1 m. high. The enclosure's walls range from 0.7 to 0.9 m. in thickness and are in fair condition. Modern materials such as plastic plant containers, wood, bottle glass, and water hoses were scattered in the interior at the time of the survey. No subsurface testing was performed because the enclosure will not be impacted by current development plans.

Three wall sections are attached to the enclosure. The southernmost section is likely a partly rebuilt portion of the Grant 2225:1 wall (Figure 3). It was apparently rebuilt after the driveway to the main dwelling was completed (Marie Olson, personal communication, 1997). The northwestern wall segment, also the shortest, appears to have been more recently constructed. The longest wall extends to the northeast from near the northeast corner of the enclosure. This long wall is relatively well built. 'A`a rocks used in its construction are uniformly weathered, unlike the 2 shorter, modern walls. As mentioned above, Marie Olson was told by the former property owner, George Carter, that this was an "old" wall. It measures c. 50 m. in length by up to 1.4 m. in height by 0.7 to 0.9 m. in width. Portions of the wall have been partially knocked down in the past. Where intact, the wall is faced on both sides. The wall is in fair to poor condition.

Site 4470 is composed of what is most likely a post-contact habitation enclosure and a boundary wall. The enclosure was likely utilized in the early 20th century. None of the oral history informants remember hearing that it was still occupied around World War II. Site 4470 has low to medium research potential.

Site 50-50-14-4471

This site consists of the remains of an old well. It is located in an open area close to the ocean. Edward Chang recalls that it was utilized until around World War II. His uncle, David Chang, did not remember ever seeing it used. Marie Olson thinks that it was possibly utilized by the Robinson family into the 1940s. Both Edward Chang and Marie Olson believe that it was a brackish water well. Its proximity to Keone'o'io Fishpond c. 25 m. to the south supports their opinion.

The well is indicated as a "waterhole" on the 1941 L.M. Whitehouse map. It had been previously filled in with 'a`a rock cobbles and concrete over at the time of our 1997 inventory survey of the subject parcel. Site 4471 lies just to the southwest of Grant 2074. It may have once been up to 1.5 m. wide. However, this is speculation, because, as noted above, the well has been filled in. It is interesting to note that the well is located c. 45 m. east of the Site 4472 rock shelter. Site 4471 has generally low research potential.

Site 50-50-14-4472

Based on its small size, Site 4472 is interpreted as a temporary habitation/shelter site, possibly utilized from the late precontact period and into post-contact times. The site lies within c. 10 m. of the water's edge of Keone`o`io Fishpond (Site 4199). Similar rock enclosures were also noted in the Keone`o`io Archaeological District adjacent to the study property, and interpreted as temporary habitation shelters. Vegetation in the general vicinity consists of *kiawe* trees, and alien grasses and annual weeds.

The rock overhang lies at the base of a small lava promontory that is c. 4.5 m. high (Figure 4; Photos 9 and 10). The drip line of the overhang is a maximum of 1.8 m. above the present ground surface, while the covered portion of the shelter extends a maximum of 1.4 m. into the small lava rock promontory. A surface scatter of modern and early 20th century bottle glass, ceramic shards, coral and shell extends 4 to 5 m. to the east of the rock shelter. A 0.5 by 0.5 m. test unit (TU 1) was excavated in order to assess subsurface conditions at this site. Refer to Table 2 for a summary of subsurface results and Table 3 for a summary of artifacts recovered from TU 1.

Excavation at Site 4472

As noted above, a 0.5 by 0.5 unit was excavated at Site 4472. This unit was abandoned at a maximum depth of 52 cmbs. A total of 5 soil layers were encountered before TU 1 was halted due to very rocky subsurface conditions (Figure 5).

Layer I was up to 9 cm. thick. It consisted of very dark brown (10 YR 2/2) sand with moderate amounts of organic material and rootlets. This loose, dry layer appeared to have been disturbed. It yielded portable remains including 20.4 g. of shellfish, a trace (0.5 g.) of sea urchin, 0.2 g. of floral material (charcoal), 22 pieces of waterworn coral (10.2 g.) and 6 waterworn pebbles or `ili`ili (19.4 g.). The shellfish remains were dominated by *opihi* (19.0 g.). In addition, 6 pieces of brown bottle glass (Artifacts #1 to 6), 2 pieces of light blue bottle glass (Artifacts #7 and 8) and 4 pieces of clear glass (Artifacts #9 to 12) were recovered. The soil boundary with Layer II was clear.

Layer II was composed of loose, dry pale brown (10 YR 6/3) sand which contained common rootlets. This thin stratum was c. 2 to 4 cm. thick and contained low amounts of portable remains. A total of 1.6 g. of shellfish, 10 pieces of coral (3.0 g.) and 7 pieces of clear glass (Artifacts #13 to 19) were recovered from the screen. The soil boundary was relatively clear with Layer III.

Layer III was made up of brown to dark brown (10 YR 4/3 to 3/3) sand. This stratum was up to 10 cm. thick and extended to a maximum depth of 21 cmbs. Relatively low amounts of portable remains were located in this loose, dry layer. A total of 10.3 g. of marine gastropods and 1.3 g. of bivalves comprised the marine shellfish remains. In addition, 1.2 g. of echinoderm and an immature small mammal canine tooth (0.3 g.) were located. Other portable remains included 7 pieces of unworked coral (3.7 g.), 6 waterworn pebbles (15.0 g.), 6 pieces of clear bottle glass (Artifacts #20 to 25), and a white ceramic button (Artifact #26). The thick, clear bottle glass appears to be from the late 19th or early 20th century. No features were present in this layer. Charred kiawe root was present in this layer. The soil boundary with the underlying Layer IV deposit was relatively clear.

Layer IV was up to 28 cm. thick and extended to a maximum depth of 49 cmbs. This stratum appears to represent an intact cultural deposit. In addition, it did not yield any identifiable post-contact material culture remains. The loose, dry sandy stratum was quite rocky and contained common angular a'a pebbles. Layer IV was very dark grayish brown (10 YR 3/2) in color. This layer yielded food midden remains composed of 137.9 g. of marine gastropods, 36.2 g. of bivalves, 9.2 g. of echinoderm, 0.1 g. of crab, and 0.8 g. of fish bone. The most common gastropod recovered was the near shore *pipipi* (Nerita picea) which accounted for over 53% (78.8 g.) of the gastropod total. The next most common shellfish species was Nerita sandwichensis. This species accounted for nearly 24% (32.7 g.) of the gastropod total. It is interesting to note that this near shore species was not present in the overlying strata. Floral remains consisted of a total of 1.5 g. of scattered charcoal. Additional portable remains included 12 pieces of unworked coral (23.6 g.) and 23 waterworn pebbles (221.0 g.).

Five items interpreted as indigenous artifacts were also recovered from Layer IV. These include a utilized basalt flake (Artifact #27, weighing 2.1 g.), a waste flake of volcanic glass (Artifact #28--0.4 g.) and 3 unutilized and unworked basalt flakes (Artifacts #29 to 31, 41.7 g.). The fine grained utilized basalt flake (Artifact #27) came from Level 1 (21 to 31 cmbs), while the 4 other artifacts were recovered from Level 2 (31 to 41 cmbs) of the Layer IV cultural deposit. As noted earlier, no identifiable post-contact material was found in this stratum. This soil boundary with Layer V was wavy, but relatively clear.

Layer V was composed of sterile, sandy clay. The top of this yellowish red (5 YR 4/6) stratum was located between 45 and 49 cmbs. It was very rocky and had a generally soft, dry consistency. It had a nearly apedal structure. Test Unit 1 was halted at a maximum of 52 cmbs due to very rocky subsurface conditions.

Excavation of TU 1 indicates that Site 4472 was utilized for temporary shelter or habitation. The proximity of the ocean—Keone'o'io Fishpond (Site 4199) and the Site 4471, well also reinforce this functional interpretation. Material culture remains recovered from Layers I, II and III contained post-contact material remains in addition to

food midden remains, while Layer IV yielded only indigenous artifacts and food midden. In addition, the second most common shellfish species in the Layer IV deposit, Nerita sandwichensis, was not found in the overlying strata. The presence of this species does tend to differentiate Layer IV from the clearly post-contact Layers I, II and III. The lack of any identifiable post-contact remains coupled with the presence of the 5 indigenous artifacts strongly suggests that Layer IV represents an indigenous component of the site. The charcoal sample which was recovered and submitted to Beta Analytic, Inc. for analysis was rather small, and may have been contaminated by charred kiawe root present in the overlying Layer III. This sample, Beta-107853, returned a reading of 101.2 +/- 1.4%--modern. However, the other physical evidence suggests that Layer IV represents an indigenous component of Site 4472.

Test Units 2 and 3

Neither of these test units yielded material culture remains. Test Unit 2 was excavated in order to investigate subsurface conditions near a small rock overhang. Test Unit 3 was located near the 'a`a ridge on the northwestern portion of the project area in order to investigate the extent of the sand deposit there.

Test Unit 2

As previously noted, TU 2 was 50 by 50 cm. This unit was located in front of what was originally interpreted as a possible rock overhang shelter. It was a maximum of 19 cm. deep. Two soil layers were encountered before TU 2 was terminated at bedrock.

Layer I was up 7 cm. thick and consisted of light reddish brown (5 YR 6/3) silty clay. This dry, essentially apedal layer also contained decayed bedrock. Four pieces of modern brown bottle glass and 1 round head nail were recovered from Layer I. Layer II was composed of pink (5 YR 7/3) parent material. This layer was sterile.

Excavation of TU 2 did not produce any evidence of non-modern material culture remains. Closer examination of this small overhang further indicated that it was not likely utilized in the past. No profile was prepared for TU 2.

Test Unit 3

This 50 by 50 cm. unit was excavated just below the previously mentioned 'a`a ridge. A total of 2 sand layers were encountered before TU 3 was halted at weathered 'a`a rock.

Layer I was 11 cm. thick and composed of brown (10 YR 5/3) sand. This loose, dry stratum contained moderate amount of organic matter and rootlets. Layer I did not yield any material remains.

Layer II consisted of yellow (10 YR 8/6) dune sand. This stratum was loose, dry and unstable. It contained some rootlets and woody roots (*kiawe*). It was up to 40 cm. thick and proved to be sterile.

A'a flow base was encountered at c. 48 to 51 cmbs. This weathered material was black (10 YR 2/1) in color and very porous. No attempt was made to continue excavation of TU 3, and no profile was recorded for the unit.

BACKHOE TRENCHES 1 THROUGH 9

A total of 9 backhoe trenches were located on the northwestern section of the study parcel (see Map 3). These trenches were excavated in order to determine the depth and extent of sand dune deposits on this section of the study parcel. Subsurface results indicate that sand extends at least to a depth of c. 2 mbs along the base of a weathered *a'a* ridge in this area. Sand was also found to extend into the underlying weathered *a'a* rock. However, it was not possible to dig beyond 50 to 70 cm. into this angular flow material. Sand dune deposits were found to be shallower to the east of the ridge. The findings of these 9 backhoe trenches are presented below. See Table 4 for a summary of subsurface results.

Backhoe Trench 1

This first trench was oriented to 300 degrees magnetic. It was located in a flat area near the base of the dune that has formed against an old ridge of lava c. 5 to 7 m. tall. Test Unit 2 was located c. 12 m. upslope to the northeast. Scattered bovine bones were present on the surface in the general area. Vegetation consisted of *kiawe* trees, *koa haole*, alien grasses and annuals, and scattered *'ilima*. In addition, a small grove of c. 20 year old coconut trees lies just to the west of BT 1. Trench dimensions were c. 5 m. in length by 1.5 m. in width by a maximum of 2 mbs. A total of 2 sand layers and a sloping base of weathered *a'a* were encountered before the trench was abandoned due to very difficult digging conditions (Figure 6; Photo 11).

Layer I was up to 15 cm. thick and consisted of pale brown (10 YR 6/3) sand. This loose, dry stratum contained low to moderate amounts of organic materials and some rootlets. Layer I did not appear to contain any material culture remains. The stratum was spot-checked with 1/8" mesh screen. The soil boundary with Layer II was fairly clear.

Layer II was composed of yellow (10 YR 8/6) dune sand. This stratum extended up to 1.8 mbs. The upper half of this loose, dry layer contained a few rootlets and woody (*kiawe*) roots. This stratum became rockier with an increase in depth. It overlaid weathered *a'a* flow rock.

This flow material was angular and black (10 YR 2/1) in color. It consisted of porous *a'a* rock which was possible to dislodge with a backhoe. This *a'a* flow material

was found to slope upwards from the SE to the NW towards the exposed *a'a* ridge. Backhoe Trench 1 was halted because of very difficult excavation conditions.

Backhoe Trench 2

This trench was located some 8 m. east of BT 1 near the base of the dune. Backhoe Trench 2 was excavated in order to investigate the depth of the sand dune. It was oriented to magnetic north. Vegetation in the vicinity consisted of *kiawe*, *koa haole*, alien grasses and annuals, and scattered *'ilima*. Trench dimensions were c. 5 m. in length by 1.5 m. in width by a maximum of 2.3 m. in depth. Two intact sand layers and a sloping *a'a* flow were present in BT 2 (Figure 7).

Layer I consisted of brown (10 YR 5/3) sand which contained moderate amounts of organic matter and rootlets. This loose, dry stratum was up to 15 cm. thick. Layer I was spot-checked with 1/8 inch screen and appeared to be sterile. The soil boundary with the underlying Layer II was relatively clear.

Layer II was composed of the common yellow (10 YR 8/6) dune sand. It extended a maximum of 2 mbs before the underlying *a'a* flow was encountered. The loose and dry sand contained a few rootlets and woody roots (*kiawe*). No material culture remains were found. The lower half of Layer II became rockier, and the *a'a* flow base was located between 1.8 and 2 mbs.

This weathered flow material was essentially black (10 YR 2/1). It also sloped upwards from the southern to northern ends of BT 2. Layer II sand infiltrated readily in this porous, angular substrate. Excavation was terminated at a maximum of 2.3 mbs due to extremely difficult subsurface conditions.

Backhoe Trench 3

This trench was also placed near the base of the dune, some 10 m. east of BT 2. Vegetation in the vicinity consisted of *kiawe*, *koa haole*, and alien grasses and annuals. Trench orientation was to the north and dimensions for BT 3 were c. 5 m. length by 1.5 m. width by 1.9 m. depth. Backhoe Trench 3 was stratigraphically similar to BT 1 and BT 2.

Layer I was made up of loose, dry brown (10 YR 5/3) sand. This layer was up to 12 cm. thick and contained moderate amounts of organic matter and rootlets. It appeared to be sterile. The boundary with Layer II was wavy and clear.

The common dune sand extended to a maximum of c. 1.7 mbs. This loose, dry stratum was yellow (10 YR 8/6) and very unstable. No material culture remains were observed in Layer II. The layer became rockier as BT 3 increased in depth.

The *a`a* flow base was encountered between c. 1.5 and 1.7 mbs. This weathered rock was black (10 YR 2/1) and sloped upwards from south to north. Excavation was abandoned when BT 3 collapsed at a maximum depth of 1.9 mbs.

Backhoe Trench 4

This trench was also placed along the base of the dune. It was located c. 10 m. southwest of the Makena-Keone`o`io Government Road and c. 14 m. northeast of BT 3. Like the 3 previous backhoe trenches, BT 4 was utilized in order to investigate the sand dune deposit. Trench orientation was 80 degrees magnetic. Vegetation in the general area was composed of *kiawe* trees, *koa haole*, alien grasses and annuals, and scattered *'ilima* and *'uhaloa*. Trench dimensions were c. 5 m. in length by 1.5 m. in width by a maximum of 2.5 m. in depth. Both common sand layers and the weathered *a`a* flow were present in BT 4 (Photo 12).

Layer I was made up of brown (10 YR 5/3) sand which had moderate amounts of organic matter in it. This loose, dry layer was c. 10 cm. thick. It was spot-checked with 1/8 inch mesh screen and appeared to be sterile. The soil boundary with the underlying dune sand was wavy and relatively clear.

Layer II was made up of the common yellow (10 YR 8/6) dune sand. This loose, dry layer was a maximum of 2 m. thick. In general, rootlets decreased with greater depth. As in the 3 previous trenches, rockiness increased with depth. The base *a`a* flow was located between c. 1.8 and 2 mbs.

The black (10 YR 2/1), weathered *a`a* flow was once again found to slope upwards towards the *a`a* ridge. Excavation was terminated at c. 2.5 mbs when BT 4 partly collapsed. No profile was recorded for this trench.

Backhoe Trench 5

This trench was located c. 20 m. southeast of BT 3 in a generally flat to slightly sloping area. Trench orientation was to the north. This subsurface test was c. 5 m. long by 1.5 m. wide by 0.8 m. deep. Vegetation in the general area was composed of *kiawe*, *koa haole*, and alien grasses and annual weeds. A total of 5 thin, sterile layers were present in the trench (Figure 8).

Layer I was composed of brown (10 YR 5/3) sand which was c. 7 cm. thick. This loose, dry layer contained common rootlets and some woody roots (*kiawe*). No material culture remains were found in the stratum. The soil boundary with the rocky underlying layer was wavy and somewhat indistinct.

Layer II was up to 18 cm. thick and consisted of very pale brown (10 YR 7/3) sand. This loose, dry stratum contained common rootlets and common basalt pebbles and cobbles. The boundary with the underlying stratum was relatively clear.

Layer III was 3 to 5 cm. thick and was composed of pale brown (10 YR 6/3) sand. This loose, dry stratum contained a few rootlets and what appeared to be shattered grains of basalt. These grains were typically less than 1 mm. in thickness and were noticeably angular. It is not known what produced this thin stratum with its shattered basalt component. The boundary with Layer IV was generally indistinct due to extreme rockiness.

Layer IV was up to 23 cm. thick and was composed of pale brown (10 YR 6/3) sand. This loose, dry stratum was very rocky and extended to a maximum depth of 50 cmbs. It was underlain by what appeared to be subsoil.

Layer V consisted of brown to dark brown (7.5 YR 5/4 to 4/4) silty clay. This slightly hard, dry soil had a weakly developed subangular blocky structure. It was very rocky and overlaid bedrock. Excavation was halted at bedrock c. 80 cmbs.

Backhoe Trench 6

This trench was excavated c. 10 m. northwest of the Site 4470 enclosure. Backhoe Trench 6 was oriented E-W. Its dimensions were c. 6 m. in length by 1.4 m. in width by 1.1 m. in depth. Vegetation in the general area consisted of *kiawe* trees, *koa haole*, and alien grasses and annual weeds. A total of 3 sterile soil layers were encountered before the trench was terminated above bedrock.

Layer I consisted of brown (10 YR 5/3) sand that was up to 15 cm thick. This loose, dry stratum contained common rootlets and some woody roots (*kiawe*). It had a relatively clear boundary with the underlying Layer II.

Layer II was also composed of sand that was 40 cm. thick. This very pale brown (10 YR 8/4) stratum was loose, dry, and contained common angular *a'a* pebbles and cobbles. The soil boundary with the underlying Layer II was somewhat indistinct due to very rocky subsurface conditions.

Layer III was made up of brown (7.5 YR 5/4) silty clay. This slightly hard, dry stratum had a weakly developed subangular blocky structure. It was very rocky and overlaid bedrock. No profile was prepared for BT 6.

Backhoe Trench 7

Backhoe Trench 7 was c. 25 m. northeast of BT 6 and c. 12 m. northwest of Site 4470. This trench was oriented to 110 degrees magnetic. It was c. 5 m. long by 1.1 m. wide by 1.2 m. deep. Backhoe Trench 7 was located in a flat area covered by *kiawe* trees, *koa haole*, and alien grasses and annual weeds. A total of 3 sterile soil layers were encountered before BT 7 was halted due to very difficult subsurface digging conditions (Figure 9).

Layer I was made up of brown (10 YR 5/3) sand that was up to 20 cm. thick. This loose, dry stratum contained common rootlets and some woody roots (*kiawe*). I also had a moderate amount of organic matter. It overlaid a thin layer of dune sand. The soil boundary between these 2 strata was wavy and somewhat indistinct.

Layer II was composed of very pale brown (10 YR 8/4) dune sand which was up to 40 cm. thick. This loose, dry layer contained moderate amounts of *a'a* pebbles and cobbles. A few rootlets were also present in Layer II. The soil boundary with Layer III was relatively indistinct due to very rocky subsurface conditions.

Layer III consisted of brown to dark brown (10 YR 5/4 to 4/4) silty clay. This dry stratum had a slightly hard consistency and a weakly developed subangular blocky structure. Excavation of BT 7 was halted at a maximum depth of c. 1.2 mbs due to very rocky subsurface conditions.

Backhoe Trench 8

This trench was located in the previously mentioned coconut grove area. The irrigated ground was vegetated with alien grasses and annuals. A modern fire hearth was located c. 5 m. to the east of BT 8. Trench orientation was 110 degrees magnetic (Figure 10). Dimensions of BT 8 were c. 0.5 m. in length by 1.4 m. in width by 1.7 m. in depth. Five layers were encountered before the trench was abandoned.

Layer I was composed of brown (10 YR 5/3) sand with surface organics. This loose, dry layer contained common rootlets. Scattered marine shellfish remains (non-weathered), recent charcoal, and modern materials such as bottle glass and rusted metal were noted. The groundskeeper, Dino, subsequently indicated that he had regularly used the fire pit to the east of BT 8. The material remains had been cleaned out of the hearth on occasion and spread out. This is the likely source for the scattered material found in Layer I. The soil boundary with the underlying Layer II was wavy and indistinct.

Layer II consisted of disturbed/pushed sand which was light yellowish brown (10 YR 6/4) in color. This stratum contained common rootlets and some woody roots (coconut). In addition, scattered modern material remains including bottle glass, metal, paper, bovine remains, and charcoal were found. Layer II was up to 40 cm. thick. Its boundary with the underlying Layer III was wavy and somewhat indistinct.

Layer III was composed of pale brown (10 YR 6/3) sand which extended to a maximum depth of 60 cmbs. This loose, dry layer contained a few fragments of waterworn shell. These scattered fragments did not appear to have been derived from cultural activities.

Layer IV was made up of what appeared to be dune sand. This very pale brown (10 YR 8/4) sand did not yield any material culture remains. It overlaid apparent subsoil and extended to 1.3 mbs.

Layer V was made up of the common brown (7.5 YR 5/4) silty clay. This very rocky stratum was sterile and continued to the bottom of BT 8. This dry stratum was slightly hard and had a weakly developed subangular blocky structure. Excavation was halted because of very hard subsurface conditions.

Backhoe Trench 9

This last trench was located c. 8 m. northwest of BT 8. Trench orientation was E-W and BT 9 was c. 6 m. long by 1.4 m. wide by 1.5 m. deep. Surface conditions in the area were essentially the same, and consisted of coconut trees and irrigated alien grasses and annual weeds. Stratigraphy present in BT 9 was essentially the same as that found in BT 8.

Layer I was made up of brown (10 YR 5/3) sand. This loose, dry layer was about 10 cm. thick. It contained moderate amounts of organic matter, common rootlets and woody roots (coconut). Scattered modern materials including bottle glass, concrete, and plastic were noted in this brown sand. It overlaid what appeared to be disturbed or pushed sand.

Layer II was a maximum of 35 cm. thick and consisted of yellowish brown (10 YR 6/4) sand. This stratum appeared to have been mechanically pushed in the past. It contained scattered modern materials including bottle glass, metal, wood, bovine remains, and charcoal. The soil boundary with the underlying Layer III was wavy and relatively indistinct.

Layer III was up to 20 cm. thick and extended to c. 60 cmbs. This pale brown (10 YR 6/3) stratum contained a few pieces of waterworn shell, coral and basalt. There was no evidence of any cultural features or deposits in this loose, dry layer. The stratum overlaid what appeared to be dune sand.

Layer IV extended to a maximum of 1.4 mbs. This very pale brown (10 YR 8/4) stratum appeared to be sterile. This loose, dry sand overlaid the common subsoil.

Layer V was composed of brown (7.5 YR 5/4) silty clay. The dry stratum had a slightly hard consistency along with a weakly developed subangular blocky structure. This layer was sterile and extended to the bottom of BT 9. Excavation was abandoned when the trench collapsed and no profile was prepared.

SUMMARY AND CONCLUSIONS

A total of 10 sites have been identified on the subject parcel. Two of the 10 sites were located prior to our 1997 inventory survey of the project area—the fish pond and the old slaughterhouse.

Keone'o'io Fishpond is the most notable cultural resource on the subject parcel, and was assigned Site 4199 in 1996, by former SHPD archaeologist, Theresa Donham. According to Fornander, it represents a feature typical of the precontact period land usage pattern, whereby shore resources were exploited and transported to larger habitation areas inland. Site 4472, the temporary habitation rock shelter, is also most likely a precontact site. Again, similar shelters are to be found in the Keone'o'io Archaeological District. Site 4471, the old well feature may also have originally been a precontact feature. Such small wells are reported in the adjacent archaeological district as providing sources of drinking water, since there were no fresh water streams running through the lava flow. It was no doubt utilized by the residents during the 19th century, and indeed probably remained functional until World War II, as its presence is noted on a 1941 map.

The mid-19th century time period associated with the historic Keone'o'io village is represented by various boundary walls associated with residential land grants (Sites 4467, 4468, 4469), walls and an enclosure associated with residential land Grant 2225:1 (Site 4470), and the old church ruins (Site 4466). Subsequent land moving activity has altered some of these habitation configurations.

Activities associated with late 19th and early 20th century ranching activities were represented by Site 1580. It was not possible to relocate the old Raymond slaughterhouse and landing (Site 1580). However, scattered bovine bones were found in one area of the study parcel, which may represent the slaughterhouse's former location. The remains of the landing may be represented by a large tallow pot. At the time of our survey, it was being used as a fire pit. It is likely that these features were removed either by the military during World War II, or by the Carter family after they purchased the property in the 1950s, since they were not present in the 1973 State survey.

The remnants of military activity connected with World War II are represented by Site 4457. The main feature is a substantial ramp which enters the fish pond, and is still used for launching fishing boats. Without question, this military usage resulted in significant disturbance of archaeological features on the study parcel that one would have expected to be present. The area around Site 4457 was leveled, and structures built there. The tsunami of 1946 may have also added to the disturbance of sites from previous periods.

Significance Evaluations¹²

Significance evaluations are based on the Federal and State historic preservation guidelines. Two of the sites, the fish pond (Site 4199) and the historic church (Site 4466) are considered significant under criterion D—information content, and criterion E—having important cultural value to the native Hawaiian people.

The remaining sites are significant under criterion D—information content.

Mitigation Recommendations

Site 4199, Keone`o`io Fish Pond, is recommended for preservation as is. It has been altered to some degree over the years, but still remains one of the last fish ponds in this area of Maui. The church ruins (Site 4466) are also recommended for preservation as is. The landowners feel that it is an important site, and do not wish to have it disturbed.

Site 4472, the rock shelter is recommended for data recovery. It is located in a large finger of lava which is to remain part of the landscape of the property. However, if it is to be impacted at some point in the future, data recovery on the subsurface deposits should be conducted.

No subsurface testing was possible beneath Sites 4467, 4468, 4469 and 4470 (the rock walls and enclosure containing cultural deposits) during the inventory survey. Since most of these walls were built in the middle of the 19th century, it is quite possible that they were built on precontact archaeological sites. Consequently, precontact cultural materials may be present. Therefore, data recovery would be the recommended mitigation for these sites, if they are to be impacted by the development project.

Site 4457 is comprised of 4 military features. This site will most likely be left in place. No further archaeological work is recommended unless all or part of Site 4457 is impacted by future development. Data recovery is the recommended mitigation measure in this event.

Site 1580, the old slaughterhouse and landing, requires no further work since both have been destroyed and available information has been collected during the inventory survey. Site 4471, the old well site, also requires no further work. A reasonable amount of information has been gathered, and the site has been filled in with *a`a* cobbles, cemented over and is scheduled to remain in place.

While no cultural resources were identified in the sand dune area of the northwestern portion of the subject parcel, the possibility exists that burials and/or cultural deposits may be present. Subsurface testing and surface inspection indicates that deposits of sand cover c. 2 to 3 acres of the study area. These deposits are relatively thick

¹² Please refer to Table 1 for the lists of sites, their function and significance evaluation.

along the southern side of an *a`a* ridge which runs from the Makena-Keone'o'io Government Road to the main dwelling on the project area. In addition, sand dune deposits extend further to the northwest of the *a`a* ridge. While these deposits appear to be relatively thin (less than 50 cm. thick), they may have obscured the remains of a site. Consequently, monitoring is the recommended mitigation for any grubbing and earthmoving activities that occur in the northwestern quadrant of the subject parcel.

REFERENCES

- Ashdown, Inez
1971 *Ke Alaloe o Maui: The Broad Highway of Maui.* Ace Printing Co., Wailuku.
- Barrere, Dorothy B.
1975 *Wailea: Waters of Pleasure for the Children of Kama.* B. P. Bishop Museum, Honolulu.
- Beckwith, Martha
1970 *Hawaiian Mythology.* University of Hawaii Press, Honolulu.
- Bordner, Richard
1995 *Contested Images of Place in a Multicultural Context: The Ahupua`a of Kanaio and A`uahi, Maui.* Ph.D. dissertation, Geography Department, University of Hawaii, Honolulu.
- Bordner, Richard, and Bryan Man
1988 *La Perouse Field Survey,* ms at State Historic Preservation Division, DLNR.
- Carpenter, Alan B., and Martha Yent
1995 *Archaeological Monitoring: Parking Lot Construction at Makena State Park, Mo`oiki and Mo`oloa Ahupua`a, Honua`ula District, Island of Maui, TMK: 2-1-06: 27, 28, DLNR, Division of State Parks, Archaeology Section.*
- Clark, Steven
1974 *Reconnaissance Survey of Makena Properties for Seibu Corporation.* Bernice P. Bishop Museum, Honolulu.
- Connolly, Robert III
1973 *Site 50-50-14-1019, Hawaii Registry of Historic Places Form, SHPD-DLNR files.*
- Cordy, Ross and J. Stephen Athens
1988 *Archaeological Survey and Excavation, Seibu Sites 1916 and 2101, Makena, Honuaula, Maui.* International Archaeological Research Institute, Inc., Honolulu.

- Donham, Theresa K.
1992 Surface Survey of Site 50-50-14-2909, Mo'oloa Ahupua'a, Makawao District, Island of Maui (TMK: 2-1-06: 26, Lot 3). International Archaeological Research Institute, Inc., Honolulu.
- 1995 Burial Recovery at Site 50-50-14-4120, Makena State Park, Mo'oloa, Makawao District, Island of Maui (TMK: 2-1-06: 27). Department of Land and Natural Resources, Historic Preservation Division, June 25, 1995.
- Dunmore, John
1991 *Who's Who in Pacific Navigation*, University of Hawaii Press, Honolulu.
- Fredericksen, Erik M., and Demaris L. Fredericksen
July 1997 Archaeological Inventory Survey of a 4.186 acre Parcel Located at Mo'oloa Ahupua'a, Honua'ula, Makawao District, Maui Island (TMK: 2-1-05: 116), prepared for Greg Kaufman, Pacific Whale Foundation, by Xamanek Researches, Pukalani, Hawaii.
- Foote, D.E., E.L. Hill, S. Nakamura and F. Stevens
1972 Soil Survey of the Islands of Kauai, Oahu, Maui and Molokai, U.S. Department of Agriculture, Soil Conservation Service, Government Printing Office, Washington, D.C.
- Gosser, D., S.D. Clark and B. Dixon
1996 Data Recovery Procedures in Parcels III and IV, Makena, Makawao, Maui, Bishop Museum, Honolulu.
- Handy, E.S. Craighill
1940 *The Hawaiian Planter*, Bishop Museum Bulletin 161, Bishop Museum Press, Honolulu.
- Handy, E.S. Craighill, E. Handy and M.K. Pukui
1972 *Native Planters in Old Hawaii: Their Life, Lore, and Environment*. Bishop Museum Publication 233, Bishop Museum Press, Honolulu.
- Haun, Alan
1978 Archaeological Survey and Salvage Excavations in Mooiki and Maluaka, Makawao District, Maui. Prepared for Seiby Hawaii, Inc., by Bishop Museum, Honolulu.
- Kamakau, Samuel M.
1992 *Ruling Chiefs of Hawaii (Revised Edition)*, Kamehameha Schools Press, Honolulu.
- Macdonald, Gordon A., A.T. Abbott and F. L. Peterson
1983 *Volcanoes in the Sea: The Geology of Hawaii (Second Edition)*, University of Hawaii Press, Honolulu.
- Titchenal, Paul
1996 An Archaeological Inventory Survey of a 20 Acre Parcel Slated for Development of a Waste Water Treatment Facility, South Course, Makena Golf Club, Mo'oloa and Mo'loiki Ahupua'a, Makena, Makawao District, Maui Island (TMK: 2-1-05: 108), for Makena Resort Corporation, Aki Sinoto Consulting, Honolulu.

Walker, Winslow
1931

Archaeology of Maui, Manuscript at Maui Historical Society, Wailuku.

Wright, John C.
1973

Hawaii Register of Historic Places, Short Form, Site 50-50-14-1580, DLNR-SHPD files.

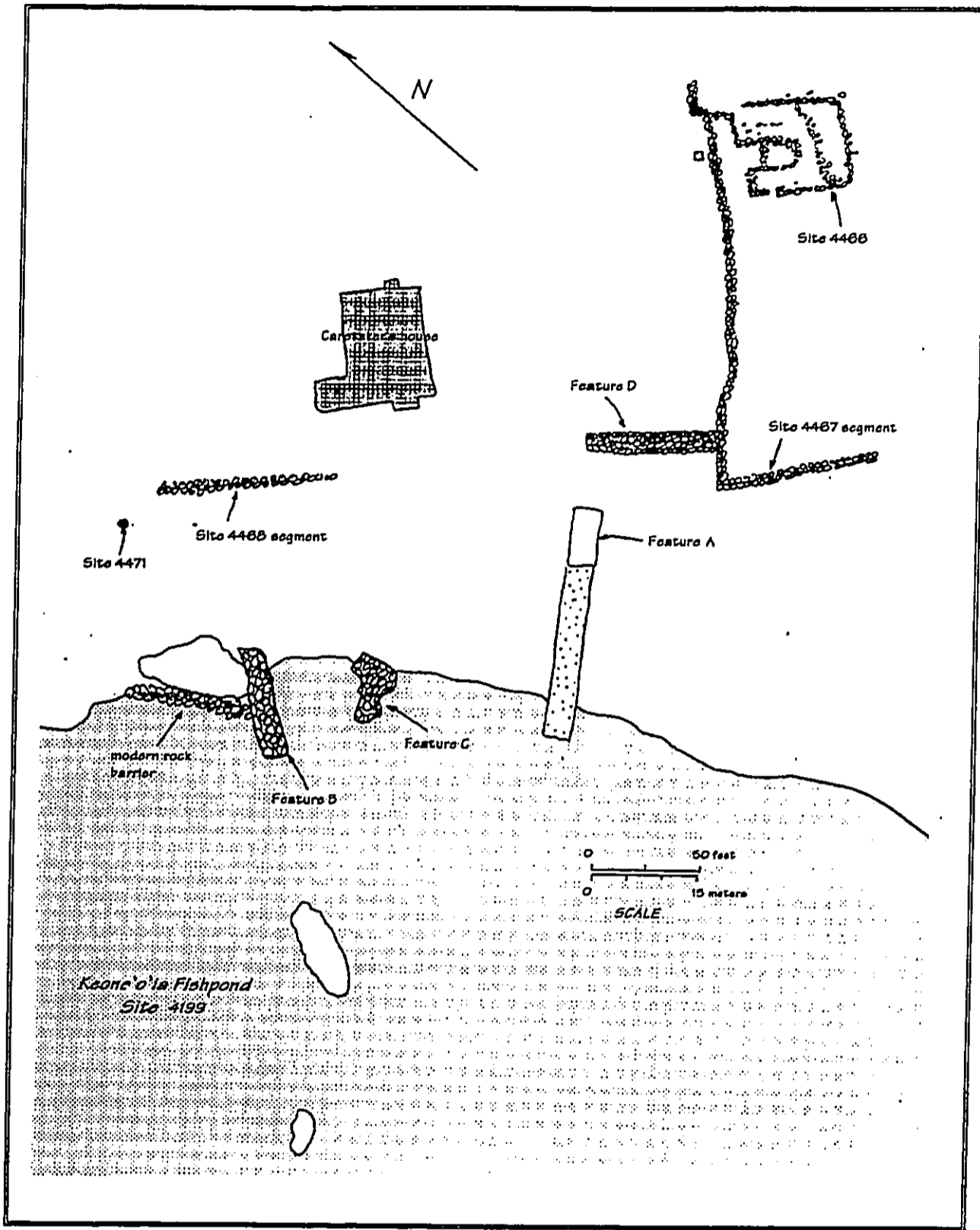


Figure 1 - Plan view of Site 50-50-14-4457, World War II military site (Features A, B, C, D) and other nearby sites.

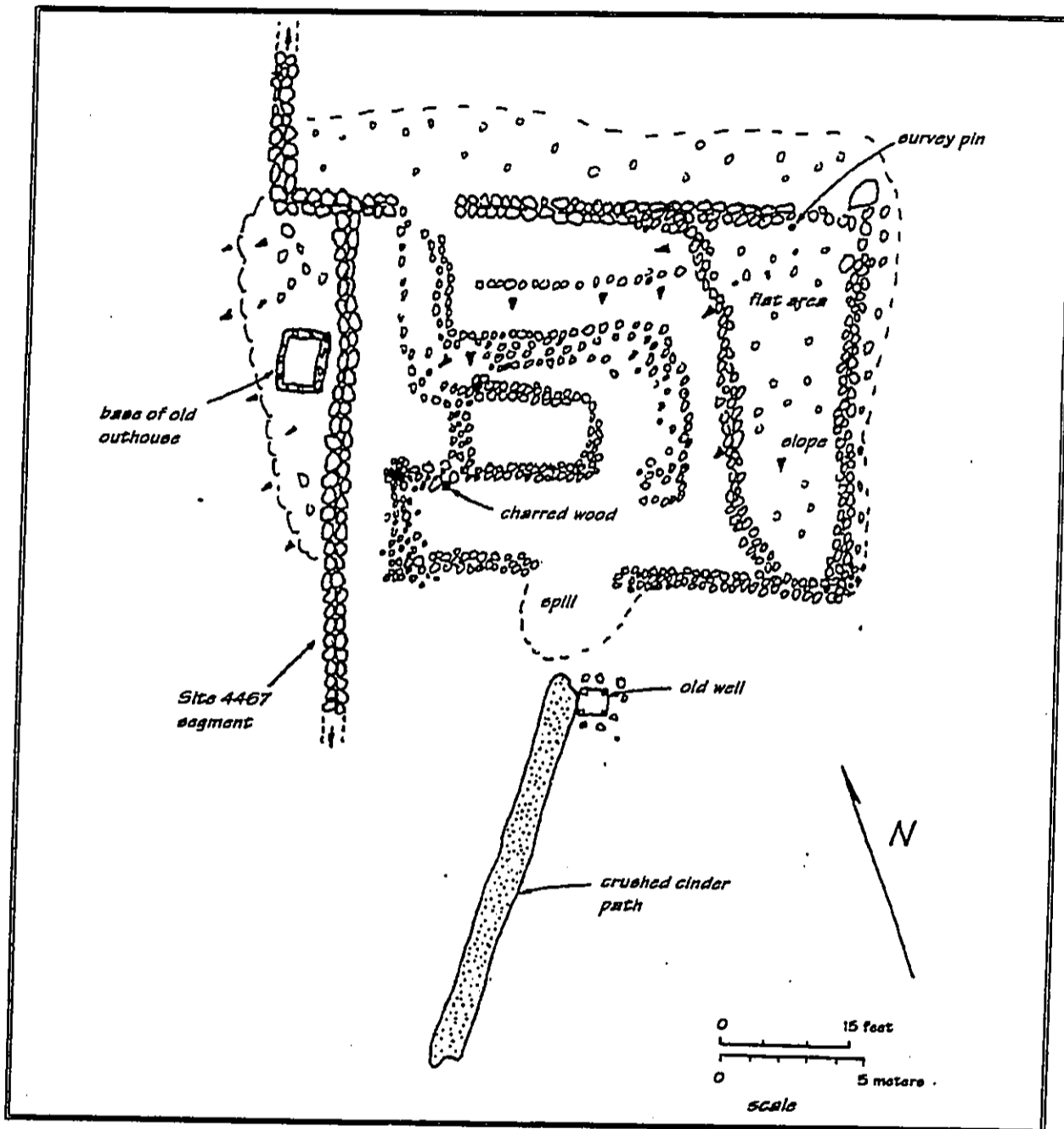


Figure 2 - Plan view of the old Hawaiian Congregational Church (Site 4466).

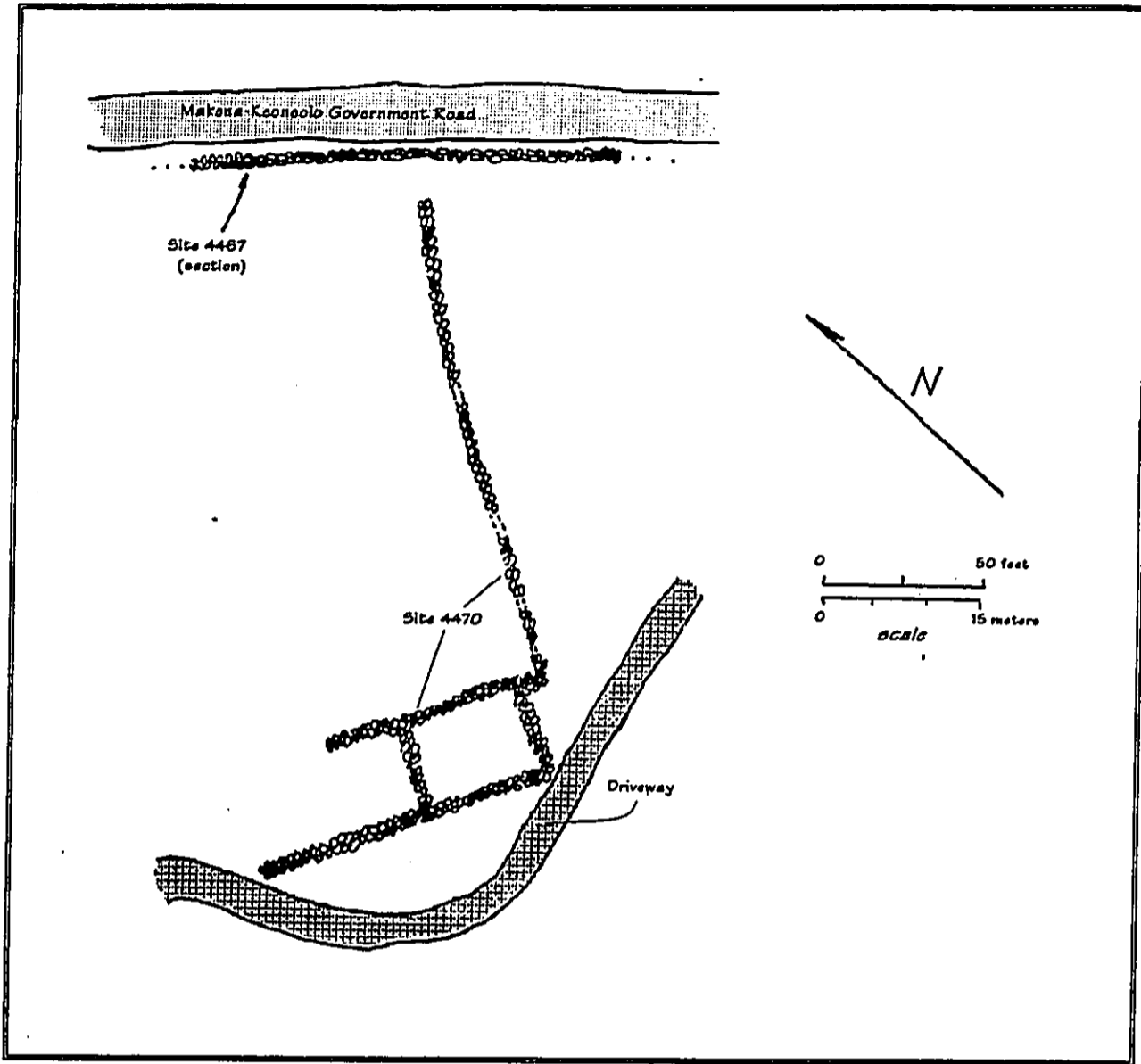


Figure 3 - Plan view of Site 50-50-14-4470.

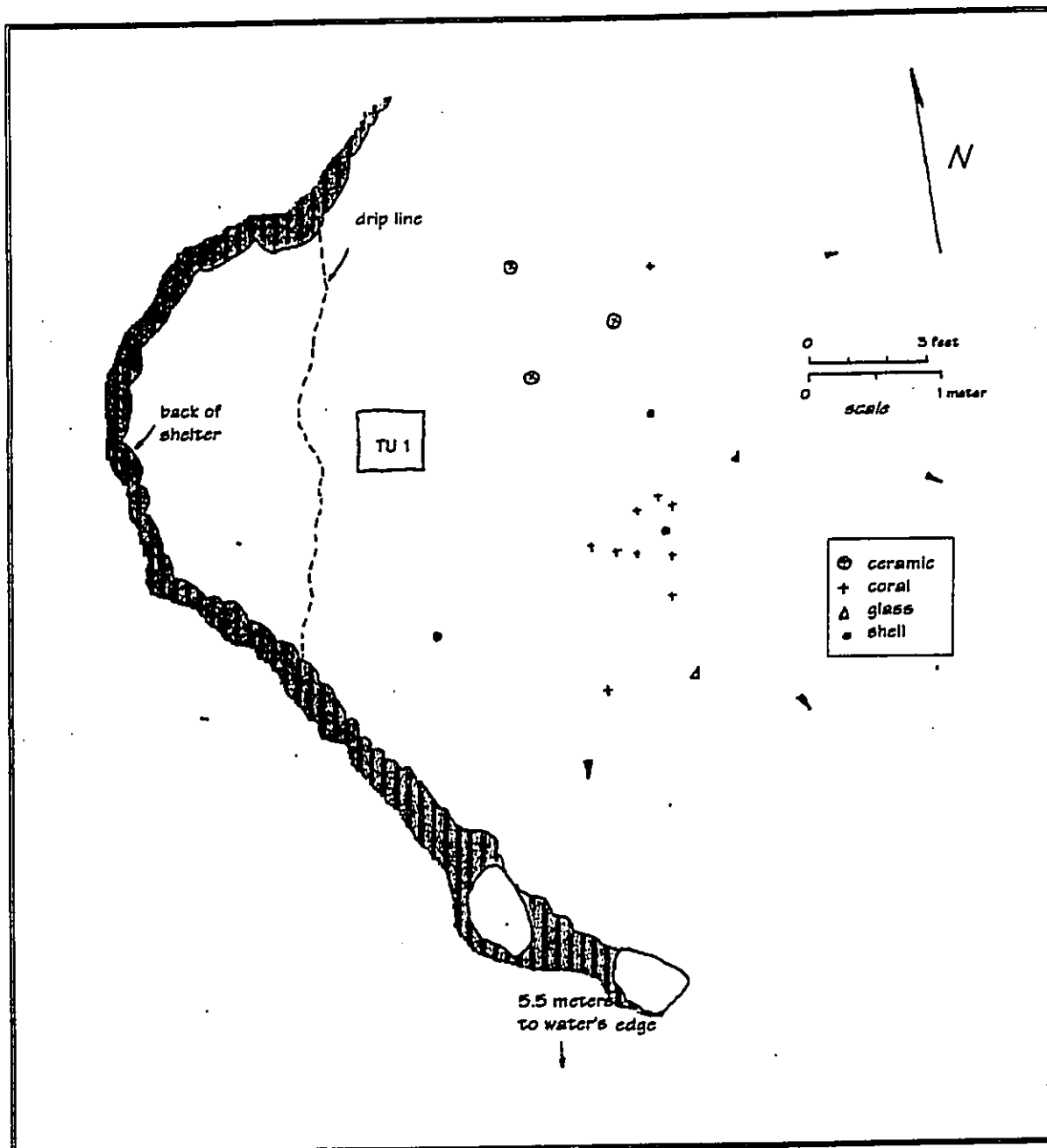


Figure 4 - Plan view of rock overhang shelter, Site 50-50-14-4472.

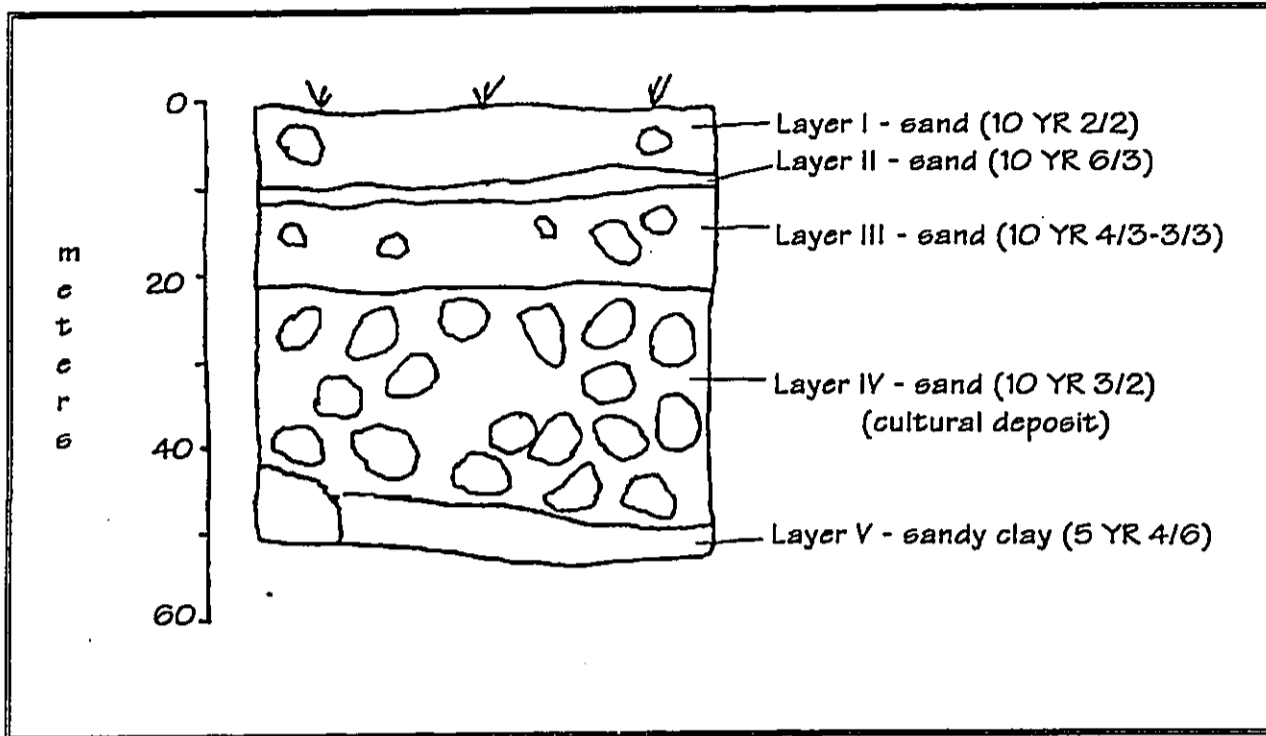


Figure 5 - North face profile, Test Unit 1. (Site 4472)

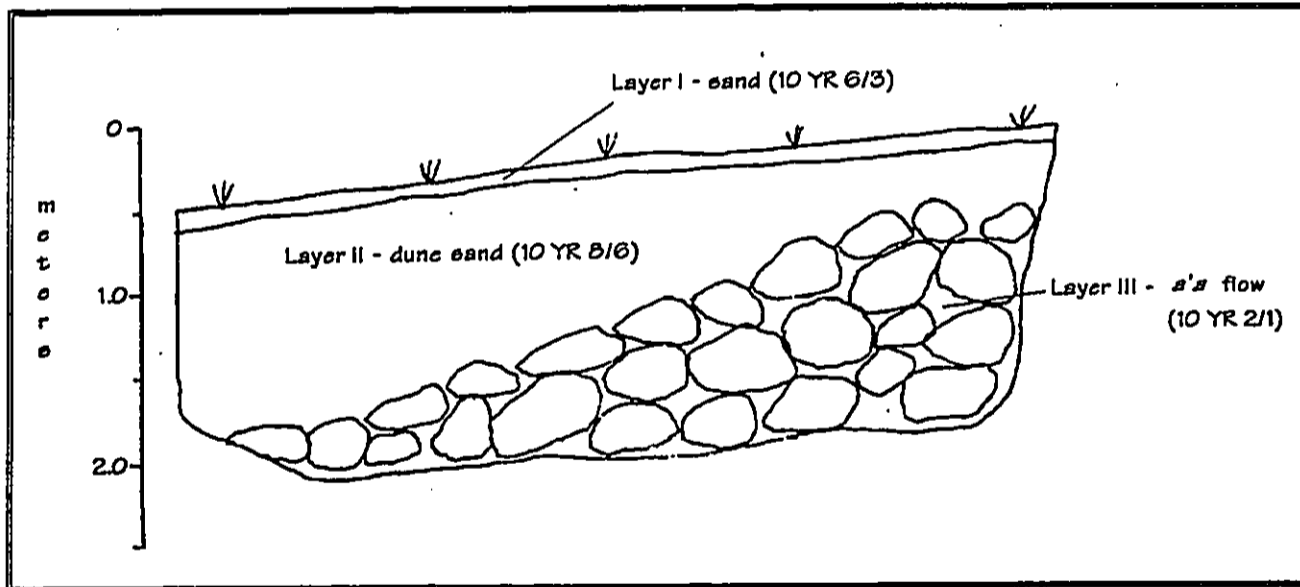


Figure 6 - West face profile of Backhoe Trench 1.

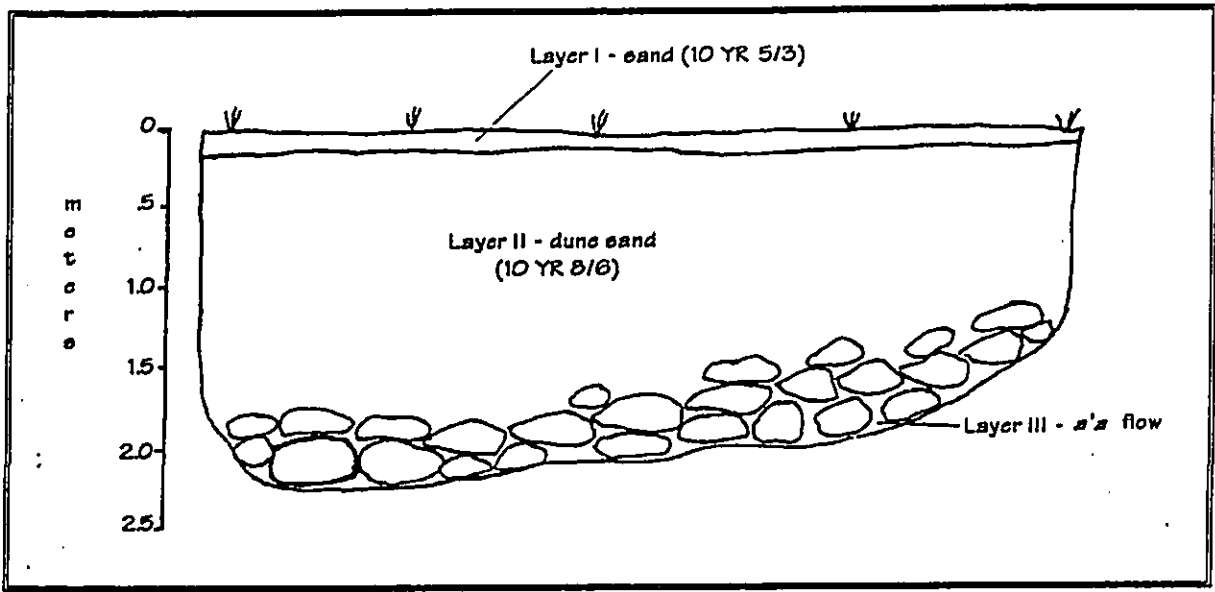


Figure 7 - West face profile of Backhoe Trench 2.

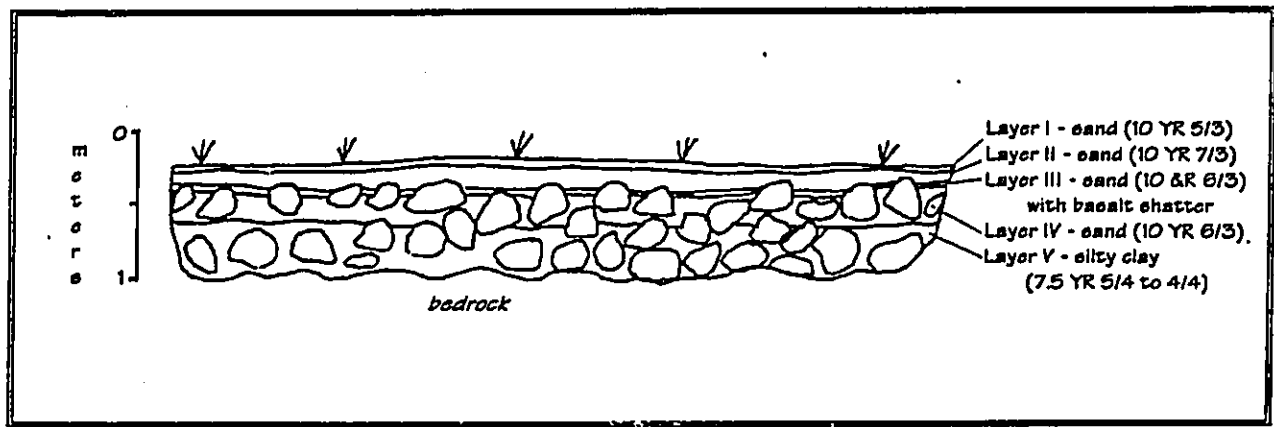


Figure 8 - North face profile of Backhoe Trench 5.

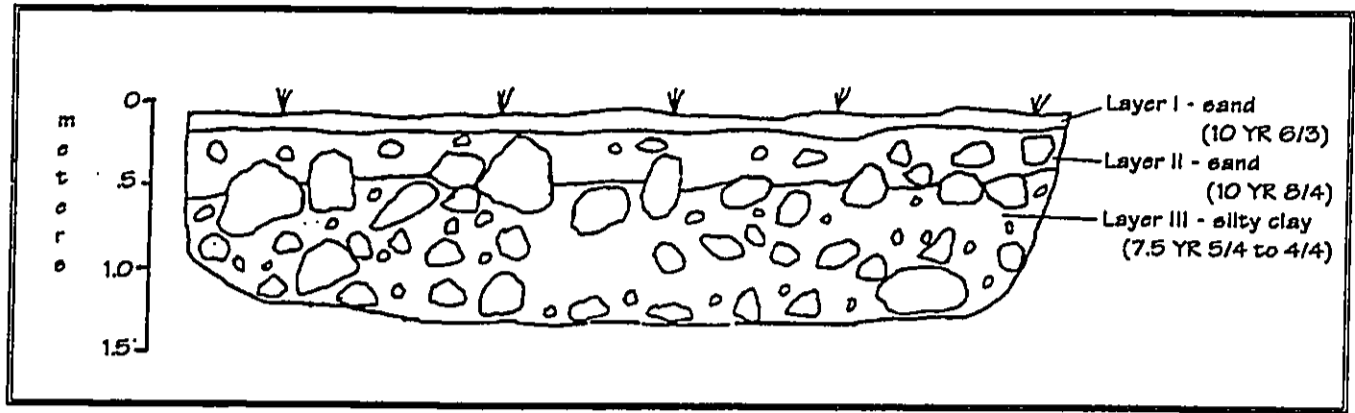


Figure 9 - East face profile of Backhoe Trench 7.

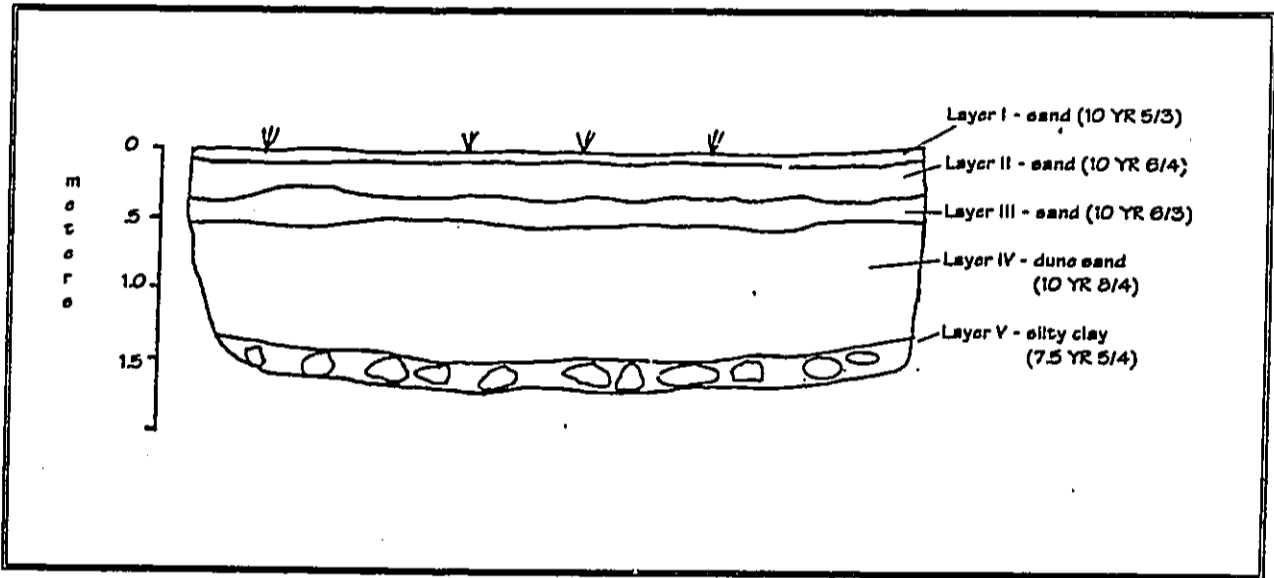


Figure 10 - East face profile of Backhoe Trench 8.

TABLE 1

Inventory Level Significance Assessments for Sites Located on
TMK (2) 2-1-04: 46 in Keone o'io, Maui

SHIPSTEERING NUMBER	SIGNIFICANCE CRITERION	COMPONENTS/ FEATURES	INTERPRETED FUNCTION	ADDITIONAL WORK
1580	D	unknown	Former slaughterhouse and landing	None
4199	D, E	1	Keone o'io fish pond	Preservation
4457	D	4	Military - WW II	Data recovery*
4466	D, E	2 + 2 off property	Old Hawaiian congregational church	Preservation
4467	D	1	Property boundary wall	Data recovery*
4468	D	Segments	Land Grant boundary wall	Data recovery*
4469	D	Segments	Land Grant boundary wall	Data recovery*
4470	D	2	Land Grant boundary wall with enclosure	Data recovery*
4471	D	1	Old well	Data recovery*
4472	D	2	Rock shelter with subsurface deposit	None
				Data recovery*

*Data recovery is the recommended mitigation if any of these sites are scheduled to be impacted by proposed or future development.

1 Criterion "D" - has yielded, or is likely to yield, information which is important for research on prehistory or history. Criterion "E" - has an important traditional cultural value to the native Hawaiian people.

TABLE 2

Summary of Subsurface Results at Site 50-50-14-4472
Test Unit 1

ITEM	PERCENTAGE	PERCENTAGE	PERCENTAGE	PERCENTAGE	PERCENTAGE	PERCENTAGE
GASTROPODA						
Cellana sp.	19.0			1.8		
Conus sp.	0.3				2.2	
Cypraea sp.			4.5	3.0	4.8	3.2
Granula sandwichensis			0.1	0.1		
Littorina pintado				0.3		0.4
Nerita picea	0.6	1.4	3.8	18.1	42.8	12.9
Nerita sandwichensis				10.8	15.2	6.7
Operculum			1.1	1.0	1.2	
Strombus sp.						0.3
Trochus intextus				1.6	2.4	1.0
Turbo sandwichensis					5.6	
Unidentified			0.8	2.5		
TOTALS	19.9	1.4	10.3	39.2	74.2	24.5
BIVALVIA						
Isognomon sp.	0.1		1.3	11.8	18.8	4.7
unidentified	0.4	0.2		0.9		
TOTALS	0.5	0.2	1.3	12.7	18.8	4.7
ECHINOIDEA						
Pencil urchin			1.1	4.3	1.3	1.8
Sea urchin	0.5		0.1	0.3	1.7	0.4
TOTALS	0.5		1.2	4.6	3.0	2.2
CRUSTACEA						
Crab				0.1		
BONE						
Dog tooth			0.3			
Fish				0.1	0.8	
TOTALS			0.3	0.1	0.8	
FLORAL						
Charcoal	0.2		0.5	1.2		0.3
UNWORKED BASALT FLAKES (pieces)						
					41.9	(3)
UNWORKED CORAL (pieces)						
	10.2	3.0	3.7	7.6	16.0	
	(22)	(10)	(7)	(8)	(4)	
WATERWORN PEBBLES (pieces)						
	19.4		15.0	198.3	15.2	7.5
	(6)		(6)	(14)	(6)	(3)

Weight in grams

TABLE 3
 Artifacts Recovered at Site 50-50-14-4472
 Test Unit 1

ARTIFACT NUMBER	LAYER/LEVEL	PARTIAL DESCRIPTION	SIZE (mm)	WEIGHT (g)
1-6	I	brown glass	-	-
7-8	I	light blue glass	-	-
9-12	I	clear glass	-	-
13-19	II	clear glass	-	-
20-25	III/1	clear glass	-	-
26	III/1	white ceramic button	-	0.5
27	IV/1	utilized basalt flake	30.0 x 18.5 x 4.5	2.1
28	IV/2	volcanic glass debitage	12.0 x 10.0 x 4.0	0.4
29-31	IV/2	unutilized/unworked basalt flakes	-	41.7

TABLE 4

Summary of Inventory Survey Backhoe Trench Results

DEPTH (mbs)	STRATA	RESULTS
1	2 Layer (L) I sand (10 YR 6/3) to c. 0.15 mbs L II dune sand (10 YR 8/6) to c. 1.8 mbs L III a'z flow (10 YR 2/1) to bottom	Bovine bones on surface in vicinity All layers sterile
2	2.3 L I sand (10 YR 5/3) to c. 0.15 mbs L II dune sand (10 YR 8/6) to 1.9 mbs L III a'z flow (10 YR 2/1) to bottom	Surface shell in vicinity (not weathered) L I sterile L II contains scattered crab claws
3	1.9 L I sand (10 YR 5/3) to c. 0.1 mbs L II dune sand (10 YR 8/6) to c. 1.7 mbs L III a'z flow (10 YR 2/1) to bottom	All layers sterile
4	2.5 L I sand (10 YR 5/3) to c. 0.1 mbs L II dune sand (10 YR 8/6) to c. 1.9 mbs L III a'z flow (10 YR 2/1) to bottom	Surface shell in vicinity (not weathered) L I sterile L II contains scattered crab claws
5	0.8 L I sand (10 YR 5/3) to c. 7 cmbs L II sand (10 YR 7/3) to 23 cmbs L III sand (10 YR 6/3) with rough basalt grains to c. 26 cmbs L IV sand (10 YR 6/3) to 49 cmbs L V silty clay (7.5 YR 5/4 to 4/4) to bottom	All layers sterile L III contains shattered basalt grains throughout (non-cultural) L V rests on bedrock
6	1.1 L I sand (10 YR 5/3) to c. 0.15 mbs L II sand (10 YR 8/4) to c. 0.5 mbs L III silty clay (7.5 YR 5/4) to bottom	All layers sterile L III very rocky
7	1.2 L I sand (10 YR 6/3) to c. 0.2 mbs L II sand (10 YR 8/4) to c. 0.5 mbs L III silty clay (10 YR 7.5 YR 5/4 to 4/4) to bottom	L I sterile L II scattered, isolated waterworn shell fragments L III sterile, very rocky
8	1.5 L I sand (10 YR 5/3) to c. 0.1 mbs L II disturbed sand (10 YR 6/4) to c. 0.4 mbs L III sand (10 YR 8/4) to c. 1.3 mbs L V silty clay (7.5 YR 5/4) to bottom	L I and L II have modern material L III contains scattered waterworn shell L IV and L V sterile
9	1.7 L I sand (10 YR 5/3) to c. 0.1 mbs L II disturbed sand (10 YR 6/4) to c. 0.35 mbs L III sand (10 YR 6/3) to 0.5 mbs L IV dune sand (10 YR 8/4) to c. 1.4 mbs L V silty clay (7.5 YR 5/4) to bottom	L I and L II have modern material L III contains scattered waterworn shell L IV and L V sterile



Photo 1 - View to the southeast, Keone'o'io Fishpond in background and iron tallow pot in center.



Photo 2 - View to the east across Keone'o'io Fishpond—Site 4457 in background.



Photo 3 - Feature B, Site 4457—looking west across Keone'o'io Fishpond.



Photo 4 - View of Keone'o'io Fishpond and La Perouse Bay looking to the south

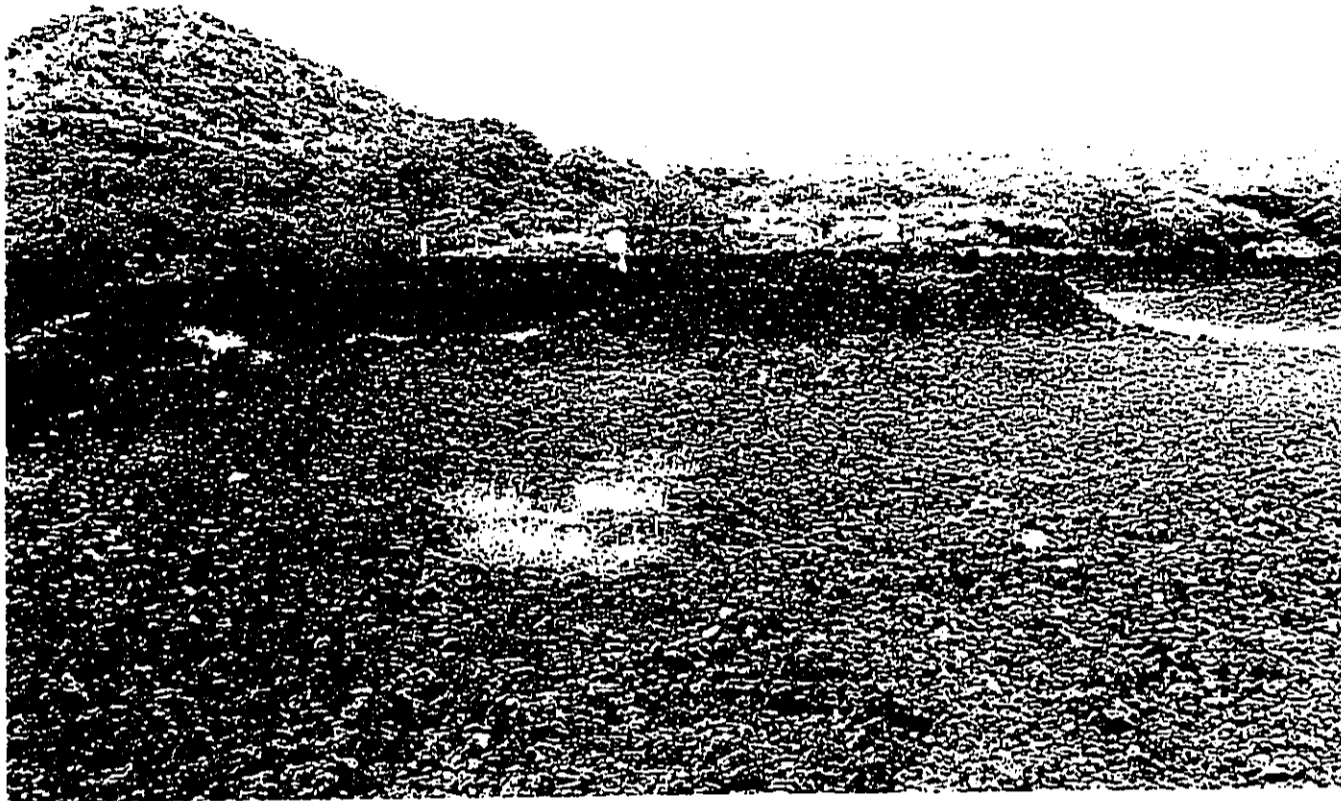


Photo 5 - View to east across Site 4466—old church ruins. Note crushed cinder path in center, access road to La Perouse Bay at right.

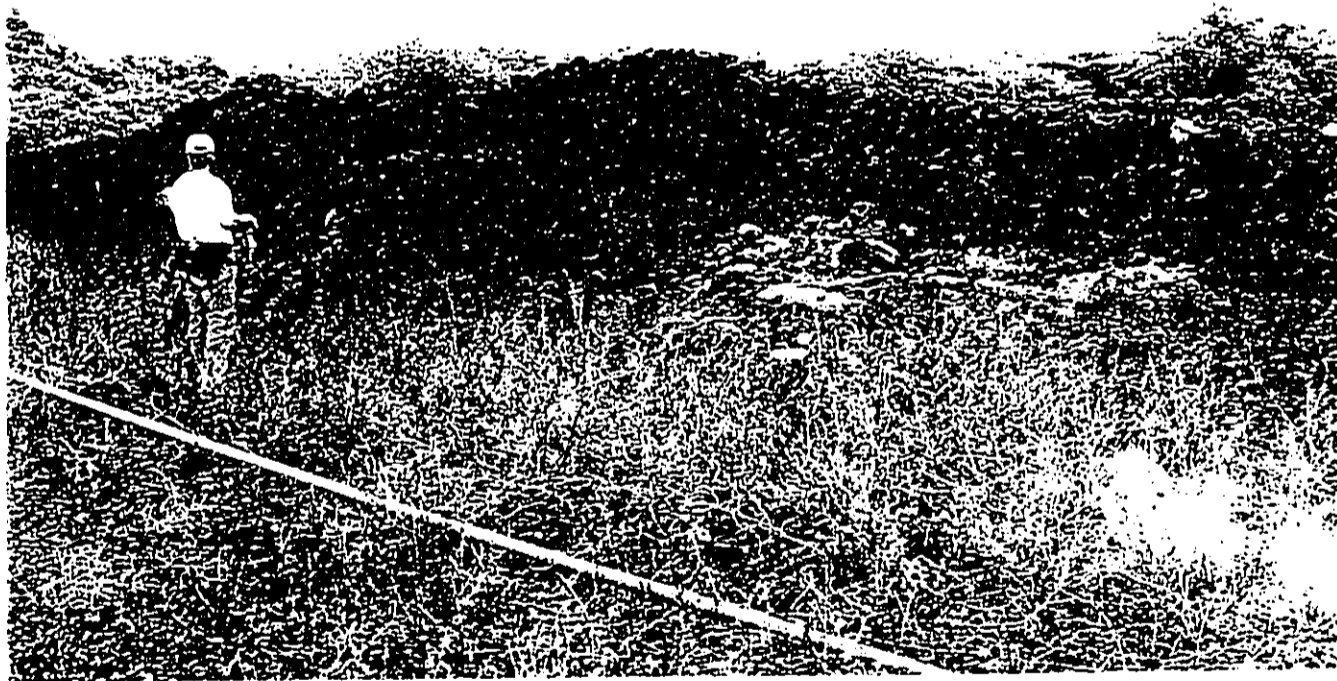


Photo 6 - View to southeast, showing boundary wall (Site 4467) and base of outhouse in center associated with Site 4466.



Photo 7 - View to the south showing portion of Site 4467—boundary wall.



Photo 8 - View to southeast showing portion of Site 4468—boundary wall.



Photo 9 - View to northwest, with rockshelter Site 4472 near center right.

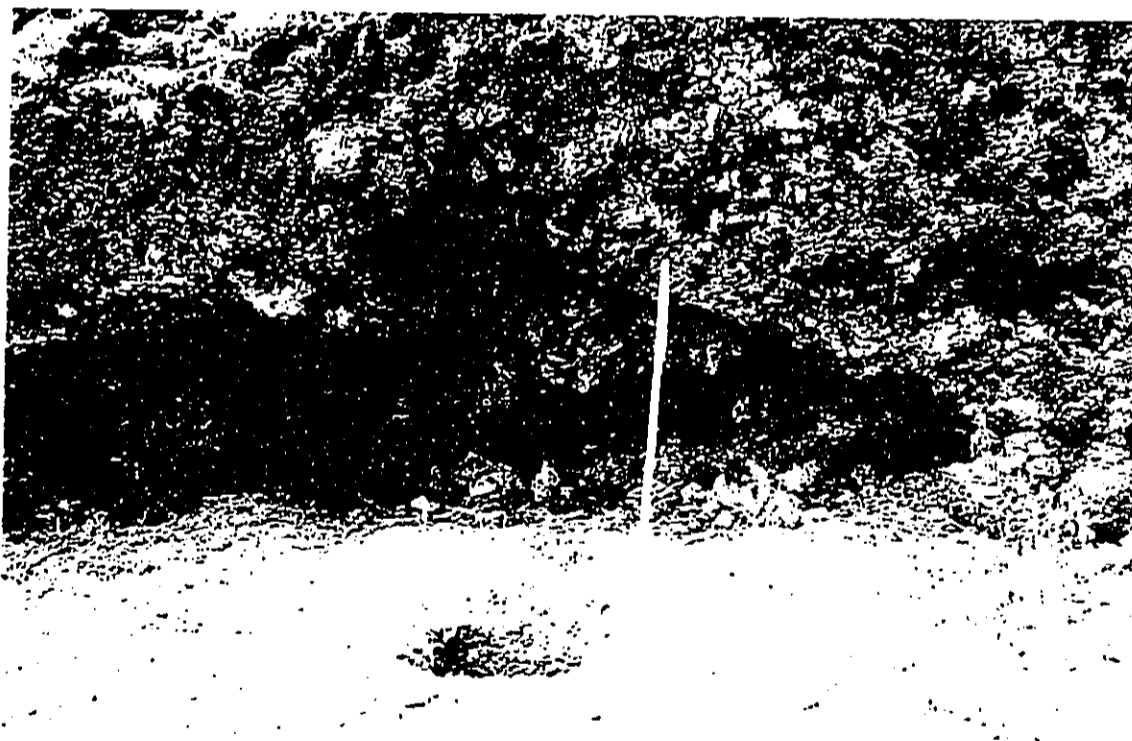


Photo 10 - Rock overhang (Site 4472). Test Unit 1 in foreground.

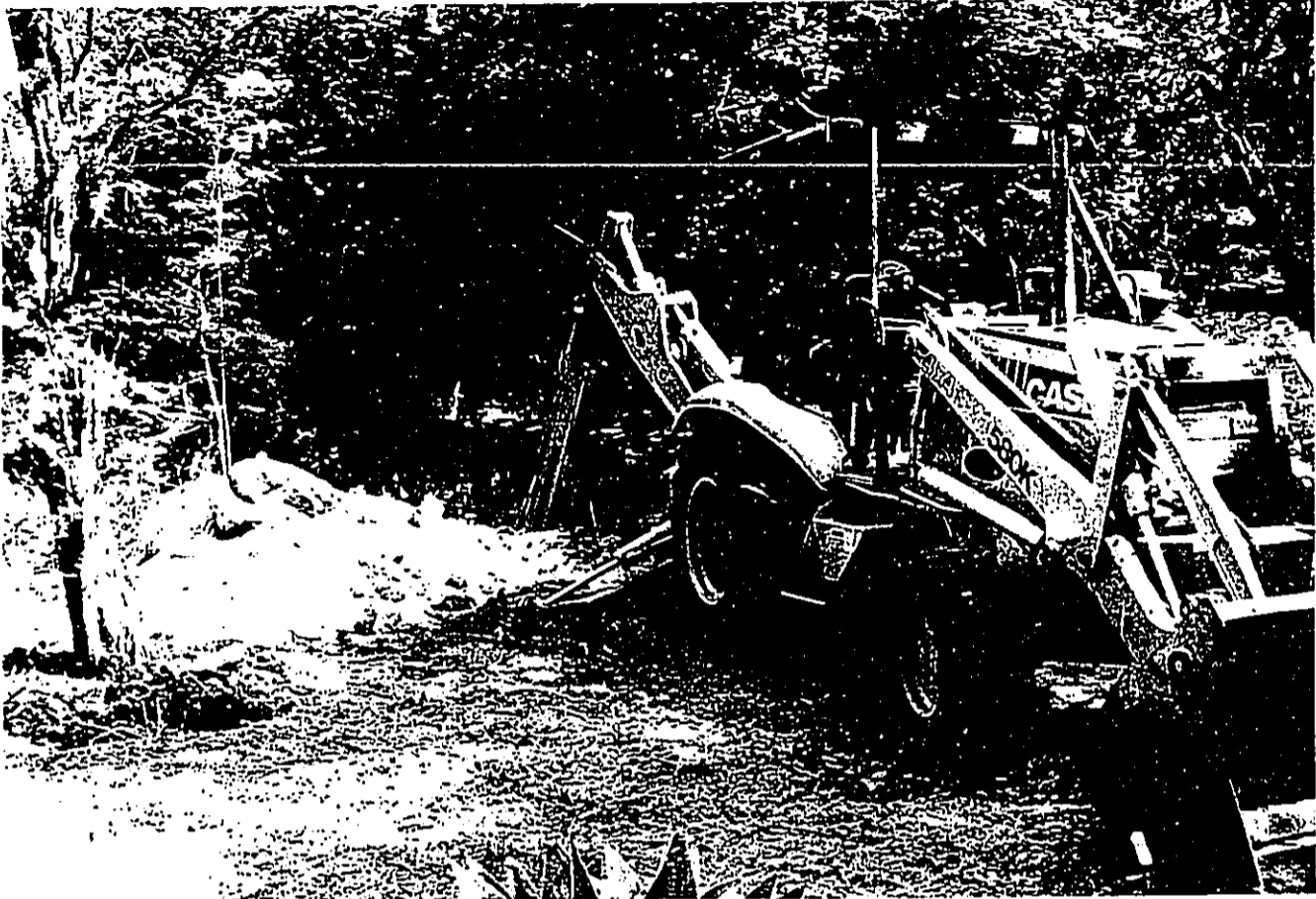


Photo 11 - Excavation in process, BT 1—view to northeast.



Photo 12 - Excavation in process, BT 4. Site 4467 in background.

FROM : XAMANEK RESEARCHES

PHONE NO. : 8085728900

Aug. 27 1998 11:06AM P02

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
STATE HISTORIC PRESERVATION DIVISION
33 SOUTH KING STREET, 6TH FLOOR
HONOLULU, HAWAII 96813

MICHAEL D. WILSON, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES

GILBERT COLOMA-ADARAN

AQUACULTURE DEVELOPMENT
PROGRAM

AQUATIC RESOURCES
CONSERVATION AND

RESOURCES ENFORCEMENT
CONVEYANCES

FORESTRY AND WILDLIFE
HISTORIC PRESERVATION

DIVISION

LAND DIVISION

STATE PARKS

WATER AND LAND DEVELOPMENT

December 23, 1997

Mr. Erik Fredericksen
Xamanek Researches
P.O. Box 131
Pukalani, Hawaii 96768

LOG NO: 20549 ✓
DOC NO: 9711BD54

Dear Mr. Fredericksen:

SUBJECT: Chapter 6E-42 Historic Preservation Final Review of an Archaeological Inventory Survey Report for the Carter Property Kalihi Ahupua'a, Makawao District, Island of Maui TMK 2-1-04:46

This is a Historic Preservation review of a revised inventory survey report, resubmitted by Xamanek Researches in November 1997 (*Archaeological Inventory Survey of a 15 Acre Parcel Located in Kalihi Ahupua'a, Homua'ula, Makawao District, Maui Island (TMK: 2-1-04: 46)*). The revisions were made in response to concerns noted in our review letter of September 1997 (SHPD DOC NO: 9709BD19). These concerns have now been addressed and revised pages submitted to our Division, so we find the final report acceptable.

The project area has 10 historic sites, and we agree that 3 are significant. (7 sites were significant solely for their information content and a reasonable amount of that information was recovered during the survey, making these sites "no longer significant"). We agree with the mitigation proposal to preserve two sites (4199, the Keoncoio Fishpond; 4466, a church ruin), and data recover Site 4470, an enclosure. Site 4470 apparently will be preserved at this point in time, with the option to data recover the site later. Also, we agree with the proposal to archaeologically monitor the sand dune area as a contingency in case burials or subsurface habitation deposits are found. With these mitigation commitments, we agree that proposed construction on the property will have "no adverse effect" on significant historic sites.

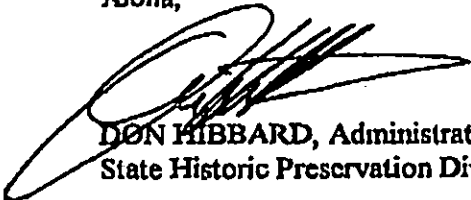
To successfully implement these mitigation measures, prior to beginning any construction on the property, two items are needed - a preservation or interim protection plan and a scope of work for monitoring. Both documents need to be submitted to our office for approval. The preservation plan should include interim measures to protect Sites 50-50-14-4199, 4466, and 4470 (i.e. plastic

Mr. Erik Fredericksen
Page 2

fencing at the edge of the buffer zone). Long-term preservation measures (i.e. signs and arrangements for access and maintenance of the site) should also be outlined in this plan, plus a timetable for completion of these undertakings. The monitoring plan for the sand dune area should specify types of sites expected to be found during monitoring (i.e. burials or other subsurface deposits) and how these remains will be recorded and treated. Also included should be measures to ensure that construction will be halted in the event that such remains are encountered, so that an archaeologist may evaluate the find and determine what mitigation procedures should be implemented.

If you have any questions please contact Boyd Dixon at 243-5169.

Aloha,



DON HIBBARD, Administrator
State Historic Preservation Division

BD:jen

cc. Maui County Planning Department (fax: 243-7634)
Maui County Department of Public Works (fax: 243-7972)

Preliminary Engineering Report

Appendix No. 5

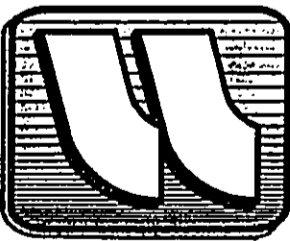
Established 1969

Preliminary Engineering Report

The Schatz Residence

Kalihi, Honuaula, Maui, Hawaii
TMK: (2) 2-1-04: 46 and 48

DEVELOPER: Douglas Schatz
ADDRESS: Kihei, Maui, Hawaii



WARREN S. UNEMORI ENGINEERING, INC.
Civil and Structural Engineers - Land Surveyors
Wells Street Professional Center - Suite 403
2145 Wells Street
Wailuku, Maui, Hawaii 96793

October, 1998

Appendix No. 5

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PRELIMINARY ENGINEERING REPORT
FOR
SCHATZ RESIDENCE

1.0 INTRODUCTION

The purpose of this report is to provide a brief description and evaluation of the existing infrastructure in the vicinity of the project site and provide a brief summary of the proposed infrastructural improvements needed to support the subject project.

2.0 EXISTING INFRASTRUCTURE

2.1 WATER SYSTEM

There exists a 1½-inch galvanized waterline located along Makena-Keoneoio Government Road that is privately owned and maintained which provides potable water to the project site. The water source is from the County of Maui water system. Three (3) 11 foot diameter water tanks are located within the project site to provide storage for fire protection and domestic water use to the existing residences located within the project site.

2.2 SEWER SYSTEM

It is uncertain at this time whether the existing residence is currently serviced by an existing cesspool or septic tank system. Based on the age of the existing residence, it appears that the subject project may have an existing cesspool which currently services the subject property.

2.3 DRAINAGE

Runoff from the project site currently sheet flows in a northerly to southerly direction into the ocean. Peak onsite surface runoff under current conditions for a 10 year recurrence interval -1 hour duration storm is estimated to be 6.8 cfs.

2.4 ROADWAY

The Makena-Keoneoio Government Road located along the northerly boundary of the project site provides access to the subject project. This Government Road has a 20 ft. wide right-of-way, and is asphalt concrete paved with widths varying from 9 - 18 feet.

2.5 ELECTRICITY AND TELEPHONE

There are existing overhead power and telephone distribution lines along Makena-Keoneoio Government Road that services the subject project.

3.0 PROPOSED INFRASTRUCTURAL IMPROVEMENTS

3.1 WATER SYSTEM

It is expected that the existing 1½-inch waterline and three (3) 11-foot diameter water tanks, which will be relocated within the project site, will continue to serve the subject project.

Water storage for fire protection will be provided by the three (3) existing water tanks and the new swimming pool, which will be constructed as part of this project. It is anticipated that a fire access lane will be designated to the new swimming pool.

3.2 SEWER SYSTEM

A new septic tank system will be installed to service the new residence and guest house.

3.3 DRAINAGE

The peak surface runoff volume generated by the proposed development for a 10 year recurrence interval -1 hour duration storm is expected to be approximately 6.8 cfs. Therefore, no net increase is expected due to the amount of impervious area before and after development being approximately the same. The surface runoff generated by the proposed improvements is expected to sheet flow off the project site and into the ocean.

3.4 ROADWAY

The Makena-Keoneoio Government Road will continue to provide access to the project site. A new asphalt concrete paved driveway from Makena-Keoneoio Government Road will be constructed to provide access to the new residence. The guest house is expected to utilize an existing asphalt paved driveway from Makena-Keoneoio Government Road for access.

3.5 ELECTRICITY AND TELEPHONE

The existing overhead power and telephone distribution lines along Makena-Keoneoio Government Road will continue to provide service to the subject project.

4.0 CONCLUSION

Based on the foregoing, it is reasonable to conclude that any project related impact on the infrastructure can be readily mitigated with the installation of appropriate improvements.

DRAFT ENVIRONMENTAL ASSESSMENT
COMMENT LETTERS AND RESPONSES

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



BRUCE S. ANDERSON, Ph.D., M.P.H.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3370
HONOLULU, HAWAII 96801

In reply, please refer to
Page:

April 9, 1999

99-026/epo

TO: Dean Y. Uchida, Administrator
Land Division
Department of Land and Natural Resources

FROM: Gary Gill *[Signature]*
Deputy Director for Environmental Health

SUBJECT: CONSERVATION DISTRICT USE APPLICATION

Applicant: Mr. Douglas Schatz
File No.: MA-2917
Request: Single Family Residence
Location: near La Perouse Bay, Maui
TMK: 2-1-4: 46 & 48

RECEIVED
DIVISION OF
LAND MANAGEMENT
APR 15 3 30 PM '99

Thank you for allowing us to review and comment on the subject request. We have the following comments to offer:

Wastewater

The subject project is located in the critical wastewater disposal area as determined by the Maui County Wastewater Advisory Committee. No new cesspools will be allowed in the subject area. As the area is not served by a wastewater treatment facility, we concur with the applicant's proposal to utilize a treatment individual wastewater system, such as a septic tank, for domestic wastewater treatment and disposal. Should municipal sewers become available in the future, we will require connection at that time.

All wastewater plans must conform to applicable provisions of the Department of Health's Administrative Rules, Chapter 11-62, "Wastewater Systems," and we reserve the right to review the detailed plans.

Should you have any questions on this matter, please contact the Planning/Design Section of the Wastewater Branch at (808) 586-4294.

Mr. Dean Y. Uchida
April 9, 1999
Page 2

99-026/epo

Polluted Runoff Control

Proper planning, design and use of erosion control measures and management practices will substantially reduce the total volume of runoff and limit the potential impact to the coastal waters from polluted runoff. Please refer to the *Hawaii's Coastal Nonpoint Source Control Plan*, pages III-117 to III-119 for guidance on these management measures and practices for specific project activities. To inquire about receiving a copy of this plan, please call the Coastal Zone Management Program in the Planning Office of the Department of Business and Economic Development and Tourism at 587-2877.

The following practices are suggested to minimize erosion during construction activities:

1. Conduct grubbing and grading activities during the low rainfall months (minimum erosion potential).
2. Clear only areas essential for construction.
3. Locate potential nonpoint pollutant sources away from steep slopes, water bodies, and critical areas.
4. Protect natural vegetation with fencing, tree armoring, and retaining walls or tree wells.
5. Cover or stabilize topsoil stockpiles.
6. Intercept runoff above disturbed slopes and convey it to a permanent channel or storm drain.
7. On long or steep slopes, construct benches, terraces, or ditches at regular intervals to intercept runoff.
8. Protect areas that provide important water quality benefits and/or are environmentally sensitive ecosystems.
9. Protect water bodies and natural drainage systems by establishing streamside buffers.
10. Minimize the amount of construction time spent in any stream bed.
11. Properly dispose of sediment and debris from construction activities.
12. Replant or cover bare areas as soon as grading or construction is completed. New plantings will require

Mr. Dean Y. Uchida
April 9, 1999
Page 3

99-026/epo

soil amendments, fertilizers and temporary irrigation to become established. Use high planting and/or seeding rates to ensure rapid stand establishment. Use seeding and mulch/mats. Sodding is an alternative.

The following practices are suggested to remove solids and associated pollutants in runoff during and after heavy rains and/or wind:

1. Sediment basins.
2. Sediment traps.
3. Fabric filter fences.
4. Straw bale barriers.
5. Vegetative filter strips.

Any questions regarding these matters should be directed to the Polluted Runoff Control Program in the Clean Water Branch at 586-4309.

c: WWB
CWB



CHRIS
HART
& PARTNERS

June 1, 1999

Mr. Gary Gill
Deputy Director for Environmental Health
Department of Health
State of Hawaii
P.O. Box 3378
Honolulu, Hawaii 96801

Subject: Draft Environmental Assessment (EA) for Schatz
Residence, La Perouse Bay, Maui, Hawaii

Dear Mr. Gill:

We offer the following responses to your comments dated April 9, 1999:

1. **Wastewater.** The proposed project will include the installation of properly designed and approved individual wastewater treatment systems that will minimize the potential for wastewater to contaminate the local environment. The IWS will consist of a septic tank and leach field system and will conform to the Department of Health's rules for wastewater disposal. The leach fields will be located immediately mauka of both structures and will be shown on the revised site plan in the final Environmental Assessment.
2. **Polluted runoff control.** As noted throughout the Draft EA, potential impacts from increased runoff and/or non point sources of pollution will be mitigated by a net reduction in impervious surfaces and by relocating new structures further inland compared to existing conditions. The existing dwelling, tennis court and driveway/turnaround will be removed. The new driveway will consist of two 3-foot wide paved strips. The existing impervious surfaces to be removed total 18,085 square feet, the proposed improvements total 14,428 square feet, resulting in a net reduction of 3,657 square feet.

LANDSCAPE ARCHITECTURE AND PLANNING

1955 MAIN STREET, SUITE 200 • WAILUKU, MAUI, HAWAII 96793-1706 • PHONE: 808-242-1955 • FAX: 808-242-1956


The proposed impervious surfaces will be relocated inland, allowing for interception of potential pollutants by vegetative areas and topographic features.

In addition, the following practices will be adhered to in order to minimize erosion during construction activities.

- Clearing only areas essential for construction.
- Locating potential nonpoint pollutant sources away from steep slopes, water bodies, and critical areas: The existing driveways, tennis courts and the main house will be moved to areas that minimize nonpoint pollutant impact.
- Protecting natural vegetation with fencing, tree armoring and retaining walls or tree wells.
- We have minimized earthwork and therefore have minimized the need for topsoil stockpiles. Any necessary stockpiles will be stabilized and located away from the house.
- Protecting areas that provide important water quality benefits and/or are environmentally sensitive ecosystems.
- Properly disposing of sediment and debris from construction activities.
- Replanting or covering bare areas as soon as grading or construction is completed. We have chosen plants adapted to the area in order to minimize the need for soil amendments and fertilizers. We will use natural fertilizers such as compost to allow for a more natural rate of nutrient supplementation.

If you have any further questions, please do not hesitate to contact me at 242-1955.

Respectfully,


Rory Frampton
Project Planner

Mr. Gary Gill
Department of Health
Re: Schatz Draft EA
06/01/99
Page 3

cc: Mr. Tom Eisen, DLNR
Mr. Douglas Schatz
Mr. Tim Farrington, AIA
Warren Unemori Engineering
Office of Environmental Quality Control

Division of Forestry & Wildlife

1151 Punchbowl Street, Rm. 325 • Honolulu, HI 96813 • (808) 587-0166 • Fax: (808) 587-0160

March 5, 1999

MEMORANDUM

TO: Tom Eisen, Planner
Division of Land Management

THRU: Dean Uchida, Administrator
Division of Land Management

FROM: Michael G. Buck, Administrator
Division of Forestry and Wildlife



SUBJECT: CDUA File #MA-2917, Single Family Residence near La Perouse Bay, Maui,
Hawaii TMK 2-1-4:46 & 48 by Mr. Douglas Schatz.

We have reviewed this CDUA with respect to its impacts on DOFAW's natural resources management programs and endangered species in particular. The property that is being developed is in the General subzone of the State Conservation District. The proposed single family residence is near the Ahihi-Kinau Natural Area Reserve that includes submerged lands at Makena, Maui. Non-point source pollution occurring from surface runoff as well as fertilizers used for landscaping around the residence has the potential to adversely affect the protected marine ecosystem near this Natural Area Reserve. The visual impacts are always a concern when structures similar to this request are being proposed near a wilderness area such as the Ahihi-Kinau Natural Area Reserve.

Considering the undeveloped nature of this area (the nearest home is about 3 miles away) and that the proposed project will impact the wilderness and scenic values of this area as well as the potential negative impact to the pristine marine environment near Ahihi-Kinau Natural Area Reserve, DOFAW will support a no action alternative to this CDUA #MA-2917.

C: Maui DOFAW Branch

RECEIVED
DIVISION OF
LAND MANAGEMENT
MAR 10 3 04 PM '99

DEPARTMENT OF LAND AND NATURAL RESOURCES

Division of Forestry and Wildlife

Maui District

March 4, 1999

MEMORANDUM

TO: Nelson Ayers, DOFAW/Administration

THRU: Randy Kennedy, NARS Program Manager

FROM: Wes Wong, District Manager *W*

SUBJECT: CDUA #MA-2917, Schatz Family Residence adjacent to Anih-Kinai Natural Area Reserve; Makana, Maui.

After reviewing the above-referenced CDUA and DRAFT EA our comments are as follows:

1. Marine Environment and Resources (p. 11)/Drainage (p. 20) Impacts to the Marine Environment and Resources do not seem adequately addressed in the Draft EA because of a possible underestimate of the surface runoff due to increased impervious surface area associated with the project. The Draft EA states that "... pre-development surface runoff volume generated by the project site is calculated to be approximately 6.8 cfs..." (Drainage, p. 20), it further states "...the post-development ...runoff volume is calculated to be approximately 6.8 cfs...". These calculations and resulting impacts to the Marine Environment associated with Drainage and Landscaping are questionable for the following reasons:

Total square footage of the proposed new dwellings (family residence and guest cottage) is over three times as much as the current dwelling and at a slightly higher elevation. Along with the proposed new driveway/turnaround, pool and walkways it seems likely that the "post-development surface runoff volume" would be greater than the "pre-development surface runoff volume" because of additional impervious surface area resulting from the project. Surface runoff has the potential to adversely impact the protected marine ecosystem in the adjacent NARS by causing siltation. Current protective measures outlined in the Draft EA (p. 11) are based on engineers calculations that "...pre development surface runoff volume ... will not increase as a result of the development, as the impervious areas are the same size before and after the development." Even though the tennis court is being removed it looks like surface runoff from impervious surfaces is likely to increase considering the substantial increase in square footage for the residence as well as the construction of an additional drive way and turn around. For those reasons it is unclear whether current protective measures will be sufficient to reduce potential impacts.

The Landscaping Plan (Figure No. 6) indicates an increase in existing vegetation including trees, shrubs and grass lawn areas. Considering the poor soil type found in this area, the use of fertilizers, at least initially and most likely for the long-term, will be necessary to ensure healthy plant life. Combined with the volcanic nature of the area (e.g. subterranean cracks and crevices), these fertilizers may end up being more of a source of non-point pollution than projected in the Draft EA and may

end up causing more negative impacts than anticipated on the high quality marine ecosystem found adjacent to the property. Landscaping should be kept to an absolute minimum so as to reduce the need for fertilizers and resulting non-point pollution but reduced landscaping may conversely lead to adverse impact to Visual Resources.

2. Visual Resources - Potential Impacts and Mitigating Measures (p.13)

Currently the Schatz property on the North Western part of the property immediately adjacent to the NAR exists in an undeveloped state with a natural appearance. One of the main access trails into the NAR follows along this property line where neither the house or any landscaping is visible until just before exiting the existing Klawe and Koa Haole kipuka and entering onto the lava or unvegetated portion of the NAR near the ocean. The Landscape Plan (Figure 6) indicates that additional landscaping is planned for up to and perhaps as close as 20 feet from the NAR boundary whereby now a very small portion of the house and landscaping is visible and appear to be twice as far away or approximately 40' or more from the NAR boundary. Although the proposed landscaping is planned to be done with mostly native plants, most if not all those species are not currently found in the immediate surrounding properties including the NAR ("...establish new coastal plant colonies." Proposed Action, p. 4). Combined with the proposed new driveway it is anticipated that this portion of the project will effect the visual resources of that portion of the NAR and take away from existing wilderness and scenic values currently found in that area of the NAR.

3. Infrastructure - Water (p.12)

The Schatz property is currently "... serviced by a 1 1/2 inch galvanized waterline located along Makana Government Road, privately owned and maintained, which provides water to the site." This line is very old and was not built to handle the volume of water necessary to service the current needs of the existing property or the proposed new project. There is no easement currently for this private water line that at times extends some distance off the roadway and into the NAR. It stands to reason that this line will have to be replaced some time in the future and this will impact the NAR. The Draft EA does not adequately address this long term needs for maintaining or the possible need for increasing the size of this waterline.

The original development of these parcels was, as the Draft EA states "... designed as a summer cottage or camp, not configured for family living." Since the Schatz family appears to be planning on using this residence as a vacation home, the current proposed project seems to be more excessive in it's development than what is necessary. Considering the undeveloped nature of this area (the nearest house is over three miles away) and that the proposed project will impact the high value wilderness and scenic values of this area as well as the potential negative impact to the pristine near shore marine environment, the No Action alternative is the preferred action our District would



June 1, 1999

Mr. Michael G. Buck, Administrator
Division of Forestry and Wildlife
Department of Land and Natural Resources
1151 Punchbowl Street, Room 235
Honolulu, Hawaii 96813

Subject: Draft Environmental Assessment (EA) for Schatz
Residence, La Perouse Bay, Maui, Hawaii

Dear Mr. Buck:

We offer the following responses to your comments dated March 5, 1999, and to the attached memorandum to Nelson Ayers from Wes Wong, on the Schatz Draft Environmental Assessment.

In response to the comments we received, we conducted a site visit with NARS staff member Bill Evanson to discuss the aspects of the project detailed below and the incorporation of mitigation measures. Based on Mr. Evanson's favorable response to our discussion, we feel we have adequately addressed the concerns you have documented, as follows:

1. **Surface runoff.** As noted throughout the Draft EA, potential impacts from increased runoff and/or non point sources of pollution will be mitigated by a net reduction in impervious surfaces and by reolocating new structures further inland compared to existing conditions. The following details clarify these issues and will be included in the Final EA:

a. **Impervious surfaces.** Total impervious surfaces after development will be reduced compared to existing conditions. This is due to the removal of the existing dwelling, tennis court and driveway/turnaround. The amount of new surfaces will be lessened through minimizing the surface of the driveway by using two 3-foot wide paved strips. Also, grid pavers with open areas that permit grass growth and percolation will be used on the flat turnaround areas

near the proposed garages. A comparison of the total amounts of existing and proposed surfaces is as follows:

Existing impervious surfaces to be removed:	
dwelling & lanai	3,700 sq. ft.
tennis court	7,125 sq. ft.
driveways	<u>7,260 sq. ft.</u>
	18,085 sq. ft.
Proposed improvements:	
dwelling, lanais, walkways, etc.	9,105 sq. ft.
driveway	3,435 sq. ft.
pool & pool lanai	<u>1,888 sq. ft.</u>
	14,428 sq. ft.
Net reduction:	3,657 sq. ft.

b. **Location of impervious surfaces.** The proposed impervious surfaces will be relocated inland compared to existing conditions, thereby allowing for interception of potential pollutants by vegetative areas and topographic features. Significantly, the proposed driveway will be located mauka of the proposed new dwelling, whereas the existing paved driveway and turnaround are located in close proximity to the shoreline

2. **Construction mitigation measures.** During construction, mitigation measures will be employed, as outlined in *Island Stewardship: Guide to Preventing Water Pollution for Maui's Homes and Businesses*, published by West Maui Watershed Management Advisory Committee and Hawaii Department of Health. In addition, the following measures will be employed:

- Clearing only areas necessary for construction;
- Locating potential nonpoint pollutant sources away from steep slopes, water bodies, and critical areas: The existing driveways, tennis courts and the main house will be demolished with new structures located inland in order to minimize the potential for nonpoint pollutant impacts;
- Minimizing the earthwork and therefore minimizing the need for topsoil stockpiles. Any necessary stockpiles will be stabilized and located away from the shoreline;
- Properly disposing of sediment and debris from construction activities;

- Replanting or covering bare areas as soon as grading or construction is completed. Plants have been selected which are adapted to the area in order to minimize the need for soil amendments and fertilizers. If needed during start up phase natural amenities such as compost will be used to allow for a more natural rate of nutrient supplementation. Direct application of concentrated forms of nutrients will be avoided.
3. **Fertilizers:** The proposed landscape improvements are limited primarily to areas around the peripheries of the new structures. By the exclusive use of plants adapted to conditions in the area, and by the use of natural soil amendments, both irrigation requirements and the use of concentrated fertilizers will be minimized or totally avoided. The use of drip irrigation will also minimize potential runoff.
 4. **Visual impacts/impact on wilderness.** All existing kiawe trees on the northwest portion of the property will remain intact, minimizing visual impacts from the Ahihi-Kinau Natural Area Reserve to the west of the project site. This includes the stand of kiawe trees in front of the existing dwelling. Additional trees will be planted west of the proposed dwelling site. Materials chosen for the house are natural in appearance, texture and in earth-tone colors. Based upon the extent to which the proposed site is visible at present, the additional landscape plantings, and the proposed house design and materials selection, the proposed action will not have a significant impact on visual resources in the area. A new section and additional figures describing and illustrating the visual impacts of the proposed project will be incorporated into the Final EA to provide a more thorough basis for our assessment of impacts.

The new dwelling site will be only slightly closer to the property boundary (approximately 17 feet), however, this move is mitigated by the presence of existing vegetation and proposed landscape plantings. Also, since the dwelling site is being moved in a mauka direction, it is farther away from the fish pond as well as the trails within the NAR as compared to the existing dwelling. As noted earlier, we will include additional language as well as figures in the Final EA to provide the reader with a better understanding of the basis for our findings of minimal visual impacts from the NAR.

As documented throughout the Draft EA, the subject property has been an area of active human settlement since the pre-contact era. In this century, major uses have included a slaughterhouse and shipping point for cattle, military occupation and continual residential use since 1938. Thus, we do not consider the proposed project as introducing a new extension of development

Mr. Michael Buck
Department of Forestry and Wildlife
Re: Schatz Draft EA
06/01/99
Page 4 of 5

along this area of coastline. Contrary to the statements in yours and Mr. Wong's letter, there is a caretaker's residence on a neighboring parcel.

5. **Infrastructure - water.** The subject property is serviced by a 3/4-inch water meter which is located at the end of the County's 12-inch water line near the southern end of Makena State Park (a.k.a. Big Beach). From that point, a private waterline services the subject property exclusively, contrary to the statement in Mr. Wong's letter. An exclusive easement for the waterline does exist in favor of the subject property. This was granted by the Maui County Council in 1996. According to easement documents, the easement is located entirely within the County-owned Makena Road right of way and is approximately 13,200 feet in length.

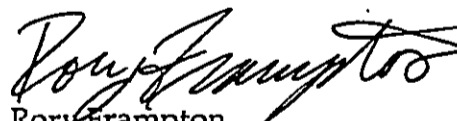
Since the water meter is located at the end of the County's 12-inch line and since no other property is serviced by said water meter, there should be no significant impact to other users along the section of Makena Road between the location of the water meter and the subject property.

At this point in time, the water line and meter appear adequate to service the proposed project. In the event that line repairs or replacement are necessary in the future, the applicant will contact your office in order to ensure that potential impacts to the NAR will be minimized.

Based on the additional details we have provided above, and on our discussion with Bill Evanson of NARS, we remain supportive of the appropriateness of a Finding of No Significant Impact for the proposed project as well as issuance of the requested permit.

Thank you for providing comments on this Environmental Assessment. If you have any questions please do not hesitate to contact me at 242-1955.

Respectfully,



Rory Frampton
Project Planner

cc: Mr. Tom Eisen, DLNR

Mr. Michael Buck
Department of Forestry and Wildlife
Re: Schatz Draft EA
06/01/99
Page 5 of 5

Mr. Douglas Schatz
Mr. Tim Farrington, AIA
Warren Unemori Engineering
Mr. Wes Wong, District Manager,
Division of Forestry and Wildlife
Office of Environmental Quality Control

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
Land Division
Planning Branch
Honolulu, Hawaii

FEB - 5 1999

Re:PB:THE

File Number: CDUA MA-2917

Acceptance Date: January 21, 1999
180-Day Exp. Date: July 20, 1999
SUSPENSE DATE: 21 Days from
stamped date

MEMORANDUM

TO: Engineering Branch; Maui District Land Agent; Aquatic Resources,
Conservation and Resource Enforcement; Forestry & Wildlife;
Historic Preservation

FROM: Dean Y. Uchida, Administrator *[Signature]*
Land Division

SUBJECT: REQUEST FOR COMMENTS
Conservation District Use Application

APPLICANT: Mr. Douglas Schatz.

FILE NO.: MA-2917

REQUEST: Single Family Residence

LOCATION: near La Perouse Bay, Maui

TMK: 2-1-4:46 & 48

PUBLIC HEARING: YES ___ NO X

DOCARE: Please conduct field inspection

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FEB 5 1999

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FEB 5 1999

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Should you require additional information, please call Tom Eisen at 587-0386.

If no response is received by the suspense date, we will assume there are no comments.

Attachment

(X) Comments Attached

Signed: *[Signature]*
ANDREW M. MONDEN, Chief Engineer

Date: 3/10/99

ENGINEERING BRANCH

COMMENTS

We suggest that the proposed project be done according to Chapter 19.62 Flood Hazard Areas of the Maui County Code.

We confirm that the project site is situated in an area which has Zones V18, A4 and C designated within the site. The shoreline area of the project site is located in Zone V18, an area within the 100-year flood plain with velocity, and base flood elevations and flood hazard factors determined. The area located immediately next to the shoreline area is located in Flood Zone A4, an area within the 100-year flood plain with base flood elevations and flood hazard factors determined. The remainder of the site is located in Zone C, an area of minimal flooding.



June 1, 1999

Mr. Andrew W. Monden, Chief Engineer
Engineering Branch
Department of Land and Natural Resources
State of Hawaii
P.O. Box 373
Honolulu, Hawaii 96809

Subject: Draft Environmental Assessment (EA) for Schatz
Residence, La Perouse Bay, Maui, Hawaii

Dear Mr. Monden:

This letter is in response to your comments dated March 19, 1999, in reply to a memorandum from Dean Uchida requesting comments on the Schatz Draft Environmental Assessment.

Thank you for confirming the flood hazard information in the Draft EA. The project will be developed in compliance with Chapter 19.62 Flood Hazard Areas of the Maui County Code. The base elevation of the main house will be 22 feet above MSL, and the guest cottage, 12 feet above MSL. This places them above the 11-foot base coastal flood elevation determined for the dwelling sites.

If you have any further concerns, please do not hesitate to contact me at 242-1955.

Respectfully,

Rory Frampton
Project Planner

cc: Mr. Tom Eisen, DLNR
Mr. Douglas Schatz
Mr. Tim Farrington, AIA
Warren Unemori Engineering
Office of Environmental Quality Control

LANDSCAPE ARCHITECTURE AND PLANNING

1955 MAIN STREET, SUITE 200 • WAILUKU, MAUI, HAWAII 96793-1706 • PHONE: 808-242-1955 • FAX: 808-242-1956

State of Hawaii
Department of Land and Natural Resources
Division of Conservation and Resources Enforcement

February 26, 1999

MEMORANDUM

TO: Dean Uchida, Administrator
Land Division

FROM: Patricia Edwards, Acting Investigator
Division of Conservation and Resources Enforcement

SUBJECT: Site Visit/Field Inspection Report 2917-MA

RECEIVED
DIVISION OF
LAND MANAGEMENT
FEB 26 2 54 PM '99

1. CASE DATA

- a. FILE NO: 2917-MA
- b. INITIATOR: MR. DOUGLAS SCHATZ
- c. LOCATION: TMK:(2)2-1-04:46/48 NEAR LA PEROUSE BAY, MAUI
- d. SUMMARY: CONSTRUCTION OF A SINGLE FAMILY RESIDENCE WITH POOL/LANDSCAPING

2. FINDINGS

- a. Site visit/inspection conducted on 02/14/99 by DOCARE Officer Kenneth A. Bode. There was no indication that any project work had been undertaken as of this date.
- b. There was no indication of any discrepancy in the applicant's description of the site conditions/situation.
- c. Bode noted that the Preliminary Engineering Report for the SCHATZ Residence, Appendix No. 5, 3.0 Proposed Infrastructural Improvements - 3.2 Sewer System, does not specify the location of the new septic tank, nor does it specify where the water from the proposed pool will be drained. He expressed concerns that sewage water from septic tanks and chlorinated water from the pool could have a detrimental effect on the nearby fishpond unless appropriate containment facilities are installed.



June 1, 1999

Ms. Patricia Edwards, Acting Investigator
Division of Conservation and Resources Enforcement
Department of Land and Natural Resources
State of Hawaii
P.O. Box 621
Honolulu, Hawaii 96809

Subject: Draft Environmental Assessment (EA) for Schatz
Residence, La Perouse Bay, Maui, Hawaii

Dear Ms. Edwards:

We offer the following responses to your comments dated March 19, 1999:

1. **Location of the new septic tank.** An individual wastewater treatment system (IWS) will be used for each of the proposed residences. The IWS will consist of a septic tank and leach field system and will conform to the Department of Health's rules for wastewater disposal. The leach fields will be located immediately mauka of both structures and will be shown on the revised site plan. This method of disposal is considered preferable to the existing cesspool system.
2. **Drainage from proposed pool.** The proposed swimming pool is modest in size and conforms to permit issuance criteria. The pool will not drain directly into the ocean. A fifty-gallon dry well will be located inland to allow for once a week back flushing of the filter with fresh water. No chlorine will be used in the water since the applicant is proposing to use an ozone based disinfection system.

Thank you for providing comments on this Environmental Assessment. If you have any questions please do not hesitate to contact me at 242-1955.

Ms. Patricia Edwards
Division of Conservation and Resources Enforcement
Re: Schatz Draft EA
06/01/99
Page 2

Respectfully,



Rory Frampton
Project Planner

cc: Mr. Tom Eisen, DLNR
Mr. Douglas Schatz
Mr. Tim Farrington, AIA.
Warren Unemori Engineering
Office of Environmental Quality Control

F J O

- TO: _____ ADMINISTRATOR
- _____ ASST. ADMIN.
- _____ DEV. BR.
- _____ PLAN BR.
- _____ RES. MGT. BR.
- _____ PROJ. CONTROL
- _____ SW. REC. PLAN.
- _____ CLERICAL STAFF
- _____ ADMIN. ASST.
- _____ INTERP. BR.

STATE OF HAWAII
 DEPARTMENT OF LAND AND NATURAL RESOURCES
 Land Division
 Planning Branch
 Honolulu, Hawaii

- FOR: _____ CIRCULATE/POST/STAFF RM
- _____ COMMENTS & REC.
- _____ DRAFT REPLY
- _____ FILE
- _____ FOLLOW UP
- _____ INFO.
- _____ PUSH (DATE _____)
- _____ RETURN TO: _____
- _____ SEND COPY TO: _____

MAR 12 1999

File Number: CDUA MA-2917

Acceptance Date: January 21, 1999
 180-Day Exp. Date: July 20, 1999
 SUSPENSE DATE: 21 Days from stamped date

MEMORANDUM

TO: *Person* State Parks

FROM: *To;* Dean Y. Uchida, Administrator
 Land Division *[Signature]*

SUBJECT: REQUEST FOR COMMENTS
 Conservation District Use Application

APPLICANT: Mr. Douglas Schatz

FILE NO.: MA-2917

REQUEST: Single Family Residence & Related Improvements

LOCATION: near La Perouse Bay, Maui

TMK: 2-1-4:46 & 48

PUBLIC HEARING: YES ___ NO X

DOCARE: Please conduct field inspection

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 LAND MANAGEMENT
 MAR 16 3 23 PM '99

Should you require additional information, please call Tom Eisen at 587-0439.

If no response is received by the suspense date, we will assume there are no comments.

Attachment

No comments.

[Signature]

 RALSTON NAGATA, State Parks
 Administrator

Date: 3/12/99

Suspense Date: Monday March 1, 1999

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Aquatic Resources
Honolulu, Hawaii

c/o Tom Eisen

MEMORANDUM

To: William Devick, *WPD*
From: Richard Sixberry, Aquatic Biologist
Subject: Comments on Conservation District Use Permit MA-2917

Comments Requested By: Dean Uchida, Land Management

Date of Request: 2/5/99

Date Received: 2/8/99

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LAND MANAGEMENT
FEB 18 3 13 PM '99

Summary of Project

Title: Single Family Residence

Proj. By: Mr. Douglas Schatz

Location: near La Perouse Bay, Maui

Brief Description:

The applicant proposes demolish an existing residence and construct a single family residence plus a guest cottage on an adjacent parcel; construct a swimming pool; install landscaping and related improvements near La Perouse Bay, Maui. The parcels have been a modern residential site for over 60 years.

Comments:

No significant impact adverse to aquatic resource values is expected from the construction of the single family residence and other proposed activities.

We suggest that site work be conducted, as much as possible, during periods of minimal rainfall; all areas denuded of vegetation should be quickly stabilized to control erosion; and precautions taken to prevent construction materials, debris, eroded soil, landscaping chemicals, petroleum products and other potential contaminants from entering the abutting fishpond or La Perouse Bay.

Since the property does not appear to be part of the NARS reserve, any existing traditional and historic public access to and along the shoreline for fishermen and other recreational activities should be maintained.



June 1, 1999

Mr. William Devick, Administrator
Division of Aquatic Resources
Department of Land and Natural Resources
1151 Punchbowl Street
Honolulu, Hawaii 96813

Subject: Draft Environmental Assessment (EA) for Schatz
Residence, La Perouse Bay, Maui, Hawaii

Dear Mr. Devick:

We offer the following responses to your comments dated February 18, 1999, on the above-referenced Draft EA:

1. **Construction impacts.** Care will be taken to minimize the impacts during construction. Precautions to prevent construction materials, debris, eroded soil, landscaping chemicals, and other potential contaminants from entering the abutting fishpond or La Perouse Bay will include close monitoring of construction activities to prevent runoff, and the protective measures recommended in the West Maui Watershed Management Advisory Committee's publication, *Island Stewardship*. In addition, the following measures will be employed:
 - Clearing only areas necessary for construction;
 - Locating potential nonpoint pollutant sources away from steep slopes, water bodies, and critical areas: The existing driveways, tennis courts and the main house will be moved to areas that minimize nonpoint pollutant impact;
 - Minimizing the earthwork and therefore minimizing the need for topsoil stockpiles. Any necessary stockpiles will be stabilized and located away from the house;
 - Properly disposing of sediment and debris from construction activities;

Mr. William Devick
Division of Aquatic Resources
Re: Schatz Draft EA
06/01/99
Page 2 of 2

- Replanting or covering bare areas as soon as grading or construction is completed. Composting will be used during initial planting/transplanting activities in order to allow for nutrient supplementation at a more natural rate. Direct application of concentrated forms of nutrients will be avoided.
2. **Public access.** The Keone`o`io Fishpond is part of the parcel purchased by the applicant. The beach and the pond are designated as private property. Public access is provided on both sides of the property line, accessing the public sections of the shoreline. From the time that the original home was built in 1960, all traditional access to the shoreline has been via Makena Keone`o`io Road to the south and along a trail into the Ahihi-Kinau NARS that borders the western edge of the property. These existing access ways will not be impacted by the proposed improvements.

Thank you for providing comments on this Environmental Assessment. If you have any questions please do not hesitate to contact me at 242-1955.

Respectfully,



Rory Frampton
Project Planner

cc: Mr. Tom Eisen, DLNR
Mr. Douglas Schatz
Mr. Tim Farrington, AIA
Warren Unemori Engineering
Office of Environmental Quality Control

PHONE (808) 594-1888

FAX (808) 594-1865



STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAII 96813

February 12, 1999

Dean Uchida, Administrator
State of Hawaii
Department of Land and Natural Resources
Land Division
P.O. Box 621
Honolulu, Hawaii 96809

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DIVISION OF
LAND MANAGEMENT
FEB 17 8 39 AM '99

Re: Conservation District Use Application and Environmental Assessment for a Single Family Residence near La Perouse Bay, Maui, TMK: 2-1-04: 46 & 48

Dear Mr. Uchida:

Thank you for the opportunity to comment on the conservation district use application (CDUA) for a single family residence at La Perouse Bay, Keone'o'io, Kalihi Ahupua'a, Honoua'ula, makawa District on the Island of Maui. The applicant proposes to build a single-family residence of 4, 285 square feet, a guest residence of 1,746 square feet and a 700 square foot swimming pool on the property.

The 12.273 acre parcel is located in the State Conservation District. All of the area to be used in this project is in the general sub-zone. The Office of Hawaiian Affairs has the following concerns.

Currently, the project area has a small population. However, in previous times the area was heavily populated and contained a thriving Hawaiian community. The area is rich in archaeological resources and a portion of the property falls within the Keone'o'io Archaeological Complex. The Keone'o'io Fishpond borders one side of the property the Ahihi-Kinau Natural Area Reserve abuts the property' eastern boundary.

It appears that none of the archaeological sites found on the property will be impacted by the construction of the proposed homes. However, we note that no cultural analysis or impact statement was done for this project. Therefore, no information on access, gathering and religious practice is available for the Board in its decision making process.

As noted above, the area was once more heavily populated. We can reasonably assume that gathering practices were established in the area of this project. The existence of the fishpond is clear evidence that gathering was likely practiced here. Gathering rights may continue to exist

Mr. Dean Uchida, Administrator
Department of Land and Natural Resources
Land Division
February 12, 1999
Page two

today, notwithstanding the current ownership of the property or its previous use for ranching. These parcels do not appear to be fully developed. It is essential that any gathering rights be determined before a decision to build on the property is approved.

We suggest that you require the preparation of a cultural impact statement for this project. We further suggest that the Hawaiian cultural expert chosen to work on the statement be someone recognized within the Hawaiian community for his/her cultural expertise. The concerns of the community will not be addressed if the cultural impact statement contains information and analysis provided solely by a person whose knowledge of Hawaiian culture is limited to a study of archaeology or anthropology.

We urge you to hold this application until a cultural impact statement with detailed sections on gathering and religious rights can be prepared and included with the application. And, if it is determined that gathering rights still exist that a formal acknowledgement or easement is included in the conservation district use permit which assures that the project proponents will not hamper, impede or otherwise limit the exercise of traditional, customary or religious access or practice.

Finally, we would appreciate receiving a copy of the cultural impact statement when completed. If you have any questions, please contact Lynn Lee, EIS Planner at 594-1936.

Sincerely,


Colin Kippen
Deputy Administrator


C. Sebastian Aloot
Land and Natural Resources Division Officer

cc: Board of Trustees
Maui Community Affairs Office
Office of Environmental Quality Control



Mr. Colin Kippen, Deputy Administrator
Mr. C. Sebastian Aloit, Land and Natural
Resources Division Office
Office of Hawaiian Affairs
711 Kapi`olani Boulevard, Suite 500

Honolulu, Hawaii 96813

Subject: Draft Environmental Assessment (EA) for Schatz Residence, La
Perouse Bay, Maui, Hawaii (TMK 2-1-4: 46 & 48)

Dear Mr. Kippen and Mr. Aloit:

We offer the following in response to your comment letter dated February 12,
1999:

In response to your request to perform an assessment on the potential impacts to traditional and customary native Hawaiian activities we consulted with residents of the area as well as known practitioners of traditional activities in the area. The consulted individuals were identified based on discussions with Ms. Dana Hall and Mr. Leslie Kuloloio of Hui Alanui O Makena, as well as this author's personal knowledge of individuals who historically have exercised traditional fishing activities in the area.

An informal oral history group interview, "talk story" session was conducted with Boogie Lu`uwai, Eddie Chang and Marie Olsen on May 2, 1999. In addition, personal discussions with Robert Lu`uwai were held. Boogie and Robert Lu`uwai are brothers who were raised at Makena landing. Their families have been fishing in this area for generations and they are currently requesting permission to exercise traditional fishing activities at the Ahihi-Kinau NAR based on their families continued practices which occurred until the time of the NAR designation in 1973. Marie Olsen has lived on the property for over thirty years in the caretakers residence. She is a native Hawaiian who has lived in the Makena area for a majority of her life. Eddie Chang was raised in Makena and his family has a number of land holdings in the area.

All interviewees noted that the uniqueness and special nature of the area is very much related to the quality of the ocean resources, both in terms of the geological configuration which provides for a natural embayment as well as marine life. Fish of all types were, and to some extent still are, found in the area. The name Keone`o`io translates to the "sands of the bone fish". Stories were told of huge o`io which would gather in the fishpond and surrounding area. All of the interviewees talked of fishing memories related to the area. Friends and family gatherings would often occur that were related to fishing activities, such as surrounding akule schools, or when individuals who had successful fishing endeavors would invite others down to share in the catch.

The discussions indicated that the primary cultural activities in the area over the last couple of generations were almost entirely related to the gathering of ocean resources, e.g.

LANDSCAPE ARCHITECTURE AND PLANNING
1955 MAIN STREET, SUITE 200 • WAILUKU, MAUI, HAWAII 96793-1706 • PHONE: 808-242-1955 • FAX: 808-242-1956

Mssrs. Kippen and Aloo, OHA
Re: Response to Comments Schatz Draft EA
June 1, 1999
Page 2

fishing, opihi picking, and limu gathering. Prior to 1960, access to the coastline in the Keone`o`io area was virtually unimpeded. Individuals would access the area by land or

sea. Robert Lu`uwai noted that he used to access cape Kina`u via a trail that led through the kiawe forest which entered the lava flow near the fishpond. This is believed to be the site of the existing NAR trail. Land access was somewhat altered upon the permanent occupation of the project site by a property owner who would always keep dogs around for security. After that time most individuals accessing the area by land avoided the residential areas of what began to be referred to as the Carter Estate. In 1973, the State designated the neighboring property as a NAR and this almost entirely eliminated traditional and customary ocean related activities to the west of the property. Access to the southwest is still available through Makena-Keone`o`io Road and fishing is still allowed.

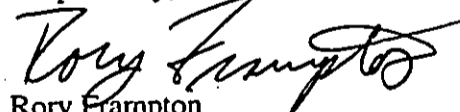
The interviewees remember when the church was still in existence (portions of which are identified as State historic site 4466, see Draft EA). People would often travel to church services in canoes. Common modes of land travel were by horse and donkey until after the war when 4 wheel drive vehicles became more prevalent. Church services at Keone`o`io ceased after the priest committed suicide sometime before World War II.

According to Marie Olsen, there are still many special places and rocks in the area. For instance a rock resembling a Hawaiian male's face looks over the fishpond, it is said that this face watches over the fishpond. Marie recalls a number of years back when an elderly Hawaiian lady visited the site and told of her pico (bellybutton) having been buried underneath the rock island which is part of the fishpond boundary. Fishing stones remain on the property, as well as the remnants of old rock lures which were used to catch squid. There are no known religious sites, heiau or fishing shrines, in proximity to the proposed dwelling sites. Marie does not recall the presence of any burial sites on the property.

In summary, the primary traditional and customary practices in the area are related to fishing or other ocean related activities. With the exception of the areas in the immediate vicinity of the existing house sites and tennis court, access to the coastline is still unimpeded, however, the NAR designation has eliminated gathering rights to the west of the property, with the notable exception which may be made for the Lu`uwai family. The proposed project would not appear to directly affect any traditional or customary practice in the area based on long established residential uses of the proposed dwelling sites. The applicant acknowledges that that the proposed project will not hamper, impede or otherwise limit the exercise of traditional, customary or religious practices in the immediate area, to the extent such practices are provided for by the Constitution of the State of Hawaii, and by Hawaii statutory and case law.

We trust that the foregoing adequately addresses your comments and concerns. If you have any further questions or comments please do not hesitate to contact me at 242-1955.

Respectfully,


Rory Frampton
Project Planner

cc: Mr. Tom Eisen

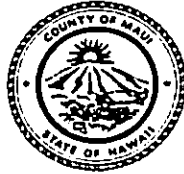
Mssrs. Kippen and Aloit, OHA
Re: Response to Comments Schatz Draft EA
June 1, 1999
Page 3

Mr. Douglas Schatz
Mr. Tim Farrington, AIA
Ms. Marie Olsen
Mr. Robert Lu'uwai
Mr. Boogie Lu'uwai
Mr. Edward Chang
OEQC

JAMES "KIMO" APANA
Mayor

JOHN E. MIN
Director

CLAYTON I. YOSHIDA
Deputy Director



COUNTY OF MAUI
DEPARTMENT OF PLANNING

February 23, 1999

RECEIVED
DIVISION OF
LAND MANAGEMENT
FEB 26 9 53 AM '99

Mr. Dean Uchida, Administrator
Department of Land and Natural Resources
Land Division
P. O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Uchida:

RE: Conservation District Use Application and Draft Environmental Assessment for the Proposed Schatz Residence and Related Improvements at La Perouse Bay (TMK: 2-1-004:046)

The Maui Planning Department (Department) has reviewed the above-referenced application and has the following comments:

1. The most recent State Tax Maps (1998) on file in our office, identify Parcel Nos. 47, 48, 57, 67 and 72 as having been dropped and consolidated under TMK: 2-1-004:046 (Grant No. 10981). The dropped parcels identified Grant Nos. 2225 (Parcel No. 48), 2674 (Parcel No. 47), 2792 (Parcel No. 67), 2076 (Parcel No. 57), and 1117 (Parcel No. 72). As appropriate, the documents submitted should be revised to reflect the project parcel as TMK: 2-1-004:046.
2. The subject parcel contains an existing single-family dwelling on the site used by the George Carter III family with an accessory caretaker dwelling. The proposal is to replace the existing family home and tennis courts with a larger residence and guest residence. The intent appears to be to use the property for vacation homes since the applicant's address is in Colorado.

The property has been used as a residence in the past and the Department has no objections to the continuation of the residential

Mr. Dean Uchida, Administrator
February 23, 1999
Page 2

use of the property. However, it is noted that the new residence is substantially larger than the existing home and a second dwelling is proposed as a vacation unit. We have no objections to the Schatz family building a new vacation unit, but question the need and appropriateness of a second vacation unit on the property.

This is the last lot used for residential purposes in the area, and as much as possible, the pristine character of the area should be maintained with a limitation placed on urbanization of the area. At present, except for the boundary walls, the structures on the property are very unobtrusive, with little changes in the dry land characteristics of the area. The lot blends into its surroundings. Caution should be taken not only with the design of the structures, but with the landscaping on the property to ensure that the improvements blend into the existing landscape (dryland).

Further, provisions should be incorporated into any approval to ensure that as represented in the application the vacation home is used solely by the Schatz family and their friends as a personal use and not advertised or used as transient vacation rentals in which monetary or other compensation is exchanged for the use of the property. The preliminary plans of the dwellings with the modular separation of the bedrooms lend itself ideally for future conversion into vacation rentals with separate bedroom units sharing common spaces (living, dining, kitchen, etc.).

A unilateral agreement limiting the use of the dwelling should be recorded with the State Bureau of Conveyances. Copies of the recorded agreement should be filed with the Department of Land and Natural Resources and the County of Maui Department of Planning and Department of Public Works and Waste Management.

3. Another concern is the amount of ground excavation that may be necessary to build the new driveway access and pads for the foundations of the larger residence. Extensive excavation of the property has the potential of altering the natural characteristics of the area including the drainage patterns of the property. The plan seems to indicate a grade change from Elevation 10 at the pool to

Mr. Dean Uchida, Administrator
February 23, 1999
Page 3

approximate Elevation 22-24 for the main residence structure. Cross sections should be evaluated to determine the change in grades required for the house and its potential impacts analyzed, including the need for retaining walls to retain fill or stabilization of cuts.

We voice concern over the potential impacts any ground alteration activities may have on La Perouse Bay and Keoneoio Fish Pond from runoff and construction-related activities. The description that runoff will be directed into the bushes and grass area or toward the existing vegetation is insufficient when considering the sensitivity of the area. The drainage report should be carefully reviewed since the existing grades of the property indicate that runoff sheet flows into Keoneoio Fish Pond. The changes in grade, larger structures and increased use of the lot for residential/vacation purposes will have an impact which should be addressed.

Also, the area is currently unsewered. The method of wastewater disposal should be carefully considered to prevent degradation of the nearshore waters from infiltration. The area is characterized as an old lava field with the potential for lava tubes leading to the ocean which has the potential to increase the risk of infiltration into the ocean.

4. The subject property is immediately adjacent to La Perouse Bay and Keoneoio Fishpond which contains valuable recreational, biological, and cultural/historic resources to the County of Maui and the State of Hawaii. This area has been traditionally and customarily used for public access to the shoreline especially to Keoneoio Fishpond. As part of any approval, a formalized shoreline access to and along the shoreline, including the fishpond, should be provided to the public. A shoreline access and management plan should be reviewed and approved by the Department of Land and Natural Resources prior to occupancy of the residence. A unilateral agreement providing such access and management should be filed and recorded with the State Bureau of Conveyances. Copies of the recorded agreement should be filed with the Department of Land and Natural Resources and the

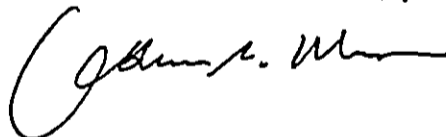
Mr. Dean Uchida, Administrator
February 23, 1999
Page 4

County of Maui Department of Planning and Department of Public Works and Waste Management.

5. The sites identified for preservation (Site Nos. 4199, 4466 and 4470) should be identified in an agreement including the preservation plan which shall be recorded with the State of Hawaii Bureau of Conveyances. Copies of the recorded agreement shall be filed with the Department of Land and Natural Resources and the County of Maui Department of Planning and Department of Public Works and Waste Management.
6. The subject property (TMK: 2-1-004:046 including the former Parcel No. 48), is the abutting shoreline property and is, therefore, subject to Chapter 205A, Hawaii Revised Statutes, and the Shoreline Setback Rules (Rules) of the Maui Planning Commission. Prior to the development of the property, the applicant will be required to submit a current certified shoreline survey and project plans for assessment on the applicability of the Rules as well as the minimum setback required. Appropriate permits may be required prior to development of the property.

Thank you for the opportunity to comment. If additional clarification is required, please contact Ms. Colleen Suyama, Staff Planner, of this office at 243-7735.

Very truly yours,



JOHN E. MIN
Director of Planning

JEM:CMS:cmb

c: Clayton Yoshida, AICP, Deputy Director of Planning
Aaron Shinmoto, Planning Program Administrator
Colleen Suyama, Staff Planner
Project File
General File
(S:\CMS\Schatz1)



May 28, 1999

Mr. John E. Min, Director
Department of Planning
County of Maui
250 South High Street
Wailuku, Maui, Hawaii 96793

Subject: Draft Environmental Assessment (EA) for Schatz
Residence, La Perouse Bay, Maui, Hawaii

Dear Mr. Min:

We offer the following responses to your comments dated February 23, 1999:

1. **TMKs.** You are correct in noting that previous tax maps showed parcels 47, 48, 57, 67 and 72 as having been dropped. However, this was apparently done for ease of tax bill payments since the parcels were under the same ownership. There was never an official consolidation of these lots and they still exist as separate parcels. The tax map key parcel numbers have been reissued and are shown on the updated tax maps at the County's real property tax division office.
2. **Second dwelling.** The subject application is for two single family dwellings, each on a separate parcel. Both parcels are owned by Mr. Schatz. Each dwelling conforms to the single family residential criteria found within the Conservation District Rules. Rather than file two separate applications, the permits were consolidated. This allows for a more comprehensive analysis regarding the potential for cumulative impacts. . The proposed single-family dwellings will not be used for rental or other commercial purposes. Any use of the proposed structures in a manner that is inconsistent with the project description will be in violation of the terms of the subject CDUA.
3. **Pristine environment.** The final EA will contain the following discussion, as well as additional figures that will provide a more thorough basis for our assessment of impacts to visual resources and the overall character of the area:

LANDSCAPE ARCHITECTURE AND PLANNING
1955 MAIN STREET, SUITE 200 • WAILUKU, MAUI, HAWAII 96793-1706 • PHONE: 808-242-1955 • FAX: 808-242-1956

VISUAL RESOURCES

Existing conditions

At present, the existing residence is shielded visually from most directions, including the public roadway. Views to the ocean from the Old Makena Road are obscured by an existing kiawe forest which extends across the subject property and into the NAR. Neither the existing nor proposed dwelling sites are visible from the public roadway due to this vegetation.

In addition, the proposed residences and other related improvements will be located below the grade of Makena Keone`o`io Road which ranges in elevation from 40 to 50 feet above MSL along the property frontage nearest the new proposed dwelling sites. The proposed finished floor of the residential structure on Parcel 46 is at elevation 22 feet above MSL. The highest point along the proposed roof lines is 47 feet above MSL. The cross sections in EA Figure No. 9 illustrate that the view plane from the highway in the immediate project vicinity is at or above the highest portion of the roof lines.

While the existing caretakers residence is visible from the end of Keoneoio Road and from portions of the coastline to the south, the proposed dwelling sites are almost entirely obscured by existing vegetation.

A traditionally built dry stack wall runs along the entire length of the property. The wall is approximately 4 feet in height. This wall is much less imposing than other boundary walls along this coastline which are often built of modern materials and at heights designed to create privacy. The historic character of this wall is considered a positive visual feature along this section of Old Makena Road.

The most sensitive area in the NAR from a visual perspective is along the NAR access trail that roughly parallels the western boundary of the subject property. The trail traverses in a makai direction through the kiawe forest to the lava flow. It exits the kiawe forest onto the lava flow at a point that is almost directly west of the existing and proposed dwelling sites. At this point, the roof of the existing dwelling is partially visible to the south east, approximately 330 feet away. The next 600 or so feet of trail is in closest proximity to the existing and proposed dwelling sites and represents the area with greatest potential for visual

impacts from the NAR. An existing stand of kiawe trees in front of the existing and proposed dwelling provides significant visual shielding.

Potential Impacts and Mitigation Measures

The project will have minimal impact on public viewsheds or scenic resources due primarily to the presence of existing vegetation. The distance of the proposed sites from public vantage points, i.e., the public roadway, the NAR trail and the coastline at the end of Keoneio Road, also helps to lessen the presence of the proposed structures.

The following mitigation measures have been or will be implemented to minimize or eliminate potential impacts on views or scenic resources, especially those from the trail to the west of the site, within the NAR.

a. The existing kiawe forest which buffers the site from the public roadway and abutting NAR will remain intact, including the stand of kiawe trees in front of the existing dwelling.

b. Additional trees will be planted west of the proposed dwelling site as illustrated in Figure 6. This will further obscure the house site from the section of NAR trail which comes within closest proximity to the house.

c. Materials chosen for the house are natural in appearance and texture. The roof will be textured shingles with an earth tone color, designed to blend in with the existing kiawe backdrop. Black lava rock will be incorporated in the foundations of the house and the siding will be vertical board and batten with a natural stain. Stone and lava rock will accent the building corners and longer wall sections. The window and door frames will be wood and the walkways will be of grouted natural stone.

Based upon the extent to which the proposed site is visible at present, the additional landscape plantings, and the proposed house design and materials selection, the proposed action will not have a significant impact on visual resources in the area.

4. **Landscape Plantings.** : The proposed landscape improvements are limited primarily to areas around the peripheries of the new structures. By the exclusive use of native plants adapted to conditions in the area, and by the

use of composting and other natural soil amendments, both irrigation requirements and the use of concentrated fertilizers will be minimized. In addition alterations to the natural dryland character of area will be minimized. Proper and judicious application of fertilizers will minimize any deleterious effects during runoff episodes. The use of drip irrigation will also minimize potential runoff.

5. **Amount of ground excavation.** The excavation of ground in preparation for building the new driveway access and pads for the new dwelling has been minimized by conforming to existing topography. The change in grade can be seen in the contour lines labeled "New Contours" as compared to "Existing Contours - Dashed Lines" in Figure No. 3 of the Draft EA, in the area surrounding the new main house and new driveway. All fill will be sand, as is required in the Shoreline Setback area. The finish grade difference between the easternmost portion of the proposed main structure (elevation 24 feet above MSL) and the swimming pool (elevation 12 feet) is based on existing topography. Sand fill will be utilized in order to soften the grade transition between the proposed pool and the residential structure. Per your request, we will include a cross section of this area in the Final EA in order to provide the reader with a clearer understanding of the proposed action.
6. **Surface runoff:** As noted throughout the Draft EA, potential impacts from increased runoff and/or non point sources of pollution will be mitigated by a net reduction in impervious surfaces and by relocating new structures further inland compared to existing conditions. The following details clarify these issues:

- a. **Impervious surfaces.** Total impervious surfaces after development will be reduced compared to existing conditions. This is due to the removal of the existing dwelling, tennis court and driveway/turnaround. The amount of new surfaces will be lessened through minimizing the surface of the driveway by using two 3-foot wide paved strips. Also, grid pavers with open areas that permit grass growth and percolation will be used on the flat turnaround areas near the proposed garage. A comparison of the total amounts of existing and proposed surfaces is as follows:

Existing impervious surfaces to be removed:	
dwelling & lanai	3,700 sq. ft.
tennis court	7,125 sq. ft.
driveways	<u>7,260 sq. ft.</u>

18,085 sq. ft.

Proposed improvements:

Dwellings, lanais, walkways, etc.	9,105 sq. ft.
driveway	3,435 sq. ft.
pool & pool lanai	<u>1,888 sq. ft.</u>
	14,428 sq. ft.

Net reduction: 3,657 sq. ft.

- b. **Location of impervious surfaces.** The proposed impervious surfaces will be relocated inland compared to existing conditions, thereby allowing for interception of potential pollutants by vegetative areas and topographic features. Significantly, the proposed driveway will be located mauka of the proposed new dwelling, whereas the existing paved driveway and turnaround are located in close proximity to the shoreline

7. **Wastewater disposal and construction mitigation measures.** Installation of properly designed and approved individual wastewater treatment systems will minimize the potential for wastewater to contaminate the local environment. The IWS will consist of a septic tank and leach field system and will conform to the Department of Health's rules for wastewater disposal. The leach fields will be located immediately mauka of both structures and will be shown on the revised site plan. This method of disposal is considered preferable to the existing cesspool system.

Impacts from construction run-off will be minimized by following the procedures recommended in *Island Stewardship: Guide to Preventing Water Pollution for Maui's Homes and Businesses*, published by West Maui Watershed Management Advisory Committee and recommendations of the State Department of Health. The following specific measures will be employed:


- Clearing only areas necessary for construction;
- Locating potential nonpoint pollutant sources away from steep slopes, water bodies, and critical areas: Existing driveways, tennis courts and the main house will be relocated to areas that meet these criteria;

Mr. John E. Min, Director
County of Maui Planning Department
Schatz Draft Environmental Assessment
May 28, 1999
Page 6 of 7

- Minimizing the earthwork and therefore minimizing the need for topsoil stockpiles. Any necessary stockpiles will be stabilized and located away from the shoreline to the extent practical;
 - Properly disposing of sediment and debris from construction activities;
 - Replanting or covering bare areas as soon as grading or construction is completed. Composting will be used during initial planting/ transplanting activities in order to allow for nutrient supplementation at a more natural rate.
8. **Public Access.** The Keoneoio Fishpond is part of the parcel purchased by the applicant. The beach and the pond are designated as private property. Public access is provided on both sides of the property line, accessing the public sections of the shoreline.
 9. **Sites 4199, 4466 and 4470 identified for preservation.** A condition of permit approval by the DLNR will require compliance with the recommended procedure for ensuring protection of these historic sites.
 10. **Current certified shoreline survey.** The shoreline has been certified (and is included as an additional figure in the Final Environmental Assessment). Parcel 46, where the second house will be built, does not abut the shoreline, therefore is not subject to shoreline setback requirements.
 11. **Recordation of Conditions.** Regarding your request to record a unilateral agreement for most of your suggested conditions, we inform you that as part of the standard conditions of a Conservation District use Permit, DLNR will require that the permit conditions be recorded with the Bureau of Conveyances.

Thank you for providing comments on this Environmental Assessment. If you have any questions please do not hesitate to contact me at 242-1955.

Respectfully,



Rory Frampton
Project Planner

Mr. John E. Min, Director
County of Maui Planning Department
Schatz Draft Environmental Assessment
May 28, 1999
Page 7 of 7

cc: Mr. Tom Eisen, DLNR
Mr. Douglas Schatz
Mr. Tim Farrington, AIA
Warren Unemori Engineering
Mr. Robert A. Mullane, Sea Grant Extension Service
OEQC

UNIVERSITY OF HAWAII

Sea Grant Extension Service
Maui Community College
March 12, 1999

Dept. of Land and Natural Resources
Land Division
P. O. Box 621
Honolulu, HI 96809
attn: Dean Uchida, Administrator

RECEIVED
DIVISION OF
LAND MANAGEMENT
MAR 15 9 34 AM '99

Dear Mr. Uchida:

**RE: Conservation District Use Application and Draft Environmental
Assessment for the Proposed Schatz Residence and Related Improvements
at La Perouse Bay (TMK: 2-1-004:046)**

I have reviewed the CDUA and Draft EA for the proposed Schatz Residence and related improvements and have also reviewed the Maui County Planning Department's letter dated 2/23/99. The Planning Department's letter brings up some important issues, and I hope these are addressed before any decision-making occurs on this application and draft EA. I have the following additional comments:

The application repeatedly downplays the significant increase in urbanization of this property. The new square footage of the proposed buildings and pool will total 6731 sq ft, up from 4782 sq ft of the existing buildings and tennis court, for a increase of urbanization of more than 40%. The construction of a new driveway further increases the amount of land that will be altered. This increased urbanization does not seem to be consistent with the goals of the Ahihi-Kinau Natural Area Reserve as stated on p. 7 of the application. I sympathize with the applicant's desire to repair or rebuild these older buildings, but this can be accomplished without significantly increasing the square footage of improvements. The addition of a swimming pool in the proposed plans is particularly in conflict with the NAR's goals.

In addition, the applicant proposes to build a new house on the site of the existing tennis courts. Portions of this proposed house are less than 40 feet from the shoreline as depicted on the site plan (Figure 3). This coast is exposed to frequent large south swells and the occasional Kona storm. Once the shoreline is certified, and the building setback is calculated and compared to the proposed location of the house, a more thorough analysis of coastal hazards will be needed to determine the risk to this new structure.

It should be noted that the construction of permanent structures in the setback area is strongly discouraged in the *Beach Management Plan for Maui*. This proposed use of the shoreline setback may constitutes an unnecessary risk to the new building and is inconsistent with Conservation District Use goals and objectives.

Community Outreach and Technology Transfer for Maui County and the U.S.—Affiliated Pacific Islands
310 Ka'ahumanu Avenue • Kahului, Maui, HI 96732 • Telephone: (808) 242-1254 • Facsimile: (808) 984-3251
E-Mail: rmullane@soest.hawaii.edu

An Equal Opportunity/Affirmative Action Institution

Schatz Residence, La Peruse Bay
March 12, 1999
Page 2

Finally, I bring to your and the applicant's attention that there is a community group in this area that should also be consulted. The Friends of Keone'oi'o is a community group that would be interested in learning about the proposed activity and may have some comments and/or concerns. A contact person for this group is Ed Lindsey.

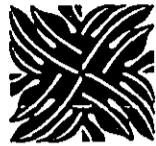
Please keep me informed as to the status of this application. Thank you for the opportunity to comment on this application.

Sincerely,



Robert A. Mullane
Maui County Coastal Processes Extension Agent

cc. Colleen Suyama, Planning Dept.
Rory Frampton, Chris Hart and Partners
Michelle Anderson, Councilmember Nishiki's Office
Sam Lemmo, DLNR



CHRIS
HART
& PARTNERS

June 1, 1999

Mr. Robert A. Mullane
Maui County Coastal Processes Extension Agent
Sea Grant Extension Service
Maui Community College
310 Ka'ahumanu Avenue
Kahului, Maui, Hawaii 96732

Subject: Draft Environmental Assessment (EA) for Schatz
Residence, La Perouse Bay, Maui, Hawaii

Dear Mr. Mullane:

We offer the following responses to your comments dated March 12, 1999:

1. **Planning Department letter.** We have addressed all of the Planning Department's comments. A copy of our response letter is attached herewith for your information.
2. **Increase in urbanization.** In response to your concern about the DEA "repeatedly downplay[ing] the significant increase in urbanization", we offer the following comments.
 - a. We do not consider the net addition of one single family dwelling in an area approximately 12 acres in size as a significant increase in urbanization, for the following reasons: First, the Floor area to lot Area Ratio (FAR) in the proposed action will be just over 1% as compared to an existing FAR of just under 0.5%. While these figures may represent a significant increase in absolute terms, it is a relatively minor increase given its low value when compared to typical FARs of single family residences in an urban context which are usually range between 15% and 30% in low density residential areas and can easily exceed 50% in higher density or larger unit single family residential areas. Second, our EA documents that the increase in dwelling area is not significant at the subject site primarily due to the substantial amount of natural

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buffers in the form of existing vegetation as well as incorporation of sensitive site planning.

b. If your concerns are related to the potential impacts of increased runoff, you are incorrect in concluding that an increase in total square footage of living area will automatically lead to a corresponding increase in runoff or potential negative impacts from non point source pollution. In reality, as noted throughout the Draft EA, potential impacts from increased runoff and/or non point sources of pollution will be mitigated by a net reduction in impervious surfaces and by relocating new structures further inland compared to existing conditions. The following details will be provided in the Final EA in order to clarify these issues:

- **Impervious surfaces.** Total impervious surfaces after development will be reduced compared to existing conditions. This is due to the removal of the existing dwelling, tennis court and driveway/turnaround. The amount of new surfaces will be lessened through minimizing the surface of the driveway by using two 3-foot wide paved strips. Also, grid pavers with open areas that permit grass growth and percolation will be used on the flat turnaround areas near the proposed garage. A comparison of the total amounts of existing and proposed surfaces is as follows:

Existing impervious surfaces to be removed:	
dwelling & lanai	3,700 sq. ft.
tennis court	7,125 sq. ft.
driveways	<u>7,260 sq. ft.</u>
	18,085 sq. ft.

Proposed improvements:	
dwelling, lanais, walkways, etc.	9,105 sq. ft.
driveway	3,435 sq. ft.
pool & pool lanai	<u>1,888 sq. ft.</u>
	14,428 sq. ft.

Net reduction:	3,657 sq. ft.
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- **Location of impervious surfaces.** The proposed impervious surfaces will be relocated inland compared to existing conditions,

thereby allowing for interception of runoff and potential pollutants, if any, by vegetative areas and topographic features. Significantly, the proposed driveway will be located mauka of the proposed new dwelling, whereas the existing paved driveway and turnaround are located in close proximity to the shoreline

c. The impacts from construction of the proposed driveway will be kept to a minimum by adhering to natural grades and by using two three-foot wide paver strips in place of a typical 12 to 14 foot wide driveway surface, as noted above. The extensive existing AC driveway and turnaround area, in close proximity to the ocean, will be removed. They will be replaced by a lesser amount of impervious surface area, over twice the distance to the ocean, and separated from it by structures as well as vegetated areas. Therefore the construction of the driveway will not lead to a significant negative alteration of the area, especially when compared to the existing conditions.

3. **Swimming Pool.** We do not agree with your claim that the proposed swimming pool is "particularly in conflict with NAR's goals." The project area is not located within the NAR and therefore is not subject to the NAR's objectives (listed on page 7 of the Draft EA). Nevertheless, the applicant has taken great care to insure that potential impacts to the existing environment, and especially to the abutting NAR area, are mitigated or improved upon. This is documented throughout the subject EA. The criteria for issuance of the Conservation District Use Permits for single family dwellings are found within the Conservation District Rules. Swimming pools are listed as identified uses when accessory to single family dwellings. Swimming pool areas are included in the maximum developable area limitation, which for parcel 46 is 5,000 sq. ft. The proposed pool is modest in size and conforms to other permit issuance criteria as well. If your concern is related to the potential for negative impacts to marine resources we offer the following: The swimming pool will not drain directly into the ocean. A dry well will be located inland to allow for once a week back flushing of the filter. No chlorine will be used in the water since the applicant will use alternative disinfection system which is ozone based.
4. **Coastal hazards.** The dwelling proposed to be located at the site of the existing tennis courts is approximately 80 feet from the certified shoreline, not less than forty feet as you claim. Also, as you became aware after your site visit in April, this specific section of shoreline is not exposed to high wave energy as a result of large south swells or Kona storms due to local coastal geology and off-shore bathymetry, contrary to the statements in your letter.

Mr. Robert A. Mullane
Sea Grant Extension Service
Re: Schatz Draft EA
06/01/99
Page 4 of 5

Finally, even if this shoreline were exposed to periodic high wave energy, the proposed site is protected from wave energy by a large rock outcropping immediately makai of the proposed site. In addition, the site's elevation of 12 feet above MSL is above the predicted base flood elevation for a tsunami in this area as depicted on the FEMA Flood Insurance Rate Map No. 150003 0340 B.

5. **Shoreline Certification and Setback.** The subject shoreline was certified on March 27, 1998, and is shown in Figures No. 3, 4 and 6 in the Draft EA as a solid line running along the shore. Unfortunately this line was not labeled as the certified shoreline, however, as can be seen in the figures, it was used to identify the calculated setback of 130 feet for the larger parcel. The structure to be located at the site of the existing tennis court is located on a parcel which does not abut the shoreline and thus, pursuant to the shoreline area rules for the Island of Maui, a shoreline setback is not applicable. Nevertheless, as noted above, the structure is situated approximately 80 feet from the shoreline and given the low wave energy experienced at this location as well as existing topography and geology, the proposed use does not constitute an unnecessary risk. In addition, since there are no permanent structures proposed within the shoreline setback area, your statement regarding inconsistency with the *Beach Management Plan for Maui* is unfounded.
6. **Community Consultation.** We have had extensive discussions with long term residents of the area as well as Hui Hawaii O Makena, a community group with long term interests in the area.

Based upon our responses to your comments as outlined above, as well as the detailed information included within our Environmental Assessment, we find no basis for your statement that the proposed use is inconsistent with Conservation District Use goals and objectives.

Thank you for providing comments on this Environmental Assessment. If you have any questions, please do not hesitate to contact me at 242-1955.

Respectfully,


Rory Frampton
Project Planner

Mr. Robert A. Mullane
Sea Grant Extension Service
Re: Schatz Draft EA
06/01/99
Page 5 of 5

cc: Mr. Tom Eisen, DLNR
Mr. Douglas Schatz
Mr. Tim Farrington, AIA
Mr. John Min, Planning Department
Mr. Bruce Miller, Sea Grant Extension Service
Office of Environmental Quality Control

BENJAMIN J. CAYETANO
GOVERNOR



STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 526-4155
FACSIMILE (808) 526-4155

GARY GILL
DIRECTOR

RECEIVED
DIVISION OF
AND MANAGEMENT
MAR 10 2 58 PM '99

March 9, 1999

Mr. Douglas Schatz
1625 Sharp Point Drive
Fort Collins, Colorado 80525

Dear Mr. Schatz:

Subject: Draft Environmental Assessment (EA) for Schatz Residence and
Related Improvements, La Perouse Bay, Maui, TMK 2-1-04: 046 and
TMK 2-1-04: 048

Having reviewed the subject environmental assessment, we submit the following comments for you (or your agent) to respond to. In order to reduce bulk and conserve paper, we recommend printing on both sides of the pages in the final document. In addition we have the following comments:

1. **CONTACTS:** Notify the nearest neighbors or neighboring landowners of the proposed project, allowing them sufficient time to review the draft EA and submit comments. Document all contacts in the final EA and include copies of any correspondence, including correspondence received during the preconsultation phase.
2. **SIGNIFICANCE CRITERIA:** The discussion of significance criteria (Hawaii Administrative Rules, Section 11-200-12) in section IIIF of the draft EA is incomplete. Two criteria were added or modified in 1996. In the final EA include a discussion of criteria number 11, which was modified, and 13, which is new:

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

"(13) Requires substantial energy consumption."

Mr. Douglas Schatz
March 9, 1999
Page 2 of 2

Also discuss *cultural impacts* (criterion #1) other than archeological resources, according to the enclosed Guidelines for Assessing Cultural Impacts.

3. SHORELINE SETBACK: According to Figure 6 the proposed main building appears to abut the shoreline setback. What is the distance from this building to the setback? In the final EA please enclose a copy of the certified shoreline survey.

If you have any questions, please call Ms. Nancy Heinrich, Planner, at 586-4185.

Sincerely,



for GARY GILL
Interim Director

Enclosure

c: Mr. Rory Frampton, Christ Hart & Partners
Mr. Dean Uchida (Attention: Mr. Tom Eisen), DLNR

GUIDELINES FOR ASSESSING CULTURAL IMPACTS
Adopted by the Environmental Council, State of Hawaii
November 19, 1997

I. INTRODUCTION

It is the policy of the State of Hawaii under Chapter 343, HRS, to alert decision makers, through the environmental assessment process, about significant environmental effects which may result from the implementation of certain actions. An environmental assessment of cultural impacts gathers information about cultural practices and cultural features that may be affected by actions subject to Chapter 343, and promotes responsible decision making. Articles IX and XII of the State Constitution, other state laws, and the courts of the state require government agencies to promote and preserve cultural beliefs, practices, and resources of native Hawaiians and other ethnic groups. Chapter 343 also requires environmental assessment of cultural resources, in determining the significance of a proposed project.

The Environmental Council encourages preparers of environmental assessments and environmental impact statements to analyze the impact of a proposed action on cultural practices and features associated with the project area. The Council provides the following methodology and content protocol as guidance for any assessment of a project that may significantly affect cultural resources.

II. CULTURAL IMPACT ASSESSMENT METHODOLOGY

Cultural impacts differ from other types of impacts assessed in environmental assessments or environmental impact statements. A cultural impact assessment includes information relating to the practices and beliefs of a particular cultural or ethnic group or groups.

Such information may be obtained through scoping, community meetings, ethnographic interviews and oral histories. Information provided by knowledgeable informants, including traditional cultural practitioners, can be applied to the analysis of cultural impacts in conjunction with information concerning cultural practices and features obtained through consultation and from documentary research.

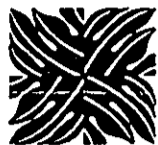
In scoping the cultural portion of an environmental assessment, the geographical extent of the inquiry should, in most instances, be greater than the area over which the proposed action will take place. This is to ensure that cultural practices which may not occur within the boundaries of the project area, but which may nonetheless be affected, are included in the assessment. Thus, for example, a proposed action that may not physically alter gathering practices, but may affect access to gathering areas would be included in the assessment. An ahupua'a is usually the appropriate geographical unit to begin an assessment of cultural impacts of a proposed action, particularly if it includes all of the types of cultural practices associated with the project area. In some cases, cultural practices are likely to extend beyond the ahupua'a and the geographical extent of the study area should take into account those cultural practices.

Primary source materials reviewed and analyzed may include, as appropriate: Mahele, land court, census and tax records, including testimonies; vital statistics records; family histories and genealogies; previously published or recorded ethnographic interviews and oral histories; community studies, old maps and photographs; and other archival documents, including correspondence, newspaper or almanac articles, and visitor journals. Secondary source materials such as historical, sociological, and anthropological texts, manuscripts, and similar materials, published and unpublished, should also be consulted. Other materials which should be examined include prior land use proposals, decisions, and rulings which pertain to the study area.

III. CULTURAL IMPACT ASSESSMENT CONTENTS

In addition to the content requirements for environmental assessments and environmental impact statements, which are set out in HAR §§ 11-200-10 and 16 through 18, the portion of the assessment concerning cultural impacts should address, but not necessarily be limited to, the following matters:

1. A discussion of the methods applied and results of consultation with individuals and organizations identified by the preparer as being familiar with cultural practices and features associated with the project area, including any constraints or limitations which might have affected the quality of the information obtained.
2. A description of methods adopted by the preparer to identify, locate, and select the persons interviewed, including a discussion of the level of effort undertaken.
3. Ethnographic and oral history interview procedures, including the circumstances under which the interviews were conducted, and any constraints or limitations which might have affected the quality of the information obtained.
4. Biographical information concerning the individuals and organizations consulted, their particular expertise, and their historical and genealogical relationship to the project area, as well as information concerning the persons submitting information or interviewed, their particular knowledge and cultural expertise, if any, and their historical and genealogical relationship to the project area.
5. A discussion concerning historical and cultural source materials consulted, the institutions and repositories searched, and the level of effort undertaken. This discussion should include, if appropriate, the particular perspective of the authors, any opposing views, and any other relevant constraints, limitations or biases.



CHRIS
HART
& PARTNERS

June 1, 1999

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

Subject: Draft Environmental Assessment (EA) for Schatz
Residence, La Perouse Bay, Maui, Hawaii

Dear Mr. Gill:

We offer the following responses to your comments dated March 9, 1999:

1. **Contacts.** The properties abutting the Schatz property on both sides are owned by the State of Hawaii. The Draft EA has been submitted to State agencies for review, including the Division of Aquatics, and the NARS staff. We have met with Marie Olson, a longtime resident of the property, and other long time Makena residents and interested stakeholders. We have addressed agency comments in separate responses, copies of which will be transmitted to your office.
2. **Significance criteria.** To address the new criteria (HAR §11-200-12), we will include the following paragraphs in the Final EA:

(11) Affects or is likely to suffer damage by being located in an environmentally sensitive area such as . . . coastal waters.

The proposed action will not affect or be likely to suffer damage by being located in this environmentally sensitive area. The larger dwelling is proposed to be located 130 feet from the certified shoreline. The dwelling proposed to be located at the site of the existing tennis court is approximately 80 feet from the certified shoreline. This section of shoreline is not exposed to high wave energy as a result of large south swells or Kona storms due to local coastal geology and off-shore bathymetry. If this shoreline were exposed to periodic

LANDSCAPE ARCHITECTURE AND PLANNING

1955 MAIN STREET, SUITE 200 • WAILUKU, MAUI, HAWAII 96793-1706 • PHONE: 808-242-1955 • FAX: 808-242-1956

high wave energy, the proposed site is protected by a large rock outcropping immediately makai of the proposed site. In addition, the site's elevation of 12 feet above MSL is above the predicted base flood elevation for a tsunami in this area as depicted on the FEMA Flood Insurance Rate Map No. 150003 0340 B.

(13) Requires substantial energy consumption.

The proposed action does not require substantial energy consumption. The net addition of one single-family residence does not engender a significant increase in energy consumption over the existing use of the property, especially in relation to existing demand in South Maui or on Maui Island.

3. **Cultural impacts.** In order to more fully address cultural uses of the area, we conducted oral interviews with individuals who have lived in the area or who have practiced traditional and customary uses for some time. In consultation with Dana Hall and Leslie Kuloloio, we identified Ms. Marie Olsen, a thirty year resident of the property, Mr. Rudy "Boogie" Lu`uwai, Mr. Robert Lu`uwai and Mr. Eddie Chang as individuals who could provide additional information regarding culturally important uses of the area. An informal oral history group interview, "talk story" session was conducted with Boogie Lu`uwai, Eddie Chang and Marie Olsen on May 2, 1999. In addition, personal discussions with Robert Lu`uwai were held.

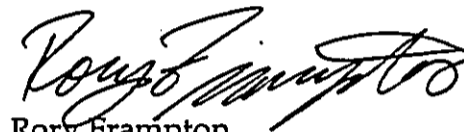
The discussions indicated that the primary cultural activities in the area over the last couple of generations were almost entirely related to the gathering of ocean resources, e.g. fishing, opihi picking, and limu gathering. Prior to 1960, access to the coastline in the Keone`o`io area was virtually unimpeded. This was changed with the permanent occupation of the site by a property owner who had a number of aggressive dogs. After that time most individuals accessing the area by land avoided the residential areas of what began to be referred to as the Carter Estate. In 1973, the State designated the neighboring property as a NAR and this almost entirely eliminated traditional and customary ocean related activities to the west of the property. We will include additional discussions regarding the above information in the Final EA.

Mr. Gary Gill, OEQC
Re: Schatz Draft EA
06/01/99
Page 3 of 3

4. **Shoreline setback.** A copy of the certified shoreline survey will be included in the Final EA. The proposed new main building is located 130 feet from the shoreline, the same distance as the established shoreline setback for the property.

Thank you for providing comments on this Environmental Assessment. If you have any questions please do not hesitate to contact me at 242-1955.

Respectfully,



Rory Frampton
Project Planner

cc: Mr. Tom Eisen, DLNR
Mr. Douglas Schatz
Mr. Tim Farrington, AIA
Warren Unemori Engineering

Council Chair
Patrick S. Kawano

Council Vice-Chair
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Wayne K. Nishiki
Charmaine Tavares



COUNTY COUNCIL
COUNTY OF MAUI
200 S. HIGH STREET
WAILUKU, MAUI, HAWAII 96793

Director of Council Services
Ken R. Fukuoka

March 10, 1999

Mr. Dean Uchida, Administrator
State of Hawaii
Department of Land and Natural Resources
Land Division
P.O. Box 621
Honolulu, HI 96809

RECEIVED
DIVISION OF
LAND MANAGEMENT
MAR 12 9 04 AM '99

Dear Mr. Uchida :

SUBJECT: Conservation District Use Application
TMK: 2-1-04:46 & 48 - States Residence

Thank you for this opportunity to comment on the Draft Environmental Assessment for the above application.

Because this proposed residential development is in an extremely sensitive area with important cultural and marine resources, I have asked my staff to review the DEA. Please address the following concerns:

1. The DEA shows no preconsultation with any Maui County agencies, citizen groups or individuals as required by Section 11-200-9 HAR. The Maui Planning Department received a request to review the DEA on the same day the DEA was published in the OEQC Environmental Notice. Therefore, your office made a determination that the proposed project is not likely to have a significant effect without any consultation from Maui stakeholders.
2. The subject project is adjacent to sensitive marine resources, Keone'io Fishpond and Ahihi-Kinau Natural Area Reserve, yet the description of existing conditions of the marine environment and its resources does not detail any of the current stresses affecting these resources. It is difficult to measure impact of a proposed project when current conditions are not adequately disclosed.
3. The project application submitted claims that the two proposed homes are on two separate parcels. However, our tax maps show all parcels of the subject

March 10, 1999
Page 2

project are consolidated into one parcel (TMK: 2-1-004:046). Please address how this will effect the uses proposed with the Conservation District.

4. On page 13 of the DEA it cites cross sections on Figure No.7 as illustrating the view plane from the highway. However, Figure No. 7 is a soil map. There are no illustrations of the proposed project and it's effect on the viewplane both from the highway and from the shoreline in the DEA.
5. The proposed project is designed in a manner that would easily avail itself to vacation rental. Can DLNR assure the public that this project in the Conservation District will not be used as a vacation rental?

Thank you for your attention to our concerns. Should you have any question, please contact my Executive Assistant, Michelle Anderson, at 243-7108.

Sincerely yours,



Wayne K. Nishiki
Councilmember

WKN:maa



**CHRIS
HART**
& PARTNERS

June 1, 1999

Mr. Wayne K. Nishiki, Councilmember
County Council
County of Maui
200 South High Street
Wailuku, Maui, Hawaii 96793

Subject: Draft Environmental Assessment (EA) for Schatz
Residence, La Perouse Bay, Maui, Hawaii

Dear Mr. Nishiki:

We offer the following responses to your comments on the above-referenced
Environmental Assessment, dated March 10, 1999:

1. **Preconsultation with County agencies.** Preconsultation discussions were held with the Maui Planning Department and DLNR's Maui Land Agent, as well as with Ms. Marie Olsen, a long time resident on an adjoining parcel. The comments, suggestions and concerns of these agencies and individual were addressed in the Draft EA. In addition, there have been a number of on-site meetings with individuals, representatives of community groups and agency representatives in order to fully address their comments and concerns. Site visits have been held with representatives of Hui Ala Nui O Makena, the Sierra Club and Sea Grant Extension Services. These discussions also included an informal oral history group interview "talk story" session conducted with Boogie Lu'uwai, Eddie Chang and Marie Olsen on May 2, 1999. In addition, personal discussions with Robert Lu'uwai were held. The results of these discussions will be included in the Final EA.
2. **Current stresses on the fishpond and the NAR.** The Ahihi-Kinau Natural Area Reserve has been identified as a DLNR Sustainability "Hotspot". Problems in the Reserve include commercial kayak activity, illegal fishing, motorized vessels entering the area, disappearance of reef fish and opihi, and inaccessibility of the area for the purposes of protection and management.

- The proposed continuation of residential use of the property will not add to any of these Hotspot stresses. In addition, as documented in the Final EA, the project will result in minimal impacts to marine resources in the area, and in some instances will result in improved situations, i.e., runoff and wastewater disposal.
3. **TMK consolidation.** You are correct in noting that previous tax maps showed parcels 47, 48, 57, 67 and 72 as having been dropped. However, this was apparently done for ease of tax bill payments since the parcels were under the same ownership. There was never an official consolidation of these lots and they still exist as separate parcels. The tax map key parcel numbers have been reissued and are shown on the updated tax maps at the County's real property tax division office.
 4. **View planes from the highway and from the shoreline.** The figure illustrating site elevations and view planes was incorrectly referred to as Figure No. 7 in the Draft EA. It appeared as Figure No. 9, and will be appropriately referred to in the Final EA. In addition, the following discussion as well as additional figures will be incorporated into the Final EA in order to provide a more thorough basis for our assessment of impacts to visual resources:

VISUAL RESOURCES

Existing conditions

At present, the existing residence is shielded visually from most directions, including the public roadway. Views to the ocean from the Old Makena Road are obscured by an existing kiawe forest which extends across the subject property and into the NAR. Neither the existing nor proposed dwelling sites are visible from the public roadway due to this vegetation.

Nevertheless, the proposed residences and other related improvements will be located below the grade of Makena Keone'o'io Road which ranges in elevation from 40 to 50 feet above MSL along the property frontage. The proposed finished floor of the larger residential structure is at elevation 22 feet above MSL. The highest point along the proposed roof lines is 47 feet above MSL. The cross sections in Figure No. 9 illustrate that the view plane from the highway in the immediate project vicinity is at or above the highest portion of the roof lines.

While the existing caretakers residence is visible from the end of Keoneio Road and along the coastline to the south, the proposed dwelling site is shielded by existing vegetation and topography.

A traditionally built dry stack wall runs along the length of the property along Makena Keone`o`io Road. The wall is approximately 4 feet in height. This wall is much less imposing than other boundary walls along this coastline which are often built of modern materials and at heights designed to create privacy. The historic character of the wall as well as its modest height is considered a positive visual feature along this section of Makena Keone`o`io Road.

The most sensitive area in the NAR from a visual perspective is along the NAR access trail that roughly parallels the western boundary of the subject property. The trail traverses in a makai direction through the kiawe forest to the lava flow. It exits the kiawe forest onto the lava flow at a point that is almost directly west of the existing and proposed dwelling site. At this point the roof of the existing dwelling is partially visible to the south east, approximately 330 feet away. The next 600 or so feet of trail is in closest proximity to the existing and proposed dwelling sites and represents the area with greatest potential for visual impacts. An existing stand of kiawe trees in front of the proposed dwelling provides significant shielding of the existing and proposed house sites.

Potential Impacts and Mitigation Measures:

The project will have minimal impact on public viewsheds or scenic resources due to the presence of existing vegetation. The distance of the proposed sites from public vantage points, i.e., the public roadway, the NAR trail and the coastline at the end of Keoneio Road, also helps to lessen the visual impacts of the proposed structures.

The following mitigation measures have been or will be implemented to minimize or eliminate potential impacts on views or scenic resources, especially those from the trail to the west of the site, within the NAR:

- The existing kiawe forest which buffers the site from the public roadway and abutting NAR will remain intact. This includes the stand of kiawe trees in front of the existing dwelling.
- Additional trees will be planted west of the proposed dwelling site. This will further obscure the house site from the section of NAR trail which comes within closest proximity to the house.
- Materials chosen for the house are natural in appearance and texture. The roof will be textured shingles with an earth tone color, designed to blend in with the existing kiawe backdrop. Black lava rock will be incorporated in the foundations of the house and the siding will be vertical board and batten with a natural stain. Stone and lava rock will accent the building corners and longer wall sections. The window and door frames will be wood and the walkways will be of grouted natural stone.

Based upon the extent to which the proposed site is visible at present, the additional landscape plantings, and the proposed house design and materials selection, the proposed action will not have a significant impact on visual resources in the area.

5. **Vacation rental usage.** The proposed single-family dwellings will not be used for rental or other commercial purposes. Any use of the proposed structures in a manner that is inconsistent with the project description will be in violation of the terms of the subject CDUP Recorded Condition statement.

Thank you for providing comments on this Environmental Assessment. If you have any further questions, please do not hesitate to contact me at 242-1955.

Respectfully,



Rory Frampton
Project Planner

Mr. Wayne Nishiki, County Councilmember
Re: Schatz Residence Draft EA
06/01/99
Page 5 of 5

cc: Mr. Tom Eisen, DLNR
Mr. Douglas Schatz
Mr. Tim Farrington, AIA
Warren Unemori Engineering
Office of Environmental Quality Control

ISAAC DAVIS HALL

ATTORNEY AT LAW

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(808) 244-9017

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OF COUNSEL:
G. RICHARD GESCH

March 10, 1999

Via Facsimile and U.S. Mail
808-587-0455

RECEIVED
MAR 12 1999

CHRIS HART & PARTNERS
Landscape Architecture & Planning

Mr. Tom Eisen
Department of Land and Natural Resources
1151 Punchbowl St.
Honolulu HI 96813

Re: Comments on the Draft Environmental Assessment for the Schatz
Residence and Related Improvements, La Perouse Bay, Honua'ula, Maui,
Hawaii, TMK (II) 2-1-4:46 and 48

Dear Tom Eisen:

This comment letter is submitted on behalf of Hui Alanui o Makena, Keauhou o Honua'ula, Inc., Dana Naone Hall and Leslie Kuloloio. Hui Alanui o Makena and Keauhou o Honua'ula, Inc. are Native Hawaiian organizations that have been concerned with protecting and conserving valuable park and coastal resources as well as Native Hawaiian traditional and customary rights, particularly within the Honua'ula District. Dana Naone Hall has been involved with historic preservation and shoreline issues on Maui for many years and served as the Chairperson of the Maui/Lana'i Islands Burial Council for eight years. Leslie Kuloloio is from the Kukahiko family of Makena, which has used the Honua'ula coastline for traditional and customary purposes for centuries. These entities and persons have standing and a right of action to participate in legal proceedings with respect to this Draft Environmental Assessment ("DEA") and Conservation District Use Application ("CDUA").

I. INTRODUCTION

The DEA for the Schatz project is inadequate as a matter of law and fact. Despite its length, it contains scant analysis of the important environmental and cultural issues raised, fails to address critical issues and provides little or no factual support for many of the statements in the document.

The Schatz project proposes an urban-like project, under the guise of a single family residence, within the Conservation District. It renews the debate which has surfaced over the years about the size and scope of "single family residences" which can be permitted in the Conservation District. The project proposed here is as large as other projects which have drawn objections

because of their size, scale and effect on the resources within the Conservation District.

II. THE SCHATZ PROJECT LIES WITHIN AN AREA CONTAINING SOME OF THE MOST HIGHLY PROTECTED LANDS ON MAUI

A. The Ahihi-Kinau Natural Area Reserve

The Schatz project is proposed to be located immediately adjacent to the southern boundary of the Ahihi-Kinau Natural Area Reserve. See DEA, Figure No. 1. Ahihi-Kinau is 2,045 acres in size. It is one of four Natural Area Reserves on the island of Maui, and, significantly, it is the only Natural Reserve Area in the State of Hawaii which contains a marine component.

Ahihi-Kinau was the first Natural Area Reserve to be designated by Executive Order No. 02668. The Reserve protects several unusual communities associated with recent lava flows including anchialine pools, subterranean lava tubes and aeolian systems on the surface of the flows. These communities provide habitat to native plants and animals, several of which are considered rare.

Ahihi-Kinau encompasses both land-based and marine ecosystems. The Reserve ranges from 160 feet below the ocean surface to about the 500 foot elevation at Ka Lua o Lapa, a conspicuous cinder cone which is believed to have erupted as recently as the late 1700s, representing the last-known eruption of Haleakala.

Recently, the Natural Area Reserve Commission recommended that the Board of Land and Natural Resources approve a one-year Special Use Permit to a Native Hawaiian family for the continued exercise of traditional and customary fishing practices in the Ahihi-Kinau Natural Area Reserve. A network of trails within the Reserve affords access to its various land and ocean resources and assets. A map of the Reserve is attached hereto as Exhibit "1". The map shows Cape Kinau as it extends into the ocean then wraps around and adjoins Keoneoio/La Perouse Bay to the south, the most inland portion of which is constituted by the Keoneoio Fish Pond.

B. Designated Park Lands

The Makena-La Perouse State Park has long been planned, in part by the Department of Land and Natural Resources, State of Hawaii. This Park, as a whole, includes a Pu'u o Lai Recreational Complex and, traveling south, a trail along the ocean to the Ahihi-Kinau Natural Area Reserve and trails traveling in a southerly direction on coastal lands adjacent to Keoneoio/La Perouse Bay, thereafter to Cape Hanamaniao and beyond to the border of the Honua'ula District at Kanaio and Kanaloa Point. Plans for this state park have not been abandoned.

The Maui County Council and the Maui Planning Commission have agreed that these lands should be set aside for park purposes. The existing Kihei-Makena Community Plan map, attached to the DEA as Figure No. 11, shows that the areas covered by the Makena-La Perouse State Park have been designated for park uses. This designation includes the subject parcel.

The DEA also notes that the Maui County zoning for the subject parcels is Park and R-3 Residential. No map is attached to the DEA, however, showing which portions of the project site are designated Park and which are designated R-3 Residential. A map with these designations clearly depicted should be included.

The project proposed by the Applicant is incompatible with the Ahihi-Kinau Natural Area Reserve and inconsistent with the Makena-La Perouse State Park and the Maui County Community Plan designation as Park. The DEA fails to address these issues.

III. THE DESCRIPTION OF THE PROJECT IS MISLEADING

The DEA fails to fully disclose the size and scope of the demolition and reconstruction project. Approximately five acres of the 12.27 acre property is comprised by the Keoneoio Fish Pond. This leaves approximately seven acres for development. A 1,249 square foot residence was constructed in 1938. A 1,833 square foot residence was constructed in 1961. A total of 3,082 square feet was devoted to single family residential uses. These two buildings will be demolished.

In their stead, two other "single family residences" will be constructed, one 4,285 square feet in size and the other 1,746 square feet in size, for a total of 6,031 square feet. The reconstruction will double the size of the existing single family dwellings. The roofs of the new structures also appear to be higher than those of the existing houses. The 4,285 square foot main house is actually four separate structures joined together by covered walkways. See DEA, Figure No. 10. Its footprint is considerably larger than the footprint covered by the existing dwellings.

The orientation for the main residential structure, driveway and turnaround are concentrated toward the property's western boundary with the Ahihi-Kinau Natural Area Reserve. Compare DEA, Figure No. 3 with DEA, Figure No. 4. The existing dwellings, which will be demolished, are low-key and fit well with their surroundings. Marie Olson, a kamaiana to this area, lived as a caretaker in one of these houses. The DEA describes on page 6 the subject property as being situated

... along a rugged and rustic coastline approximately 4 miles from the Makena Resort. The surrounding land is primarily lava fields, which is reflective of this rural and open setting. (Emphasis added.)

The proposed residence depicted in DEA Figure No. 5A. is a large, prominent building out of context and in the wrong place. There is nothing "rustic" about the proposed project.

IV. THE PATTERNS OF LAND DEVELOPMENT IN MAKENA-LA PEROUSE

A. Resort Development

As of the early 1970s, the Polo Beach Club was the southernmost outpost of resort development in the Makena area. From the Polo Beach Condominium, the Old Makena Road wound along the coastline past Pu'u Olai to Keoneoio/La Perouse Bay. This was as far as most people traveled.

Keoneoio/La Perouse Bay is the entry to an undeveloped, wilderness area. Keoneoio/La Perouse Bay and the areas that surround the bay are highly valued by local residents. The area from Keoneoio/La Perouse to Kanaloa Point is particularly valued because it is undeveloped.

Resort development has steadily encroached towards Pu'u Olai. The Makena Surf Condominium project and then the Seibu Resort were developed among others. An improved road was constructed as far as Oneloa ("Big Beach"). This opened up the area to increased traffic and has led to more intense use of the coastal resources.

B. Large Homes Along the Coastline

Increased ease of access has encouraged development along the Makena-La Perouse coastline. Large, imposing single family residences have been wedged along the coastline. Older, smaller, more Hawaiian residences have been demolished. High privacy walls have been constructed along the roadside boundaries of these new residences.

The coastline has been privatized and gentrified and use of shoreline and coastal areas by Maui residents has been curtailed or effectively eliminated. Access points to the ocean and trails along the ocean have been blocked. In many places the shoreline and ocean can no longer be seen because of walls, residential structures and landscaping. Most significantly, Maui residents have often abandoned favorite or preferred places for fishing, recreation and relaxation because they no longer feel comfortable in areas dominated by 4,000-5,000 square foot single family residences and their related improvements.

These residences along with their adverse impacts have steadily advanced along the coastline in the Keoneoio/La Perouse direction. In some instances, these large "single family residences" have been located on Conservation District lands.

The proposed Schatz project would be a new southerly extension in the development of the Honua'ula coastline. This is a cumulative impact which has not been considered in the DEA. An action "shall be determined to have a significant effect on the environment" if it is individually limited but cumulatively has considerable effect upon the environment. H.A.R. §11-200-12(b)(8).

V. INCONSISTENCY WITH THE COMMUNITY PLAN AND ZONING

An action shall be determined to have a significant effect on the environment if it conflicts with the State's long-term environmental policies or goals. H.A.R. §11-200-12(b)(3). One vehicle for the expression of these goals is in the Hawaii State Plan, HRS Chapter 226 which, in part, authorizes the adoption of County General and Community Plans.

The Special Management Area Rules and Regulations applicable in Maui County further define a significant effect as an action which is inconsistent with the General Plan, the pertinent Community Plan and/or zoning. See MCC §12-202-12(e)(2)(H).

The continuation of uses that are similar in size and scale to those which currently exist on the project site may be unavoidable. However, the doubling of the size of these structures, the siting of the new structures and improvements closer to the Ahihi-Kinau Natural Area Reserve, and other features of this proposed project, are avoidable and inconsistent with long-term plans for the area.

The project is inconsistent with the Makena-La Perouse Park planned by the Department of Land and Natural Resources. The project is inconsistent with the Kihei-Makena Map Plan designation as Park. The project is inconsistent with the zoning designation as Park and R-3 Residential.

These constitute significant adverse impacts. No expansion of the size and scope of the existing uses can be permitted in the face of these inconsistencies.

VI. THE PROJECT IS INCOMPATIBLE WITH THE ADJOINING NATURAL AREA RESERVE

Activities or actions which occur off-site can have significant adverse impacts upon park resources. It does not matter that the proposed action is to take place on land adjoining the Ahihi-Kinau Natural Area Reserve. An off-site project, such as this one, can have significant adverse impacts upon the Natural Area Reserve.

The uses of the project site are being shifted and reoriented so that they are closer to the Reserve on the property's western boundary. The Schatz complex will create an adverse visual impact for those within the Reserve. The existing residences are low key unlike the proposed structures which will be far more visually intrusive when seen from adjoining lands as well as from the ocean.

Furthermore, a network of trails exists along the coastline, within the Ahihi-Kinohiwa Natural Area Reserve, linking the Keoneoio Fish Pond and other shoreline resources. This Fish Pond is not perceived by many members of the public and Native Hawaiians as the private property of Mr. Schatz. It is a historic and cultural resource, access to which has always been available.

There is no discussion in the DEA about the network of trails in the area and the access that they provide along the coastline to and from the Keoneoio Fish Pond. These beneficial uses are threatened and may be curtailed. This curtailment constitutes a significant effect on the environment. H.A.R. §11-200-12(b)(2). The proposed project which is off-site and adjacent to a Natural Area Reserve may have significant adverse impacts on the Natural Area Reserve and users of the Reserve.

VII. IMPACTS ON CULTURAL AND HISTORIC RESOURCES AND LACK OF CULTURAL IMPACT ASSESSMENT

The DEA does not contain any cultural impact assessment. It is inadequate and needs to be rewritten for this reason alone. There are substantial uses of the coastline on both sides of the property and within it, including the Keoneoio Fish Pond. The DEA notes that Native Hawaiians previously lived in and used the area extensively.

The DEA also notes the existence of significant historic sites on the properties. The DEA, however, entirely neglects to assess the cultural impact of more than doubling the size of the buildings on the property through the construction of expensive and imposing new structures, which will dramatically alter the character of the property and the context for several important historic sites and features.

In addition to acknowledging the obvious significance of Keoneoio Fish Pond (Site 4199) and the ruins of a former Hawaiian Congregational church (Site 4466), a cultural assessment would have made it plain that portions of the old boundary walls are significant as well. This includes the sections of a stone wall along the Makena-Keoneoio Road, which are an integral part of the cultural and physical landscape.

The land on which this project is to take place has obvious cultural importance and this project will have significant cultural impacts, which must be addressed.

VIII. THE STUDY OF ALTERNATIVES IS INADEQUATE

The DEA discusses alternatives on pp. 4-5. Alternate sites are addressed and rejected in a cursory and unsupported fashion because of "... the lack of suitable building areas, greater impact on views, less privacy, and proximity to possible cultural and historic sites." DEA, p. 5. There is no adequate substantiation for these claims. In the same fashion, alternative sizes and configurations for the "single family residence" are rejected "based on the Schatz family size and their long-term family goals." DEA, p. 5.

The DEA fails to discuss the importance of one of the most notable features of the property -- the presence of sand dune deposits extending landward from the small sandy cove. These deposits cover an area approximately 2 to 3 acres in size in the northwestern portion of the property. The archaeological inventory survey report describes the sand deposits running from the Makena-Keoneoio Road to the project's main dwelling as "relatively thick."

Because of the possibility that burial and/or other subsurface cultural features and remains may be present in the dune deposits, archaeological monitoring will be required during ground disturbing activities in the area. What is troubling is that the main text of the DEA does not identify the extent to which these sand dune deposits will be affected by the proposed project, in particular the construction of the main residence and driveway.

To our knowledge, the small sandy cove and the sand dune deposits that extend behind the cove toward the Makena-Keoneoio Road may be the last significant dune deposits along the Honua'ula coastline. Not only is it perhaps the southernmost deposit in Honua'ula, these sands are all that remain of what was likely a larger dune area prior to the most recent volcanic eruptions in the late 18th century. These remaining dune deposits captured between a'a flows are all that we have left to link with the place name of the area -- Keoneoio, the bone fish sand.

The DEA fails to consider the effect of siting the project on the sand dune deposits. The DEA does not meet the content requirements for an Environmental Assessment as set out in H.A.R. §11-200-10(6) which requires that the impacts of alternatives considered be addressed.

IX. REQUIREMENTS OF THE COASTAL ZONE MANAGEMENT ACT

A. An SMA Is Required

The Applicant claims that a Special Management Area permit is not required because the proposed project is for a single family residence which is exempt from the definition of "development" in HRS Chapter 205A. The County of Maui Planning Department would err as a matter of fact and law if it were to exempt this project on these grounds. First, this is not a "single family

residence" and the "related improvements" are not accessory to a single family residence.

B. CZMA Objectives and Policies

Agencies reviewing permit applications for projects lying within the Coastal Zone Management Area must determine whether or not the project is consistent with the objectives and policies of the Coastal Zone Management Act. This project is not consistent with these objectives and policies. The DEA purports to address these objectives and policies on pp. 34-35. The Applicant has selectively chosen several policies and included self-serving statements about them.

The DEA fails to address objectives and policies with which this project is inconsistent. For example, the Coastal Zone Management Act provides the authority to locate structures to minimize their adverse impacts. Second, there is no adequate analysis of the impact of drainage and sewage on the marine resources in the area.

X. ADVERSE DRAINAGE IMPACTS

There is only a cursory analysis of drainage impacts. The claim that pre-development runoff and post-development runoff will be the same cannot be supported as a matter of fact given the doubling of the size of the structures. The fact that the underlying lava rock is pervious does not mean that the runoff will not end up in the near shore ocean waters. There is no analysis of these impacts.

XI. ADVERSE SEWAGE IMPACTS

The Applicant proposes to install a septic tank and leach field to accommodate sewage. The Department of Health discourages the use of these systems on coastal properties. This is because there is a likelihood that the sewage will migrate into the ocean and adversely impact marine resources and ocean water quality. This would be even more likely here because of the pervious nature of the lava rock.

The DEA neglects entirely to discuss drainage and sewage impacts on coastal resources. This error is all the more egregious here when the waters and marine resources which could be affected are those within the Ahihi-Kinohi Natural Area Reserve.

XII. A PROPER ANALYSIS OF THE SIGNIFICANCE CRITERIA
DICTATES THAT AN EIS MUST BE PREPARED

The purpose of a DEA is to determine whether or not a project "may" have significant adverse impacts. If so, an Environmental Impact Statement must be prepared, according to HRS Chapter 343. It is only when an Applicant can demonstrate definitively and convincingly in the DEA that the project will

not have any significant adverse impacts that a Finding of No Significant Impact ("FONSI") can be entered.

The DEA does not properly analyze the significance criteria. The preparer simply concludes, without any support, that according to the significance criteria set out in H.A.R. §11-200-12, the action will not have a significant effect on the environment.

Instead, it should be clear that a proper analysis of the significance criteria indicates that the project must be determined to have a significant effect and, therefore, an EIS must be prepared for reasons including, but not limited to the following:

1. The project may lead to an irrevocable commitment to loss or destruction of natural and cultural resources;
2. The project may curtail the range of beneficial uses;
3. The project does conflict with the State's long-term environmental policies and goals;
4. The project may affect the social welfare of the community because of the further gentrification and privatization of the coastline;
5. The project may involve a substantial degradation of environmental quality through drainage and sewage impacts;
6. The project may be individually limited but has a cumulative impact with respect to the patterns of land development in the area;
7. The project may substantially affect rare, threatened or endangered species, or their habitat in the Ahihi-Kinaiu Natural Area Reserve;
8. The project may detrimentally affect water quality and ambient noise levels;
9. The project may affect an environmentally sensitive area, the Ahihi-Kinaiu Natural Area Reserve, the estuary and coastal waters.

The anticipated FONSI cannot be entered. Instead, a Notice of the Preparation of an Environmental Impact Statement should be entered.

XIII. APPLICATION FOR A CDUA PERMIT

We reserve the bulk of our comments on the application for a CDUA permit until after an EIS has been prepared. A few preliminary comments on the CDUA application are noted below:

A. Board Approval Required

The Applicant's CDUA application form included within the DEA indicates that he seeks a departmental permit pursuant to §13-5-33. This would be inappropriate and subject to challenge. A Board permit is required pursuant to H.A.R. §13-5-34. The Department of Land and Natural Resources is requested to make it clear that a Board permit is required and not a departmental permit.

B. A Public Hearing Must Be Required

There are preliminary indications that the Department of Land and Natural Resources is not requiring a public hearing pursuant to H.A.R. §13-5-40. That regulation provides, however, that: "Public hearings shall be held: (4) on all applications determined by the chairperson that the scope of the proposed use, or the public interest requires a public hearing on the application." The scope of this proposed use and the public interest compel a public hearing on this matter. We respectfully request that the Chairperson require that a public hearing be held on this matter based upon this provision.

C. Criteria for a CDUA Permit

The DEA contains an analysis of the criteria for a CDUA permit. We do not believe that these criteria have been satisfied but will withhold our comments on these criteria until a later date.

D. Criteria for Single Family Residences

This project plainly does not meet the criteria of the Department of Land and Natural Resources for single family residences in the Conservation District. Allowing the construction of a "guest cottage" is inconsistent with previous Board practice and well as with the objectives of the general subzone, as these are set out in H.A.R. §13-5-25(c). In addition, it is questionable whether the proposed project is for a "single family residence," of the kind which should be allowed in the Conservation District, next to the Ahihi-Kinaiu Natural Area Reserve and within the area set aside for the Makena-La Perouse State Park.

Thank you for the opportunity to comment upon these matters. We trust that you will not enter a FONSI and that you will either (a) require the rewriting of the DEA or (b) notify the Applicant that a full EIS must be prepared.

Kindly notify us, in advance, of any future hearings or meetings on this matter. Should only a departmental permit be required, kindly provide us with advance notice and an opportunity to provide data, documents and other evidence which would compel the denial of a CDUA permit for the project, as presently proposed.

Please contact us if you have any questions about any of the above. We look forward to hearing from you.

Sincerely yours,

Isaac Hall

Isaac Hall

Dana Naone Hall

Dana Naone Hall

IH/jp

cc: Hui Alanui o Makena
Keauhou o Honua'ula, Inc.
Chris Hart & Partners, Fax 242-1956, 1955 Main St., Suite 200, Wailuku
HI 96793
Mr. Douglas Schatz, 1625 Sharp Point Drive, Fort Collins, CO 80525
Office of Environmental Quality Control, Fax 586-4186, 235 S. Beretania
St., Suite 702, Honolulu HI 96813

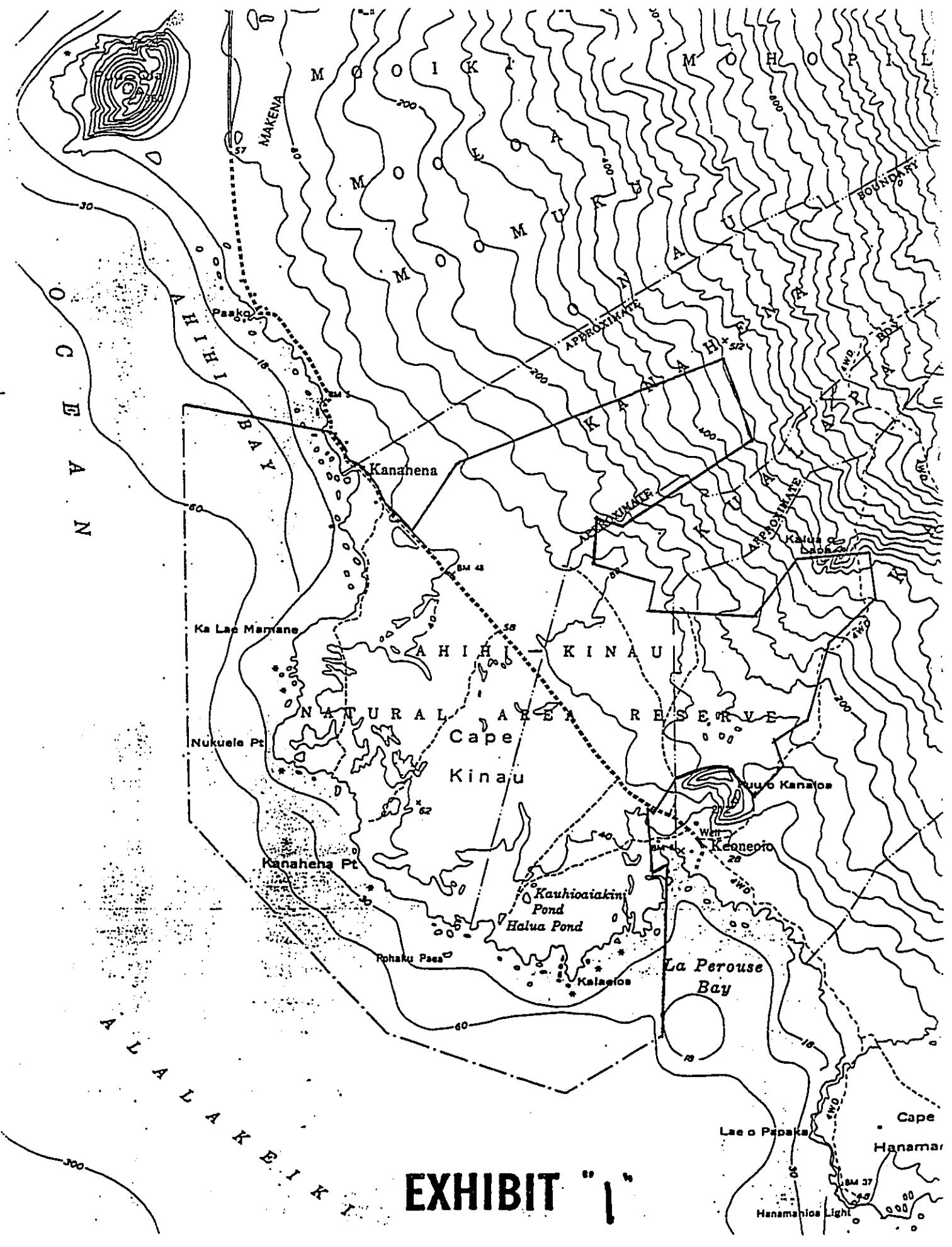


EXHIBIT "1"



May 31, 1999

Ms. Dana Hall
Mr. Issac Hall
2087 Wells Street
Wailuku, Hawaii 96793

RE: Responses to Comments on the Draft Environmental Assessment for the Schatz Residences and Related Improvements, La Perouse Bay, Houa'ula, Maui, Hawaii, TMK 2-1-4: 46 and 48

Dear Issac and Dana Hall:

This letter is in response to your comment letter dated March 10, 1999, regarding the proposed Schatz residences and related improvements at La Perouse Bay, Honua'ula, Maui (TMK 2-1-4:46 & 48). We appreciated the opportunity to visit the site with Dana Hall and Leslie Kuloloio on two separate occasions. The site visits and discussions provided an opportunity for closer examination of the contextual setting of the proposed action. The following are responses to your comments in the order they were received.

I. Introduction- Size and Scope of Project.

As discussed in the Draft Environmental Assessment (EA), the proposed residences conform to the Single Family residential criteria included in the Conservation District Rules. In particular, total amount of development on each parcel fall under the maximum Developable area requirement as established by the rules. In addition, and as further discussed below and throughout the EA, project plans have incorporated numerous mitigation measures in order to minimize potential adverse impacts to conservation resources.

II. A. Ahihi-Kinau Natural Area Reserve (NAR)

We will include a map in the Final EA which accurately shows the boundary of the NAR. The boundary does not include the Schatz property, including the Keoneoio fishpond, as you seem to imply in your letter.

II. B. Park Lands

We see no conflict with the State's plans for the Makena-La Perouse State Park and the proposed project for the following reasons.

1. The established trails and coastal accesses in the area will not be directly impacted by the proposed residences.
2. As will be discussed below, the proposed project has been sensitively sited and designed and mitigation measures have been incorporated which will minimize visual impacts to adjoining public properties.

3. At the time that the State Park plans were developed, the property had been in residential use for some time. The presence of the estate at La Perouse was noted in the first paragraph on the first page of the State Park plan report as an acknowledgment of existing conditions.
4. Based on information provided by Mary Evanson as part of her comments on the subject application, we saw no mention in the park plans regarding the need for the state to acquire this estate in order to successfully implement the park. In fact, the figures of archaeological features at the La Perouse complex in the park plans exclude the subject property.
5. You note that plans for this park have not been abandoned, yet we are not aware of any attempt by the State to make an offer to purchase the subject properties in the twenty years or so that this park has been in the planning stages.

With regard to the County's Community Plan and zoning designations, we note that State Law establishes that lands within the State Conservation District are to be exclusively controlled by the State Board of Land and Natural Resources (see discussion below under item V and also §205-5(a), HRS.) Thus, while the County zoning map depicts the majority, if not all, of both parcels as having R-3 residential zoning, in apparent recognition of its long established use, the County has no power to regulate land uses on this property. Per your request we will include a copy of the County's zoning map for this area in the Final EA.

III. Project Description

For your clarification, only one of the existing structures will be demolished, as correctly noted in the Draft EA. The caretaker's residence on parcel 61 will remain and is not part of this application as noted on page 4 of the Draft EA. Unfortunately, in the first paragraph of the project description on page 3, the report mistakenly noted that the existing structure to be demolished was on parcel 48. It is actually on parcel 46, as shown in Figures 2, 4 and 15, and as accurately noted throughout the rest of the Draft EA. In sum, the action will result in the demolition of one structure that will be replaced with another larger structure on parcel 46. A new structure will be built on parcel 48, for an overall net increase of one dwelling.

Aside from the incorrect parcel reference in the first paragraph, we feel that the project description on pages 3 and 4 is accurate and that the information provided by it and by the other figures of the report gives the reader an accurate understanding of the scope of the project.

As noted in the Draft EA, the dwelling sites were chosen in order to avoid potentially sensitive sand deposits as well as archaeological features. The larger dwelling on parcel 46 will be located in similar proximity to the NAR as is the existing dwelling and is located further away from the ocean. The site of the larger dwelling allows for substantial screening by existing vegetation which provides the primary basis for our conclusion that there will not be substantial negative impacts to public views in the area. In addition, as noted in the project description, building materials and colors have been specifically selected in order to blend in with the surrounding natural environment.

We will include additional figures and language in the Final EA to provide the reader with a understanding of the basis for our statements that the project will have minimal visual impacts to the public.

IV. Land Development Patterns

As documented throughout the Draft EA, the subject property has been an area of active human settlement since the pre-contact era. In this century, major uses have included a slaughterhouse and shipping point for cattle, military occupation and continual residential use since 1938. Thus, we do not consider the proposed project as introducing a new extension of development along this area of coastline.

We do not see a basis for determining the inevitability of cumulative impacts by encouraging new coastal development in the nearby vicinity. Large tracts on either side of the properties owned by Mr. Schatz are State owned and are given greater protection via their more restrictive sub-zone designations as well as their Natural Area Reserve (NAR) status.

V. Community Plan and Zoning

Your letter claims that the project will have a significant impact since it conflicts with the State's long term environmental policies or goals based on your statement that the project is inconsistent with the County's community plan and zoning. However, for lands located within the State Conservation District the controlling environmental policies and regulations are under the exclusive control of the State Board of Land and Natural Resources and are explicitly specified in the Conservation District Rules. The subject property has been placed in the General subzone, the most permissive of the four subzones defined in the Conservation Rules. Abutting properties to the west and southeast are within the Protective subzone, the most restrictive of the four subzones. Single Family dwellings are listed as an identified land use within the General subzone and are further regulated by the single family dwelling criteria which have been incorporated as a part of these rules. (See Exhibit 4 of said rules.) As documented in the subject EA, the project is consistent with goals, objectives and policies of the Conservation District, the objectives of the General subzone as well as the single family dwelling criteria. Since these are the controlling environmental policies for lands within the Conservation District, we feel that we have adequately documented that the project will not have a significant impact based on its consistency with the State's long-term environmental policies or goals.

VI. Natural Area Reserve - Compatibility and Public Access

The new dwelling site will be only slightly closer to the property boundary (approximately 17 feet), however, this move is mitigated by the presence of existing vegetation and proposed landscape plantings. Also, since the dwelling site is being moved in a mauka direction, it is farther away from the fish pond as well as the trails within the NAR as compared to the existing dwelling. As noted earlier, we will include additional language as well as figures in the Final EA to provide the reader with a better understanding of the basis for our findings of minimal visual impacts from the NAR.

With regard to the network of trails in the area, we note that the public has access to the shoreline on either side of the Mr. Schatz's properties. To the west is the trails of the NAR which originate at Makena-Keone'o'io Road and proceed in a makai direction to the lava

flow of the NAR. Once on the lava flow there appear to be a number of accesses to the coast, including the boundaries of Mr. Schatz's property. To the southeast, public access is provided to the coastline at the end of the paved section of Makena Keone'o'io Road. Neither of these two access areas will be directly impacted by the proposed residences. The potential for curtailing uses of these trails through adverse visual impacts has been mitigated through maintenance of existing vegetative buffers, additional landscape plantings and sensitive selection of building design and materials which will blend in with the natural vegetative backdrop.

VII. Impacts on Cultural and Historic Resources

We agree that at present there are substantial uses of the coastline on both sides of the property, however, the majority of these uses would not be considered traditional and customary Hawaiian uses. In fact, the traditional and customary uses of the area to the west, i.e. fishing and gathering of ocean resources, have been eliminated through the NAR designation (with the recent exception made for the Lu'uwai family.) As you are aware, other current uses and activities to the south east are heavily impacting the area's natural and cultural resources.

In order to more fully address cultural uses of the area, we conducted oral interviews with individuals who have lived in the area or who have practiced traditional and customary uses for some time. In consultation with Dana Hall and Leslie Kuloloio, we identified Ms. Marie Olsen, a thirty year resident of the property, Mr. Rudy "Boogie" Lu'uwai, Mr. Robert Lu'uwai and Mr. Eddie Chang as individuals who could provide additional information regarding culturally important uses of the area. An informal oral history group interview, "talk story" session was conducted with Boogie Lu'uwai, Eddie Chang and Marie Olsen on May 2, 1999. In addition, personal discussions with Robert Lu'uwai were held.

The discussions indicated that the primary cultural activities in the area over the last couple of generations were almost entirely related to the gathering of ocean resources, e.g. fishing, opihi picking, and limu gathering. Prior to 1960, access to the coastline in the Keone'o'io area was virtually unimpeded. This was changed with the permanent occupation of the site by a property owner who had a number of aggressive dogs. After that time most individuals accessing the area by land avoided the residential areas of what began to be referred to as the Carter Estate. In 1973, the State designated the neighboring property as a NAR and this almost entirely eliminated traditional and customary ocean related activities to the west of the property. We will include additional discussions regarding the above information in the Final EA.

With regard to potential impacts to cultural or historic resources that may exist on the property we offer the following. The Draft EA noted the significance of the boundary walls on-site, including the boundary walls. A detailed description of these features were included in the Archaeological Inventory Survey, which is included in the Draft EA, and they were given site numbers. The a stone wall along Makena-Keoneoio Road is designated as State site no. 50-50-14-4467. This was described and shown as site 4467 in the report (pg. 15). The stone wall will not be impacted except for the opening of an access way for the new driveway. This opening will allow for further data recovery by a qualified archaeologist, which could in turn provide more data about the origins and historical importance of the wall. In sum, the proposed dwelling sites were chosen in order to avoid impacting any identified historic sites or areas that may have a high probability of containing historic sites. The dwelling sites are in areas that have been in residential

associated uses, i.e. driveway, lawn area, and tennis courts, for nearly forty years. The sand deposits were avoided as well as the eastern portion of the property which contains a majority of the identified archaeological sites. As such, extra precaution has been taken to minimize potential impacts to historic sites on the property.

VIII. Alternatives

Avoidance of the sand deposits on the property was a primary factor in determining the preferred house sites. This fact was omitted in the discussion of alternatives and will be included in the final EA. We also provide a more specific statement indicating that the existing archaeological features are primarily located on the eastern portion of the property, and that this was also an important aspect of the site selection process.

As discussed with Dana Hall and Leslie Kuloloio during the site visits, much care was taken during the site planning to keep land alterations to a minimum. The two house sites were selected based on relatively flat topography and since they were areas previously impacted by residential uses and structures (tennis court). Similarly, the driveway was carefully planned in order to minimize the need for land alterations. Necessary grade changes are shown in the draft EA in Figures 3 and 6. As these figures show, very little excavation will occur for the driveway, the maximum being an approximately two foot grade change on a short section of the driveway.

We do not agree with your statement that the EA does not meet content requirements of HAR §11-200-10(6) which requires that "impacts of alternatives considered be addressed" (page 7 of your 3/10/99 letter, emphasis added). Rather, section §11-200-10(6) reads that environmental assessments shall contain "Identification and summary of impacts and alternatives considered" (emphasis added.) As noted above, and pursuant to your request, we will add language to our Alternatives section in order to provide a more complete summary of alternatives considered, however, we will not go into detail regarding potential impacts of alternatives which we do not intend on pursuing.

IX. Requirements of the Coastal Zone Management Act

A. SMA Requirement

The proposed action involves the construction of two single family dwellings and accessory structures and improvements, each on a separate parcel. The proposed dwellings conform to the single family dwelling criteria found within the Conservation District Rules. Your letter provides no factual basis to conclude that these dwellings and their related improvements are not single family residences which are exempt from SMA permitting requirements.

B. CZMA Objectives and Policies

The information continued within the Final EA as well as the CDUA, will provide the Department and Board of Land and Natural Resources adequate data with which to consider the project's relationships to the State's CZM Objectives and Policies. Our document summarizes the project's relationship to the primary objectives which are applicable to this action.

X. Drainage

As noted in the Draft EA, potential impacts from increased runoff will be mitigated by a net reduction in impervious surfaces and by relocating new structures inland compared to existing features. We will include specific data and additional discussion in the Final EA indicating that the net reduction in impervious areas will be approximately 3,657 square feet. With regards to your concern that the potential porosity of the site may increase freshwater discharges to the ocean, we note that all rainfall on the site either percolates into the soil, evaporates, is used up by plants, or sheetflows off the property. A reduction in the amount of impervious surfaces will lead to increased percolation and less runoff (assuming no change in amount or types of plant cover). This is water that would have normally reached the groundwater table. Lessening runoff and resultant direct discharges to water bodies is considered a positive environmental effect. Concerns about potential contaminants that may be picked up and transported via runoff will be mitigated by directing runoff from driveways and roof tops to vegetated areas which act as natural filters and by incorporation of soil erosion prevention measures as outline in the Final EA.

XI. Wastewater

As noted in the Draft EA, at present wastewater disposal is via a cesspool. The Department of Health will not allow continued use of this form of wastewater disposal. Based on the DOH rules relating to wastewater disposal for single family residences in unsewered areas, an individual wastewater system consisting of a septic tanks and leach fields is an acceptable method of wastewater disposal if is located at least 50 ft. from the shoreline. In this subject application, the systems have been located approximately 245 feet and 100 feet from the shoreline. Thus, the septic tank and leach field would be an acceptable form of treatment from the Department of Health's perspective.

XII. EIS is Not Warranted

The conclusions regarding the significance criteria are made in consideration of the detailed discussion found in the body of the Draft EA. The project's impacts are addressed in relation to each of these criteria in detail throughout the report. With the incorporation of responses to agency and public comments, the Final EA will support a Finding of No Significant Impact.

XIII. CDUA Permit

A. Board Permit

You are correct in noting that a Board permit will be required.

B. Public Hearing

A Public Hearing will be held on June 1, 1999 at 6:00 at the Planning Department Conference Room in Wailuku.

C. CDUA Criteria

The information contained in the Final EA and the CDUA documents how the project meets the criteria for issuance of a Conservation District Use Permit.

Issac and Dana Hall
RE: Response to Comments - Schatz Draft EA
May 31, 1999
Page 7

D. Single Family Residential Criteria

The subject application is for two single family dwellings, each on a separate parcel. Both parcels are owned by Mr. Schatz. Each dwelling conforms to the single family residential criteria found within the Conservation District Rules. Rather than file two separate applications, the permits were consolidated. This allows for a more comprehensive analysis regarding the potential for cumulative impacts.

Thank you for your comment letter, if you have any questions or comments regarding the above please do not hesitate to contact me at 242-1955.

Respectfully,


Rory Frampton,
Project Planner

cc: Mr. Tom Eisen, DLNR
Mr. Douglas Schatz
Mr. Tim Farrington, AIA
OEQC

From:
Sierra Club, Maui Group
P O Box 2000
Kahului, HI 96733

March 8, 1999

To: Douglas Schatz
1625 Sharp Point Dr.
Fort Collins, Co. 80525

Re: Comments on DEA, Proposed Residence, Keoneo'io, Maui

Dear Mr Schatz,

Members of our group have reviewed the DEA prepared for your proposed residence on the shoreline property located adjacent to Maui's Ahihi-Kina'u Natural Area Reserve.

It appears that you and your consultants have tried to consider the very sensitive nature of this site. However, there are a number of factors which almost guarantee that your proposed project will have deleterious impacts on the area. For that reason, our group would urge that the BLNR deny a Conservation District Use Permit for the project as proposed.

Our concerns begin with the fact that the subject property is surrounded by public lands and waters on both sides. The State of Hawaii once had a far reaching plan for this whole area as a Natural Area Reserve continuing on into a state park.

At various public meetings in the 1970's there was discussion of the Carter property (now Mr. Schatz's) being the location of a caretaker's residence for the park area. This type of use would not only place an important historical site (the ancient fishpond located on the subject property) under public protection, but minimize the conflicts that inevitably occur when private property is surrounded by a popular public recreation site.

The residences proposed for the site will also have an irrevocable impact on the surrounding environment. Presently, the waters surrounding this region are among the clearest to be found on Maui. If this complex of buildings, landscaping and swimming pool are constructed, that will gradually begin to change. Runoff from roofs, parking areas and landscaping will carry pollutants into the near shore waters, which are now free of such impacts from the existing, low key /low use structures on the property.

Discharge of chlorinated waters from the proposed swimming pool is also a real threat in an area known for its extensive subterranean passageways. Any

septic system would inevitably interact with these structures and effluent could contaminate nearby ocean waters and ponds.

The lava flows upon which this property sits are honeycombed with underground passages feeding into a series of nearby anchialine ponds. Anchialine ponds are a very rare and fragile ecosystem, found only a few places in the world. Their presence in the Cape Kina'u area helped spur the state to purchase this area and set it aside as the very first Natural Area Reserve. It would be extremely imprudent for the state to approve any use such as proposed by the Schatz plan on land immediately connected to such a delicate ecosystem.

One last concern is availability of water for the large residences and features proposed for the Schatz property. The water line which services this area is a 2' PVC pipe which runs along the edge of the 1795 lava flow. There are over 10 other residences (located on the Kihei side of the Ahihi Kina'u Reserve) which also share this rather limited water supply.

Water availability is a constant issue among these neighbors. It is common to have one home's water pressure drop off to a trickle if another decides to water their plants during a dry spell. The current residence on the Schatz property has been inhabited by a caretaker and her family members for many years. Their water demand was very moderate, in keeping with the nature of the system. The large structures proposed by Mr. Schatz are simply not compatible with the available water supply in this area.

We would ask the DLNR to deny a CDUP for this project and urge state agencies to identify this site as a priority for public purchase through the newly proposed Lands Legacy program now working its way through Congress. The local office of the Trust For Public Lands is very interested in discussing its involvement in intermediary ownership, if Mr. Schatz would be willing to consider allowing this land to be added to the existing public holdings.

Lucienne de Naie
Conservation Coordinator
Sierra Club, Maui Group
(808) 572-8331

cc: DLNR, Chris Hart & Partners-Rory Frampton



June 1, 1999

Ms. Lucienne de Naie
Conservation Coordinator
Sierra Club, Maui Group
P.O. Box 2000
Kahului, Maui, Hawai'i 96733

Subject: Draft Environmental Assessment (EA) for Schatz
Residence, La Perouse Bay, Maui, Hawaii

Dear Ms. de Naie:

We offer the following responses to your comments dated March 8, 1999:

1. **Proximity to public lands and waters.** As you note, the subject property is surrounded by public lands and waters. We are aware of the state plans for a park, however, we are not aware of any desire by the state to expand the current NAR boundary. We see no conflict with the State's plans for the Makena-La Perouse State Park and the proposed project for the following reasons.
 - a) The established trails and coastal accesses in the area will not be directly impacted by the proposed residences.
 - b) The proposed project has been sensitively sited and designed and mitigation measures have been incorporated which will minimize visual impacts to adjoining public properties.
 - c) At the time that the State Park plans were developed, the property had been in residential use for some time. The presence of the estate at La Perouse was noted in the first paragraph on the first page of the State Park plan report, as an acknowledgment of existing conditions.

LANDSCAPE ARCHITECTURE AND PLANNING

1955 MAIN STREET, SUITE 200 • WAILUKU, MAUI, HAWAII 96793-1706 • PHONE: 808-242-1955 • FAX: 808-242-1956

- d) Based on information provided by Mary Evanson as part of her comments on the subject application, we saw no mention in the park plans regarding the need for the state to acquire this estate in order to successfully implement the park. In fact, the figures of archaeological features at the La Perouse complex in the park plans exclude the subject property. Also, the state park plan map specifically excluded the Carter Property from the park area.
- e) Although plans for this park have not been abandoned, we are not aware of any attempt by the State to make an offer to purchase the subject properties in the twenty years or so that this park has been in the planning stages.
2. **Surface runoff.** Your letter is incorrect in assuming that the proposed project will have a greater negative impact on coastal waters compared to existing conditions. As noted throughout the Draft EA, potential impacts from increased runoff and/or non point sources of pollution will be mitigated by a net reduction in impervious surfaces and by relocating new structures further inland compared to existing conditions. The following details clarify these issues:

▪ **Impervious surfaces.** Total impervious surfaces after development will be reduced compared to existing conditions. This is due to the removal of the existing dwelling, tennis court and driveway/turnaround. The amount of new surfaces will be lessened through minimizing the surface of the driveway by using two 3-foot wide paved strips. Also, grid pavers with open areas that permit grass growth and percolation will be used on the flat turnaround areas near the proposed garage. A comparison of the total amounts of existing and proposed surfaces is as follows:

Existing impervious surfaces to be removed:

dwelling & lanai	3,700 sq. ft.
tennis court	7,125 sq. ft.
driveways	<u>7,260 sq. ft.</u>
	18,085 sq. ft.

Proposed improvements:

dwelling, lanais, walkways, etc.	9,105 sq. ft.
driveway	3,435 sq. ft.

pool & pool lanai	<u>1,888 sq. ft.</u>
	14,428 sq. ft.

Net reduction:	3,657 sq. ft.
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▪ **Location of impervious surfaces.** The proposed impervious surfaces will be relocated inland compared to existing conditions, thereby allowing for interception of potential pollutants by vegetative areas and topographic features. Significantly, the proposed driveway will be located mauka of the proposed new dwelling, whereas the existing paved driveway and turnaround are located in close proximity to the shoreline

- 3. Pool Water.** The proposed swimming pool is modest in size and conforms to permit issuance criteria. The pool will not drain directly into the ocean. A fifty-gallon dry well will be located inland to allow for once a week back flushing of the filter. Significantly, no chlorine will be used in the water. The applicant is proposing to use an ozone based disinfection system which is not harmful to the environment.
- 4. Potential Impacts to anchialine ponds.** Waters of the anchialine ponds are fed by basal groundwater which flows in a mauka to makai direction in the area. The ponds within the NAR are located approximately one half mile from the proposed project site and to the westsouthwest. The ponds are not located directly down gradient from the proposed project site. Significantly, the project site is not situated on the Ahihi-Kinau a`a lava flow, rather is situated on a kipuka consisting of oanapuka soil type, see Draft EA. Thus, the project site is situated in a different geological setting than the anchialine ponds. Your assertion of a direct linkage underground between the ponds and the project site is not supported by geologic characteristics of the area. Potential impacts from wastewater will be improved upon compared to existing conditions. Existing wastewater disposal is via a cesspool located approximately 100 feet from the shoreline. This system will be replaced with a septic tank and leach field which will be located approximately 245 feet from the shoreline and which will be located a greater vertical distance from the groundwater table. As you may be aware, a septic tank and leach field system reduces potential impacts to nearshore waters substantially when compared to a cesspool.

Ms. Lucienne de Naie
Sierra Club, Maui Group
Re: Schatz Draft EA
06/01/99
Page 4

5. **Water Service.** The subject property is serviced by a ¾-inch water meter which is located at the end of the County's 12-inch water line near the southern end of Makena State Park (a.k.a. Big Beach). From that point, a private waterline services the subject property exclusively. You are incorrect in assuming that other properties are serviced by this line.

Since the water meter is located at the end of the County's 12-inch line and since no other property is serviced by said water meter, there should be no significant impact to other users along the section of Makena Road between the location of the water meter and the subject property.

Thank you for providing comments on this Environmental Assessment. We hope we have adequately addressed the concerns that underlie your request for a denial of the CDUP. If you have any questions please do not hesitate to contact me at 242-1955.

Respectfully,



Rory Frampton
Project Planner

cc: Mr. Tom Eisen, DLNR
Mr. Douglas Schatz
Mr. Tim Farrington, AIA
Warren Unemori Engineering
Office of Environmental Quality Control

March 9, 1999

Department of Land & Natural Resources
1151 Punchbowl Street
Honolulu, Hawai'i 96813

Attention: Tom Eisen

RE: Schatz Residence & Related Improvements - CDUA & DEA

RECEIVED
DIVISION OF
LAND MANAGEMENT
MAR 10 2 57 PM '99

The applicant is asking that a Finding of No Significant Impact (FONSI) be issued for this project. There will be significant impacts to the site and to adjacent areas. Because of the importance of this entire area of south Maui it would be appropriate that no action be taken at this time.

This entire area of south Maui is unique and archaeological sites abound. The natural and cultural resources of the entire area must be taken into consideration when planning in the area. It would be appropriate at this time to put this proposal and application on hold and explore the possibilities of acquiring the property for public purposes. I have attached several pages from the Makena-La perouse State Park plan that was proposed in the 1970s. This was an enlightened plan that foresaw the pressures for developing this area as Kihei and Wailea grew. Although the plan envisioned a public park from Pu'u Ola'i to Kanaloa, a stretch of coast line some nine miles long, only the Makena State Park at Pu'u Ola'i (Big Beach) has been acquired. A great many people would benefit from public acquisition of this land, another step in making the Makena-La Perouse State Park a reality. The Trust for Public Lands could become involved if Mr. Schatz is willing. No doubt the state and county would plead poverty, but such a plan will take time, Federal monies may be available, they have been for other coastal states. What is needed now is time to work out what will be best for the land and the public.

Sincerely,



Mary M. Evanson

P.O. Box 694

Makawao, HI 96768

Attachments

INTRODUCTION

Background

The study area is located on the southeastern coast of the island of Maui including approximately nine miles of coastal zone averaging 2,500 feet inland from Makena through La Perouse Bay to Kanaloa Point. It is basically an undeveloped area with the exception of several residences located near Ahihi Bay and a private estate at La Perouse Bay.

The State Department of Land and Natural Resources (DLNR) first considered the Makena-La Perouse area as a major park in the early 1960's. Since then, there have been various studies by both the private and public sectors resulting in a continuous research of historical sites, considerations and recommendations for the preservation of the area's natural conditions.

One third of the Study Area was declared by the State as the Ahihi-Kinohiwa Natural Area Reserve in 1973. The purpose of the creation of Natural Area Reserves (NAR) is to preserve and protect environments with distinctive and unique characteristics, therefore, utmost caution must be taken to prevent any environmental degradation of its natural state; this includes the surrounding marine environment. The NAR at Makena is composed of approximately 1,238 acres located at Cape Kinohiwa between Ahihi Bay and La Perouse Bay.

Currently, rapid urbanization in the adjacent Kihei area and growing recreation needs of both residents and tourists focuses more attention on this planned state park.

During the past decade, the Kihei-Makena area indicated a high growth rate, especially for tourist and retirement community oriented facilities. Over 4,000 tourist accommodations were constructed during this period. The growth of the number of visitors to Maui indicates about a 100 percent increase in the last five years, from 1970 to 1975. There are major developments in the vicinity of the park, one is the Wailea Resort and another is the

planned Seibu Resort development including 1,200 hotel units and hundreds of condominium and single-family units. Attendant with the change of the Kihei area to a major tourist destination area is the intensified demand and use of the area's recreation facilities. These recreation facilities and resources must be shared by both the tourist and residents of Maui which creates a competitive situation. Private and public use of recreation resources should be identified. In particular, it may be desirable for some environmentally sensitive or rugged areas to be kept primarily for local use and not developed.

The future land use of the area is governed in part by the County General Plan which designates the immediate area around Puu Olai as rural. Land next to Puu Olai, along Ahihi Bay is planned as residential and the remainder of the Study Area is unplanned.

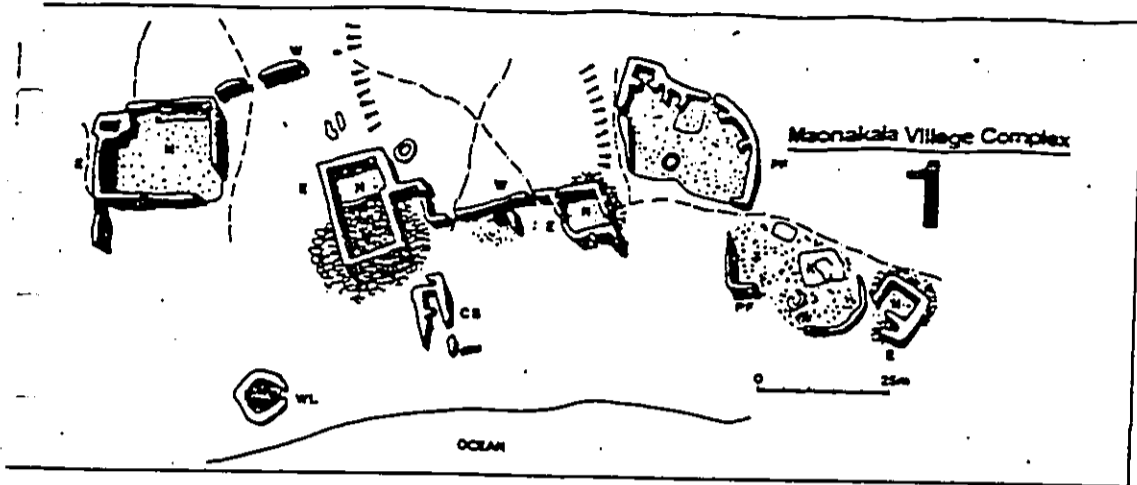
Design Philosophy

The proposed basic design philosophy of the Makena-La Perouse state park is to create recreational access to the area while not disturbing or detracting from the inherent value of its natural condition and historic resources. One goal of the park is to encourage users to recall those precious things which may have been forgotten; clean, clear waters of the ocean; the cooling breezes off the beach; pure, unspoiled white sand and nature flowers and animals. It is also a goal to introduce new experiences such as nature observation and historic sites interpretation programs. As will be described later, the areas of the Natural Area Reserve, La Perouse Bay and Cape Hanamanioa have many natural features of educational interest such as tidal pools, endangered species of fauna within their environment, rocky beach coastline and abundant and varied marine life. Historic site complexes of early Hawaiian settlements are also found in these areas.

The design approach is to establish appropriate uses of the area accommodating both resident and visitor needs. As revealed from input from public workshops with Maui community groups there should be a division of intensive recreation areas which serves both the resident and tourist and preservation of other areas primarily for local use in keeping with environmental considerations.

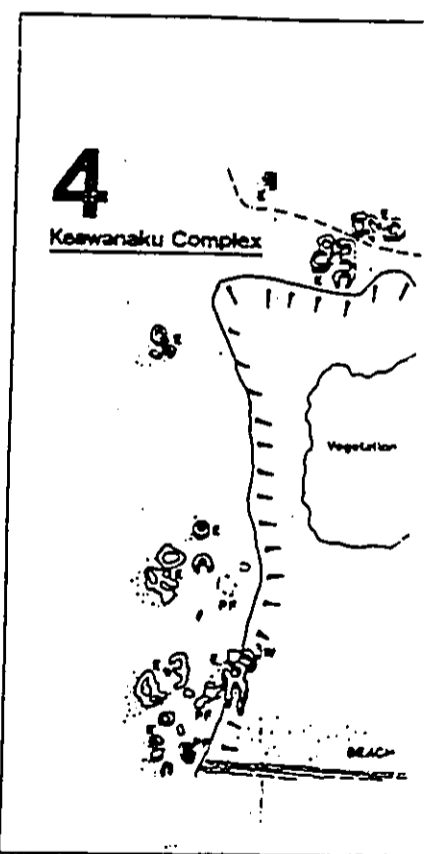
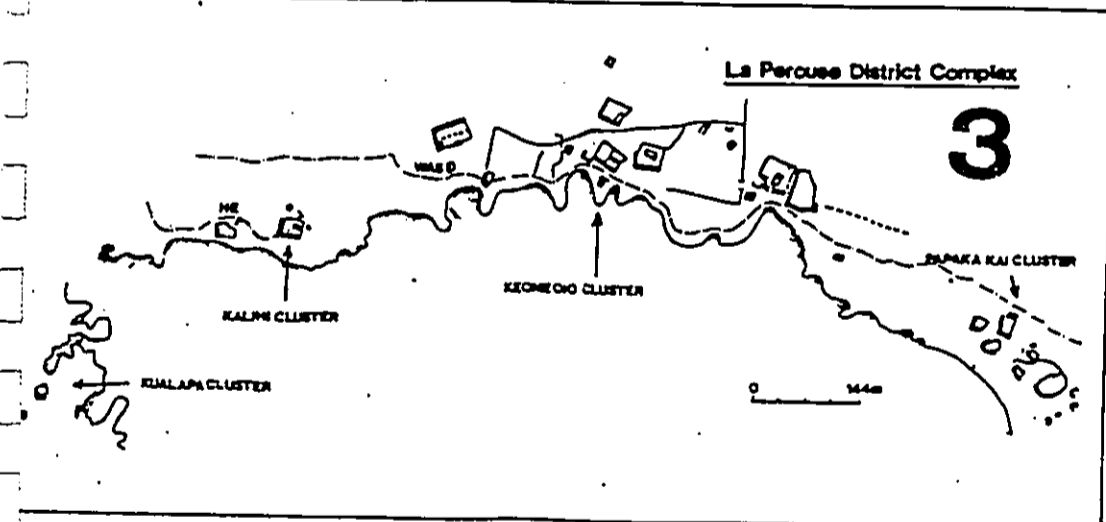
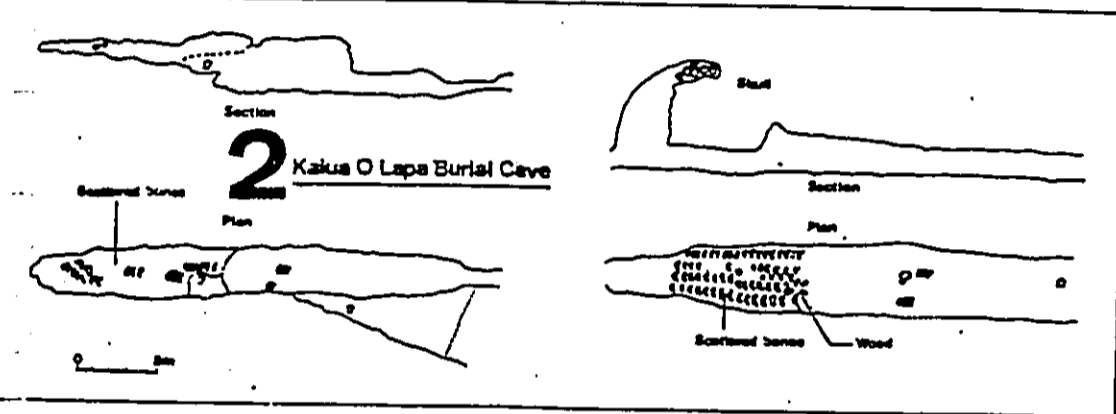
The goals of the park design are summarized as follows:

- 1) Preserve the ecological balance of a valuable natural area of the eastern Maui coast.
- 2) Preserve and protect for future reference to the Hawaiian heritage, significant historic and archaeological sites both those discovered and as yet undiscovered sites.
- 3) Promote preservation of a local "Hawaiian Way of Life" i.e. fishing and opihi picking in rugged areas both for recreation and livelihood.



Legend:

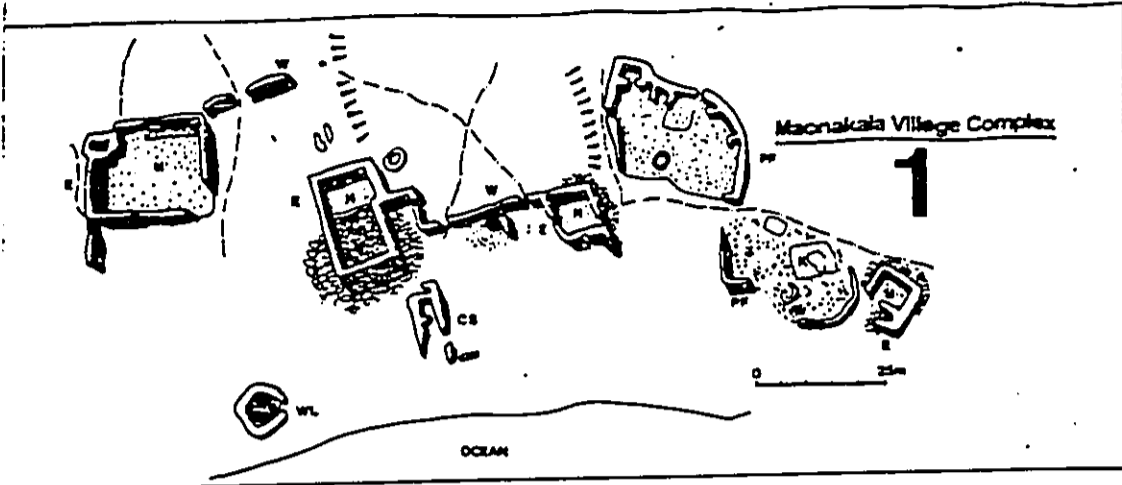
- IP Shell pavement
- SP Stone pavement
- E Enclosure
- H House
- HE Heiau
- K Ko'a
- CS Cane shed
- PF Platform
- WL Well
- G Grave
- M Mound
- CA Cairn
- W Wall
- HP House platform
- BD Bed rock
- S Shelter
- WAS Washer
- Foot trail
- ▬ Slope



MAKENA-LA PEROUSE STATE PARK
Archaeological sites

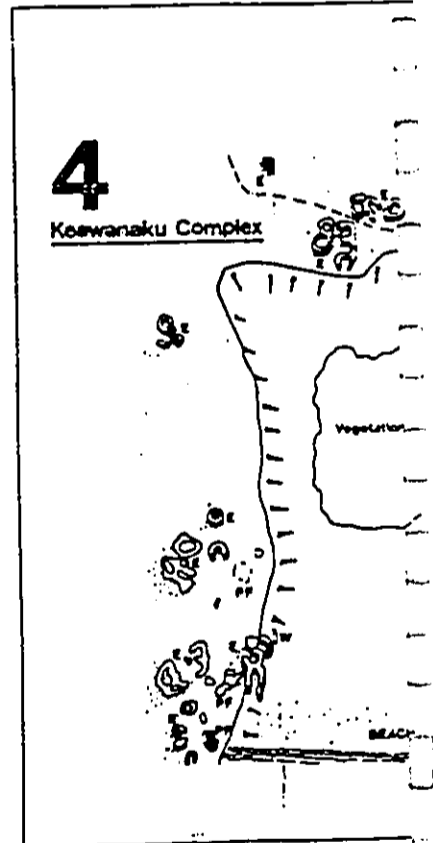
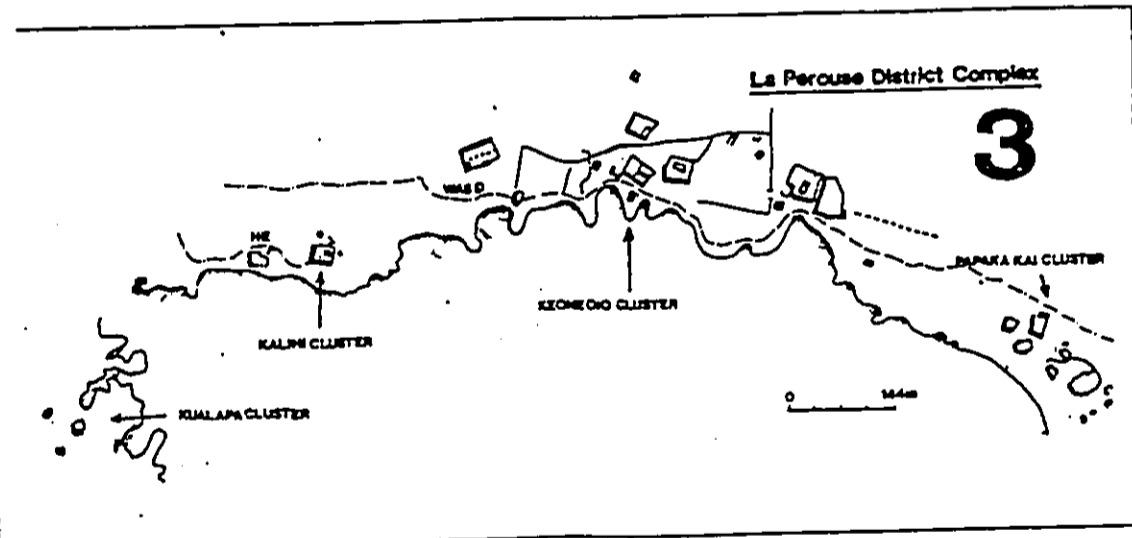
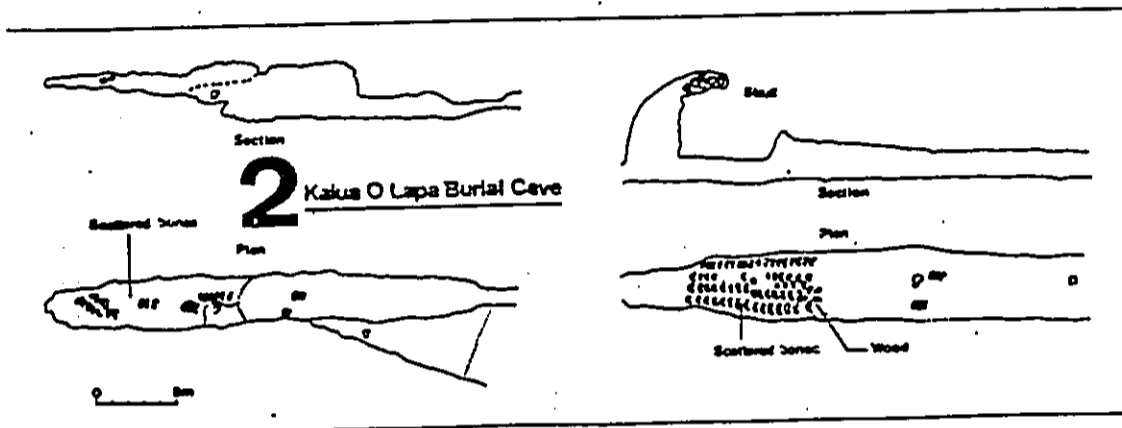
PREPARED FOR
 STATE OF HAWAII - DLNR
 DIVISION OF STATE PARKS
 PREPARED BY
 H. MOO - PLANNING & RESEARCH, INC.
 HONOLULU, HAWAII
 MAY 1977

Scale: DLNR State Parks, Outdoor Recreation & Historic Sites Division



Legend:

- IP III pavement
- SP Stone pavement
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- Foot trail
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MAKENA-LA PEROUSE STATE PARK
Archaeological sites

PREPARED FOR
 STATE OF HAWAII - DLNR
 DIVISION OF STATE PARKS

PREPARED BY
 H. MOOI PLANNING & RESEARCH, INC.
 HONOLULU HAWAII SEP 1977



June 1, 1999

Ms. Mary M. Evanson
P.O. Box 694
Makawao, Maui, Hawai'i 96768

Subject: Draft Environmental Assessment (EA) for Schatz
Residence, La Perouse Bay, Maui, Hawaii

Dear Ms. Evanson:

Thank you for responding to the Schatz Draft Environmental Assessment. We offer the following responses to the comments in your letter to the Department of Land and Natural Resources, dated March 9, 1999:

Impacts to the site and adjacent areas. The Final Environmental Assessment provides detailed documentation regarding potential impacts to the site and adjacent areas. Based on the Final Environmental Assessment's conclusions, we do not concur with your statement that there will be significant impacts as a result of the proposed project.

As detailed in the Environmental Assessment, substantial consideration was given to natural and cultural resources of the area during the conceptual design phase of this project. This is especially so in site selection, minimizing grade alterations, reducing runoff and wastewater disposed, and design and selection of materials.

Acquisition of the land for public purposes. We see no conflict with the State's plans for the Makena-La Perouse State Park and the proposed project for the following reasons.

1. The established trails and coastal accesses in the area will not be directly impacted by the proposed residences.

2. The proposed project has been sensitively sited and designed and mitigation measures have been incorporated which will minimize visual impacts to adjoining public properties.
3. At the time that the State Park plans were developed, the property had been in residential use for some time. The presence of the estate at La Perouse was noted in the first paragraph on the first page of the State Park plan report which you provided, as an acknowledgment of existing conditions.
4. Based on information provided by you, we saw no mention in the park plans regarding the need for the state to acquire this estate in order to successfully implement the park. In fact, the figures of archaeological features at the La Perouse complex in the park plans exclude the subject property.
5. Although plans for this park have not been abandoned, we are not aware of any attempt by the State to make an offer to purchase the subject properties in the twenty years or so that this park has been in the planning stages.

Thank you for providing comments on this Environmental Assessment. If you have any questions please do not hesitate to contact me at 242-1955.

Respectfully,



Rory Frampton
Project Planner

cc: Mr. Tom Eisen, DLNR
Mr. Douglas Schatz
Mr. Tim Farrington, AIA
Warren Unemori Engineering
Office of Environmental Quality Control

LD

28491

March 5, 1999

RECEIVED

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Department of Land and
Natural Resources
1151 Punchbowl Street
Honolulu, HI 96813

DEPARTMENT OF
& NATURAL RESOURCES
STATE OF HAWAII

RECEIVED
DIVISION OF
LAND MANAGEMENT
MAR 9 9 41 AM '99

Re: Draft Environmental Assessment
Schatz Residence & Related Improvements
La Perouse Bay, Maui, Hawai'i

Aloha DLNR:

Douglas Schatz bought the Carter estate property at La Perouse Bay and now wants to construct new buildings there.

The property is adjacent to the Ahihi-Kinau Natural Area Reserve that was established with the intent of preserving the area in its pristine natural condition. The intent was indeed a good one, but the successful attainment of it has been lacking.

Because of the inability of the State to fund adequate steps to protect the Reserve, it has deteriorated over the years due to the increasing numbers of people using the area for personal and commercial recreational activities - often in violation of the rules of the protective Reserve designation. So the traditional practitioners have been displaced while recreational users and others have had increasing opportunities there.

The valuable purpose of the Natural Areas Reserves System is to prevent desecration of special places of Hawai'i. The Ahihi-Kinau Reserve is indeed a place of natural, geological, cultural and spiritual importance, worthy of protection. We have a moral and ethical obligation not to diminish these places and the lives of those yet to see and appreciate their beauty and significance.

This proposed private development project presents a good example of the tension that arises when an individual landowner wishes to improve their personal conditions by improving their property, although the improvements may be inappropriate for the locale. I do not doubt that the Schatz family would be very happy to have their recently acquired property improved in the

manner described by their Environmental Assessment (EA.) I also do not doubt that they feel privileged to be able to afford the proposed project after the many years of hard work and diligent accumulation of wealth that must have made it possible for them to consider the idea in the first place. Their position cannot be faulted from their perspective, and the plans that they have submitted attempt to give due consideration to environmental and aesthetic concerns.

The problem is that they are part of a large crowd of people that has descended on the area in recent years to enjoy the great beauty and presence of the place. As the Kihei and Makena areas have become more and more crowded with daytime recreational uses and with new residences, people seeking natural solitude have of course moved further out toward La Perouse. I have myself found it more pleasant to go there instead of places like Makena where I used to enjoy the natural solitude and quiet (that is no longer to be found in Makena.)

Perhaps being more fond of solitude, I may have gotten to La Perouse a little earlier than the larger crowd that goes there now. I began going there to sit and swim about 1990, as it was then that I began to feel the crowd arriving at Makena. I have often used the Carter estate fish pond as a swimming area (and without disruption, I may add.) However, by a couple of years ago, I began to find that even the La Perouse area was getting to be crowded, and so more recently I have been going further (to the Kahikinui and Hana areas) for outdoor privacy.

Those of us who really enjoy natural solitude and especially quiet natural solitude are rapidly running out of places to find such conditions here on Maui. The summit of Haleakala is a busy and noisy place on most days, all the good beaches have been taken for use by resorts, and most of the more quiet and remote areas are invaded regularly by so-called commercial eco-tourism groups, as well as by local residents and others who have learned where they are located and enjoy them. I enjoy finding a quiet place, seeing what plants and birds are there, meditating and communing with the spirit of the place and often finding inner experiences that are uniquely healing and spiritual.

It is inappropriate to exploit everything. There needs to be a line drawn at some point so that land that is considered a resource for development and exploitation is separated from the

places that are uniquely beautiful and spiritual. In this case, such a line is supposedly drawn by the legal boundary between the Schatz property and the Ahihi-Kinau Reserve.

Just as the State has not been able to pay for the measures necessary to protect and preserve the Ahihi-Kinau Reserve, I fear the new developments proposed by the Schatz EA will contribute to the continuing deterioration of the area. That is not so much a fault of one person or family as it is the absence of the ability to genuinely preserve beautiful and spiritual places from serious exploitation by those willing to advance their personal pleasures at the expense of the place.

It is difficult to personally say that the family that has earned enough wealth to buy and improve a place in the manner of the Schatz project should be denied the opportunity to do so, just as it is difficult to personally say that the less wealthy fishermen and divers and windsurfers and kayakers who find recreational value in exploiting the Reserve for their own personal pleasures should be denied opportunities to do so. However, the net result of such exploitation for the sake of personal pleasures can be easily seen by anyone familiar with the deterioration of the Reserve area.

So I cannot specifically say this application and EA should be denied for reasons that are consistent with the applicable law and regulations. However, I need to express my concern in this case in particular because of my familiarity with the Reserve and how its condition has changed in recent years.

I would be happy if the Schatz family would give the land to the State for inclusion in the Reserve. I would be happy if the State could find the funds and will to make the Reserve work in the way it was intended to work. I suspect those things will not happen, however. My real expectations are that the Schatz family will have the pleasure of the place and that they and the others enjoying it will contribute to its continued deterioration as a beautiful and spiritual area.

Whatever the longer term holds for us all in terms of how we are desecrating the most beautiful and spiritual places of the planet for our personal pleasures, I cannot help but think that in cases where people ignore the impact of their pleasures they do so at their own peril. It may not be seen, but if a place is truly spiritual and it is unwittingly desecrated by those unaware

of how the spiritual nature of the place should be respected, is that not something that implies a risk for the ignorant?

Where people are not cognizant of the impacts of their acts, only intuition or a glimpse of what they are overlooking can be of immediate value in avoiding the acts that cause harm. I hope that my mana`o can give you an intuitive sense or glimpse of the serious situation that I see.

Whether it happens at this time or at a later time, there needs to be a time when the beauty and spirituality of places is more appreciated and upheld by those in possession of the power to exploit them. The power to exploit a place is also the power to preserve and respect the place. Those without such power may appreciate and respect the places, but they cannot really prevent them from being exploited. Exploitation can only be prevented in real terms by those with the capacity to exploit.

Thank you for considering my mana`o.

Aloha,

Bill Smith

Bill Smith
P. O. Box 484
Kula, HI 96790



June 1, 1999

Mr. Bill Smith
P.O. Box 484
Kula, Maui, Hawai'i 96790

Subject: Draft Environmental Assessment (EA) for Schatz
Residence, La Perouse Bay, Maui, Hawaii

Dear Mr. Smith:

Thank you for responding to the Schatz Draft Environmental Assessment. We offer the following responses to the comments in your letter to the Department of Land and Natural Resources, dated March 5, 1999:

We share your concerns regarding the impacts which are occurring to the lands surrounding the Schatz properties, especially the deteriorating conditions at the abutting NAR as well as state lands to the south, from increased recreational usage by residents and visitors.

Your concern regarding the proposed project appears to be the potential for the negative impacts to the environment as well as the overall naturalistic character of the area. As presented in the EA, the project has been carefully planned and designed in order to minimize the potential for negative impacts to the area. The Final EA documents in detail how existing conditions will be maintained or improved upon, especially in relation to visual impacts, runoff, and wastewater disposal. Please contact this office if you are interested in receiving a copy of the Final EA.

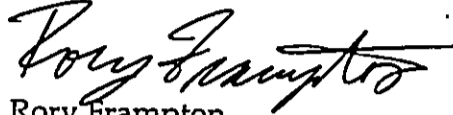
Thank you for providing comments on this Environmental Assessment. If you have any questions please do not hesitate to contact me at 242-1955.

LANDSCAPE ARCHITECTURE AND PLANNING

1955 MAIN STREET, SUITE 200 • WAILUKU, MAUI, HAWAII 96793-1706 • PHONE: 808-242-1955 • FAX: 808-242-1956

Mr. Bill Smith
Re: Schatz Draft EA
06/01/99
Page 2

Respectfully,



Rory Frampton
Project Planner

cc: Mr. Tom Eisen, DLNR
Mr. Douglas Schatz
Mr. Tim Farrington, AIA
Office of Environmental Quality Control