Cunanan Single Family Residence

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

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OFC. OF ENVIRONMENTAL QUALITY CONTROL

February 24, 1997

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File No.: OA-2842
180-Day Exp. Date: 6/4/97

MEMORANDUM

TO: Gary Gill, Director
Office of Environmental Quality Control

FROM: Dean Uchida, Administrator
Land Division

SUBJECT: **Finding of No Significant Impact (FONSI) on Conservation District Use Permit Application #OA-2842 for the Cunanan Single Family Residence; TMK: 4-2-11: 19, Kailua, Oahu**

The Department of Land and Natural Resources has reviewed the comments received on the draft environmental assessment (DEA) during the public comment period which ended January 22, 1997. The comments received and the applicant's responses have been incorporated in the text of the document and inserted separately.

As the approving agency, we have determined that this project will have no substantial impact on the environment.

Please publish the attached final environmental assessment (FEA) in the March 8, 1997 bulletin. We have enclosed a completed OEQC Bulletin Publication Form and four copies of the FEA. An additional copy will be deposited at the Kailua library by the applicant.

Should you have questions, please call Lauren Tanaka at 587-0385.

Enclosures

2

1997-03-08-OA-FEA-Cunanan Single Family Residence

FILE COPY

Environmental Assessment

Cunanan Residence
&
Related Improvements

Kailua, KoolauPoko
Oahu, Hawaii
TMK (1) 4-2-11-19/LOT 1-A-2-A-2

Prepared for:

Romeo And Linda C. Cunanan
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Newnan, GA 30263

Prepared By:

Gordon A. Chapman
Consulting Services
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Honolulu, Hawaii 96816

February 1997

Environmental Assessment
for
Cunanan Residence & Related Improvements

Kailua, KoolauPoko
Oahu, Hawaii
TMK (1) 4-2-11-19/LOT 1-A-2-A-2

Applicant:	Romeo And Linda C. Cunanan 15 Knight Drive Newnan, GA 30263
Approving Agency:	State of Hawaii, Board of Land and Natural Resources
AGENCIES CONSULTED IN MAKING ASSESSMENT:	State of Hawaii, Department of Land and Natural Resources, Historic Sites Section
	State of Hawaii, Department of Transportation, Highways Division
	City and County of Honolulu, Department of Public Works
	Hawaiian Electric Company, Ltd.

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Oahu, Hawaii
TMK (1) 4-2-11-19/LOT 1-A-2-A-2

1. INTRODUCTION

1.1 PURPOSE AND CONTENT OF THIS DOCUMENT

This Environmental Assessment (EA), is in support of a Conservation District Use Application (CDUA) for the construction of a single family residence in Kailua, Hawaii. This (EA) has been prepared in accordance with the provisions of Hawaii Revised Statutes (HRS), Chapter 343 and Title 11, Department of Health, Chapter 200, Environmental Impact Rules, Sections 11-200-9 through 11-200-13 and represents the initial assessment of potential environmental impacts of the proposed project. A description of the proposed project (action); the affected environment; alternatives considered to date; proposed mitigation measures; preliminary impact determinations based on the information presented herein; and the reasons supporting those determinations are provided. The information contained herein has been drawn from site visits, environmental surveys and preliminary planning and engineering studies for the proposed project. Information has also been drawn from generally available sources regarding the environmental characteristics of the project site and surrounding area.

1.2 REGIONAL SETTING

The proposed project, which consists of the construction of a single family residence, would be located on the northeastern (windward) side of the Koolau Mountains above Kailua and Kaneohe Towns and the Pali Golf Course on the Island of oahu, City and County of Honolulu, State of Hawaii (Figure 1). The project building site would be located within the land parcel that is generally bordered on the east, south and west by the Pali Highway and on the north by the "Old Kalanianaole Highway" (also referred to as Kianaole Road), mauka and above the Pali Golf Course (Figure 2). Other than one other single family residence on the makai side of the "Old Kalanianaole Highway", and outside the proposed project boundaries, there are no other residences in the immediate project area. Kailua Town is located about three miles north of the project site and downtown Honolulu is located about six miles south of the project site. The Maunawili residential subdivision is located about one mile to the east of the proposed project location (Figure 1).

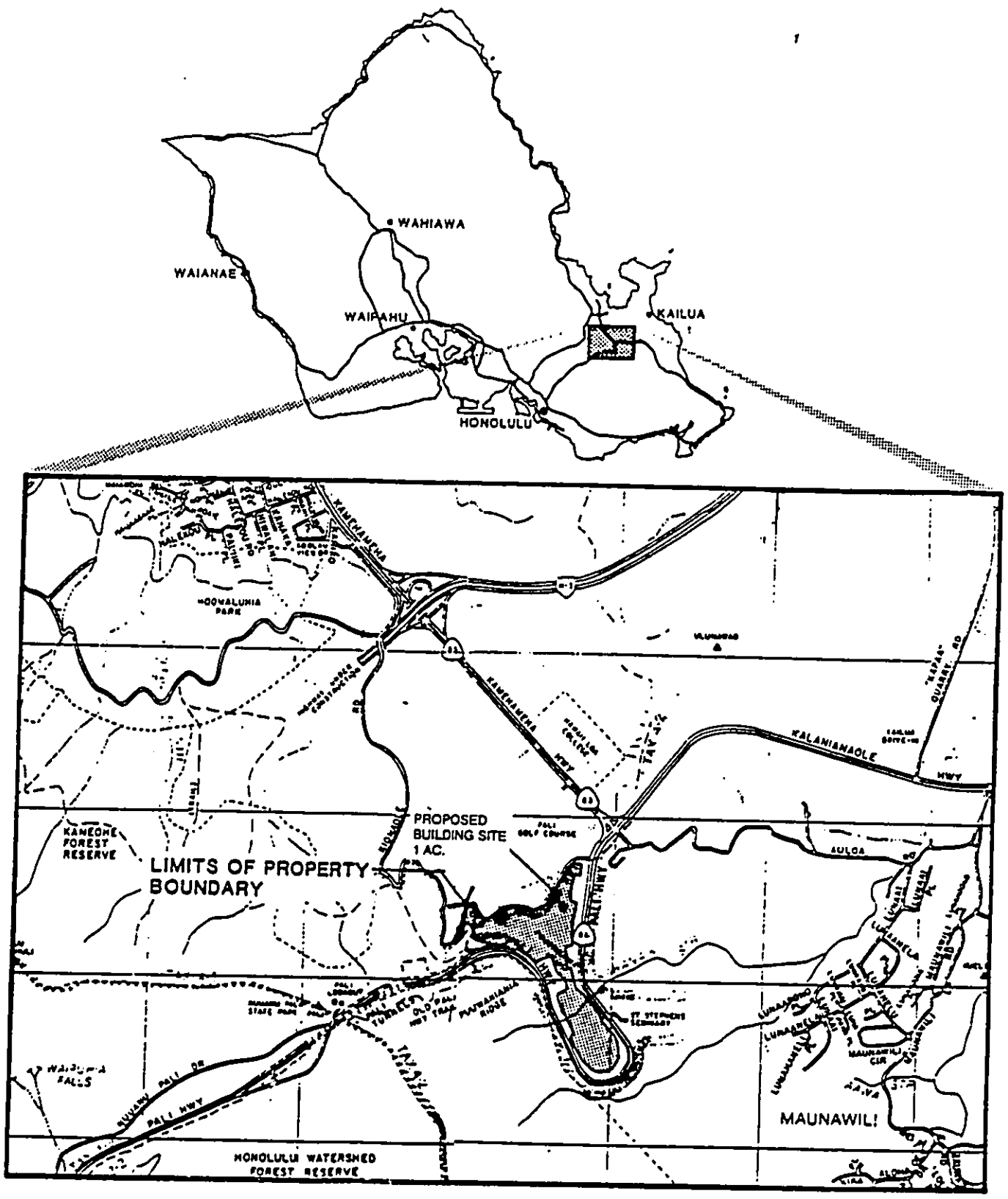

FIGURE: 1
LOCATION AND VICINITY MAP

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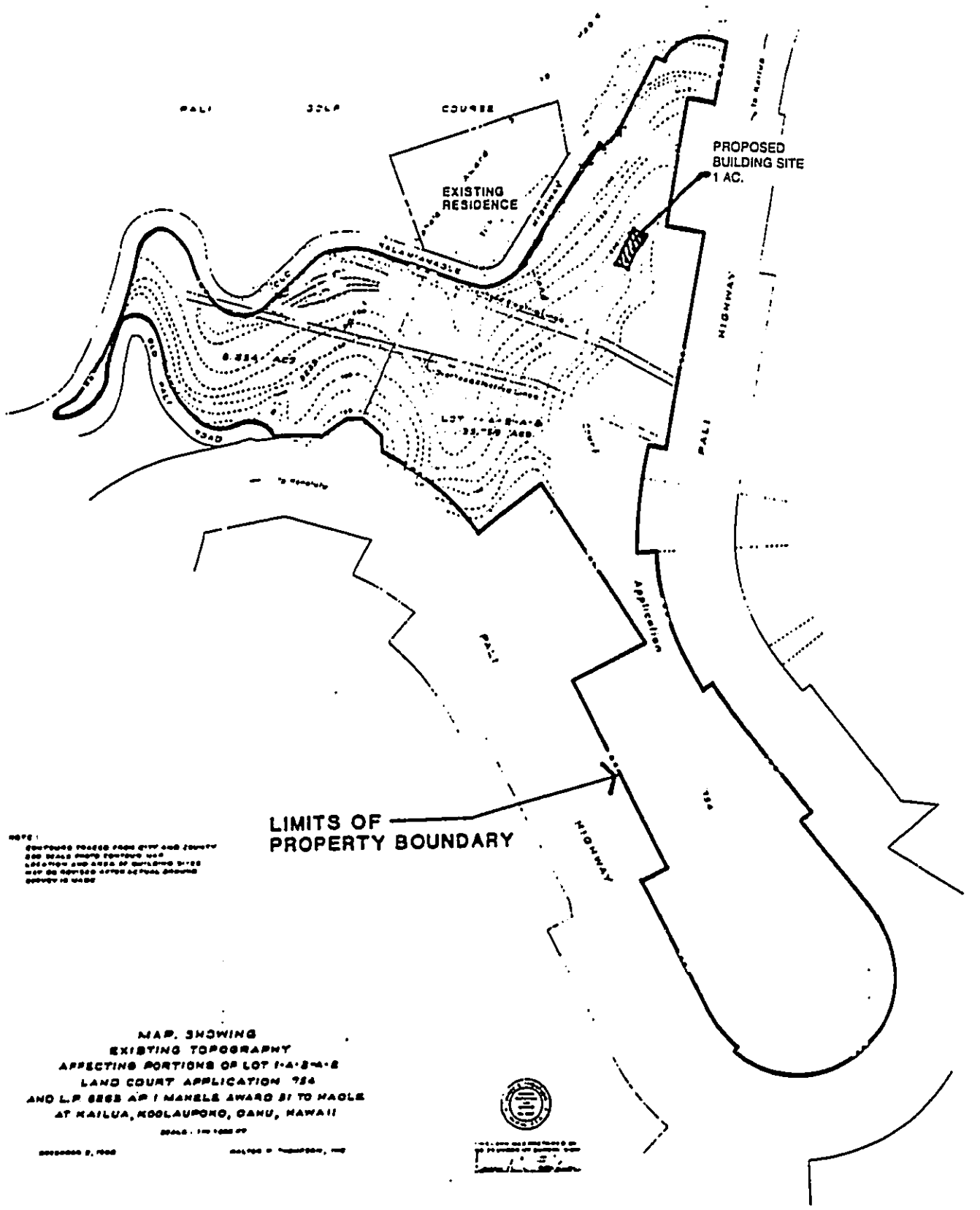

FIGURE: 2
PROPERTY MAP

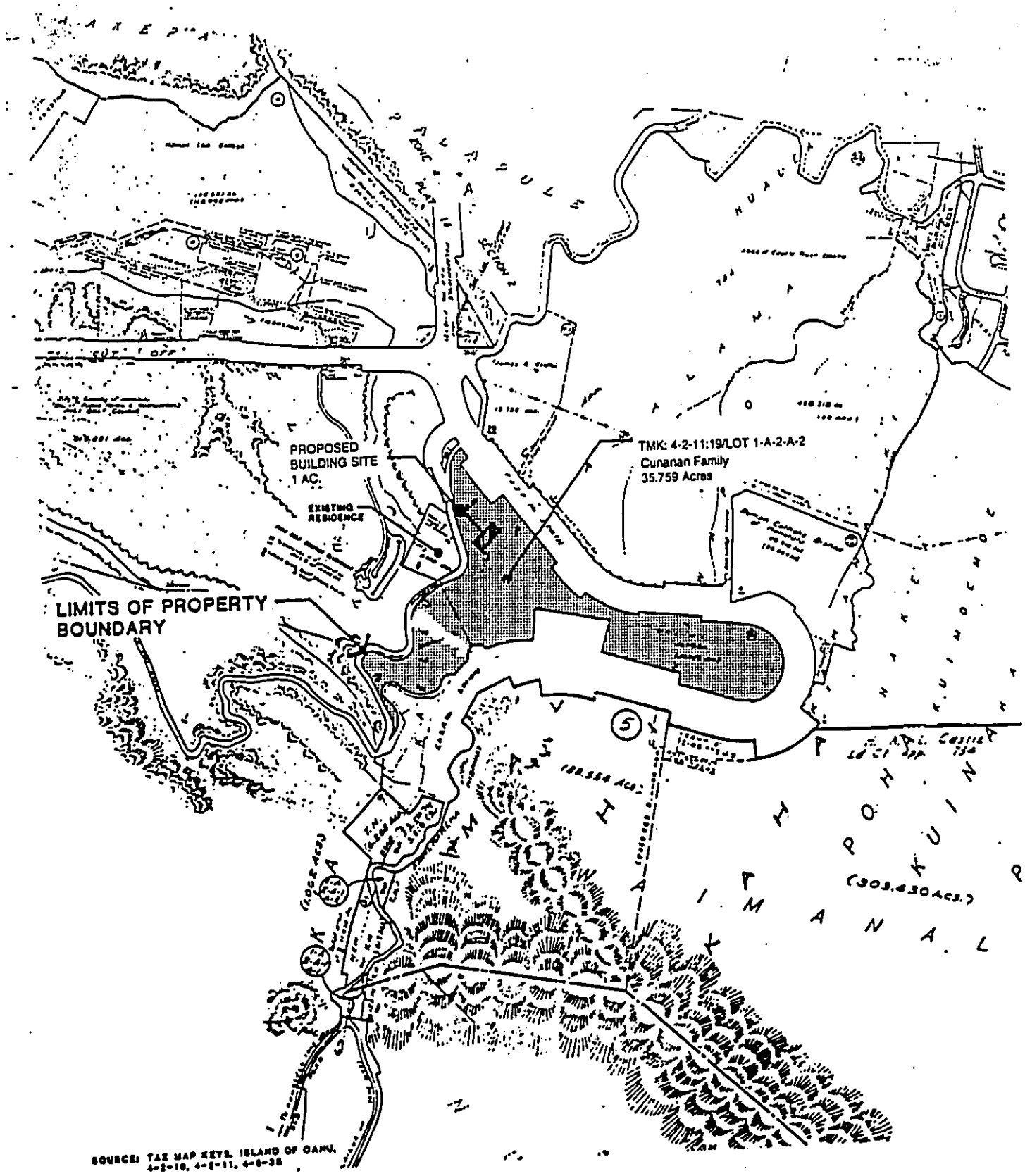

FIGURE: 3
TAX MAP KEY/OWNERSHIP MAP

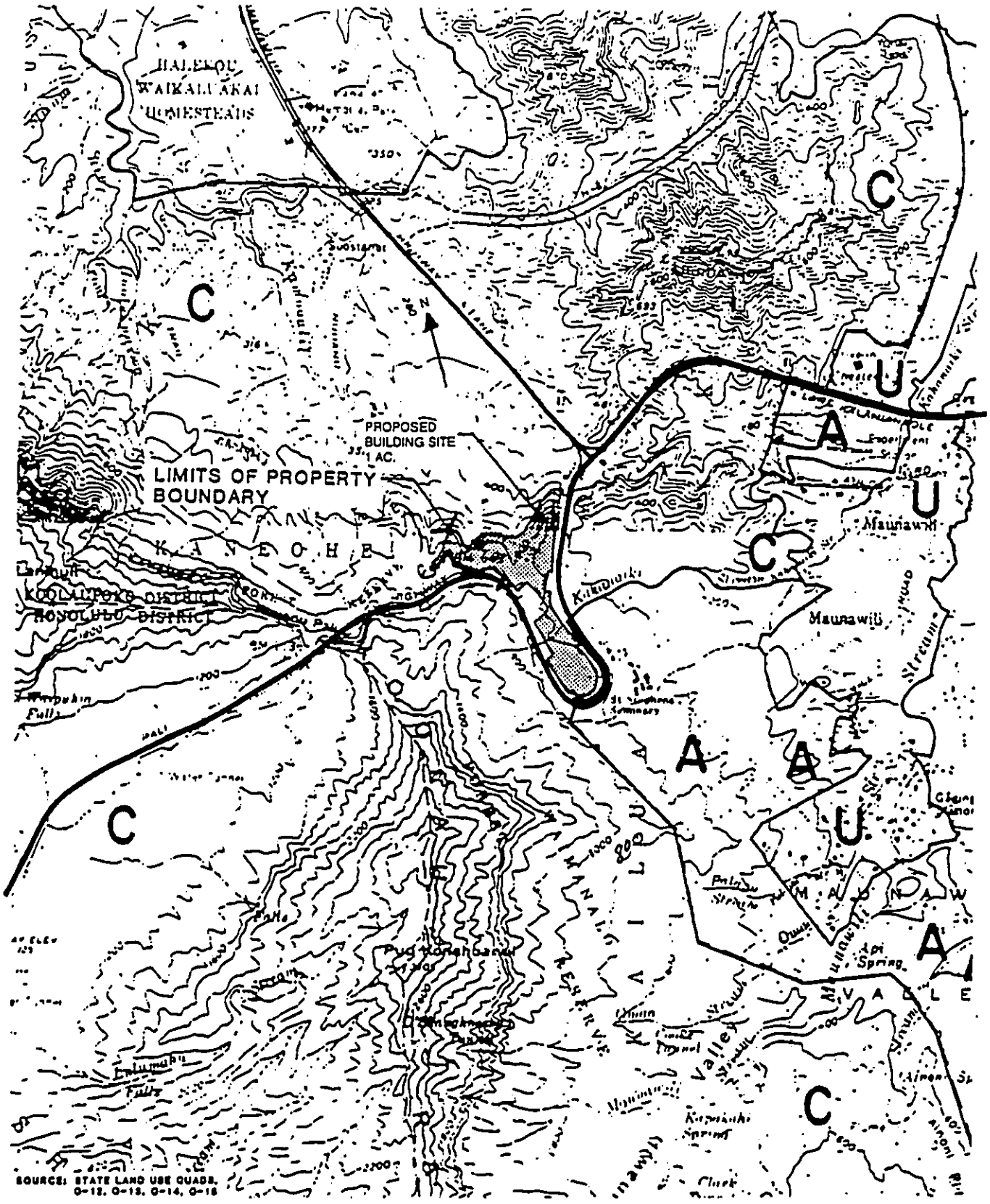

FIGURE: 4
STATE LAND USE CLASSIFICATION

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DOCUMENT CAPTURED AS RECEIVED

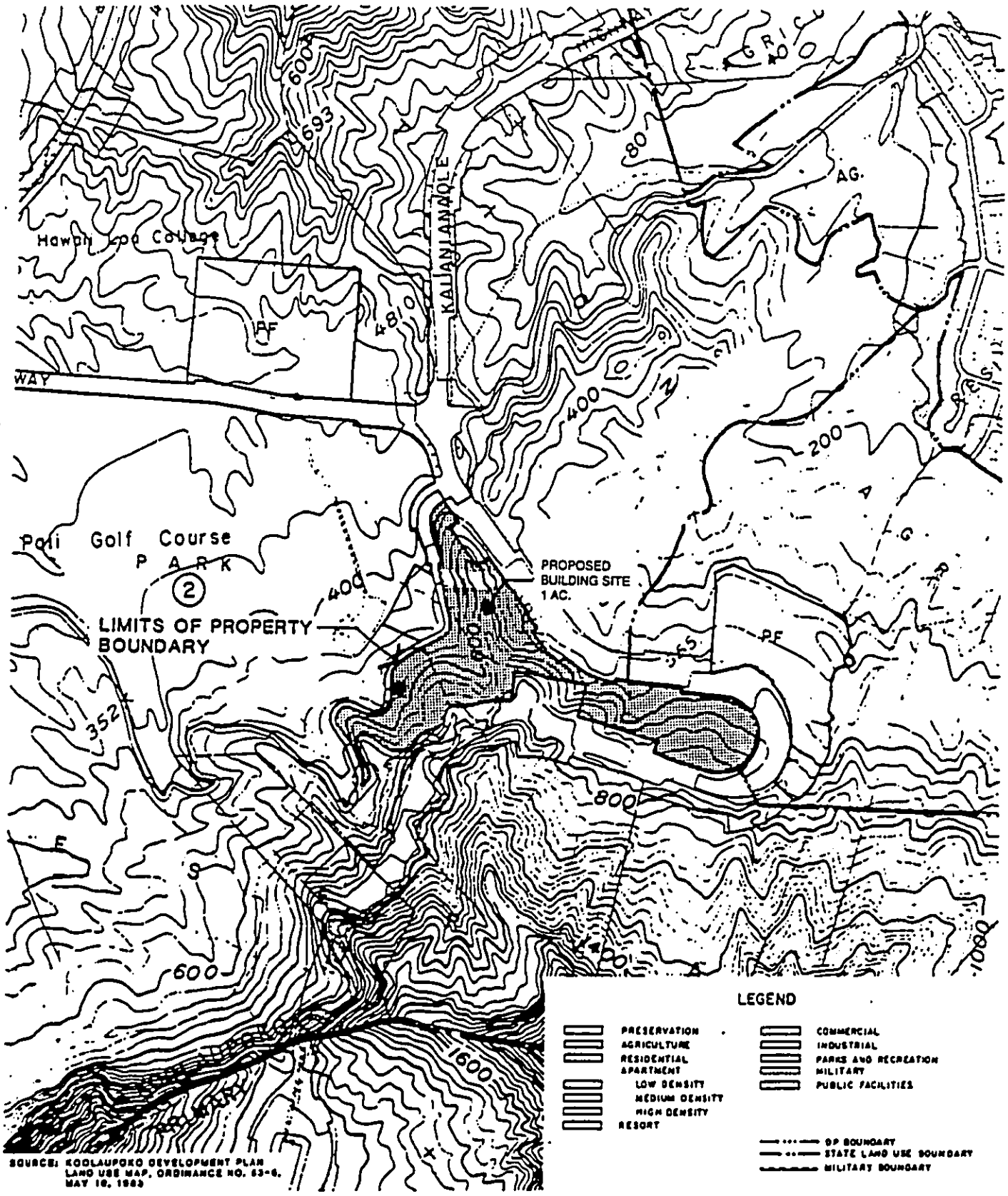

FIGURE: 5
DEVELOPMENT PLAN LAND USE

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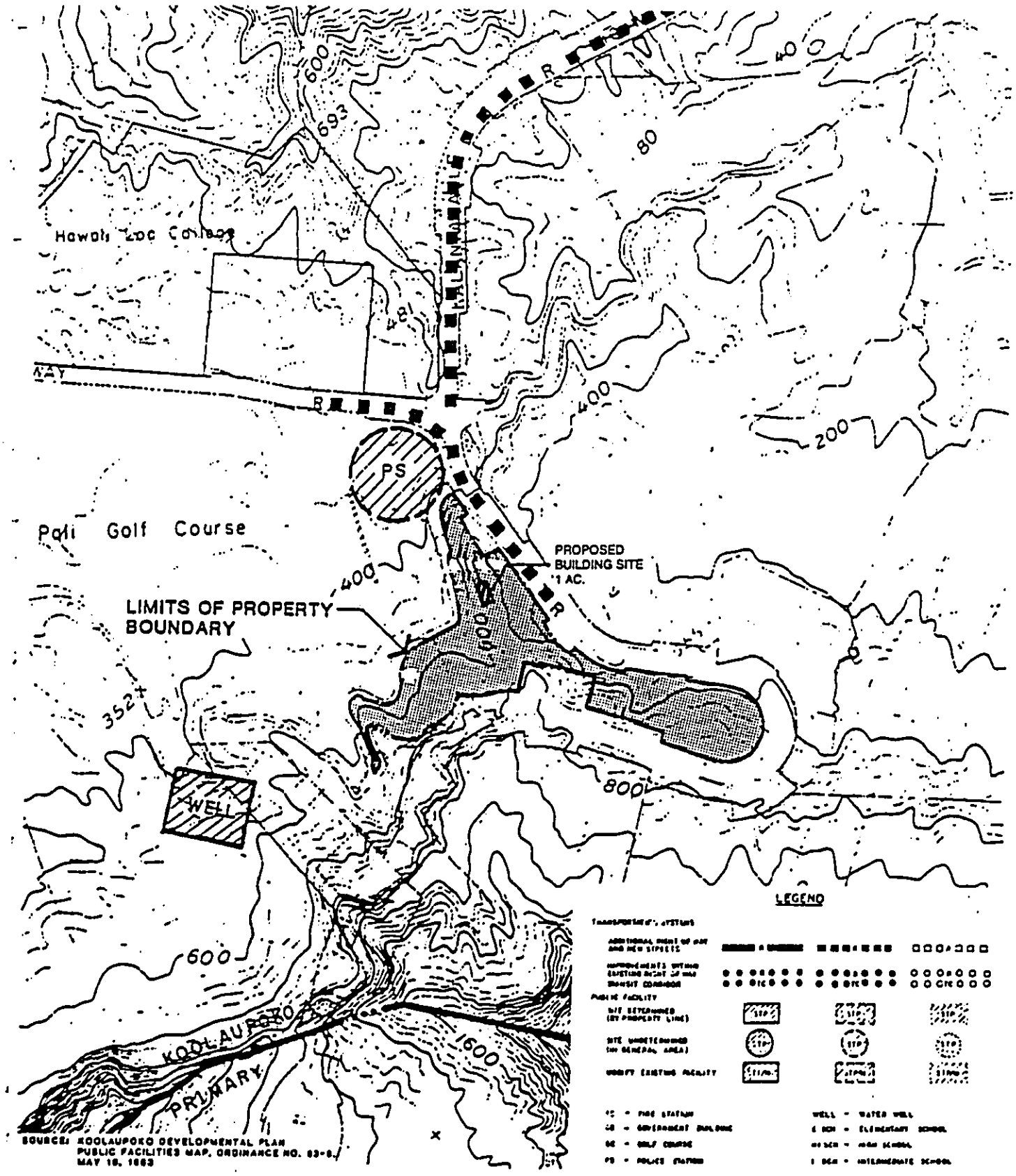

FIGURE: 6
PUBLIC FACILITIES MAP

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CONSULTING SERVICES

Access to the project site is via the "Old Kalanianaole Highway" turnoff from the Pali Highway, approximately one-quarter mile south of the Pali Highway-Kamehameha Highway junction (Figure 1).

1.3 REQUESTED GOVERNMENTAL ACTION

The present State Land Use classification of the property is Conservation; and that the proposed site is designated for preservation use of the Koolaupoko Development Plan Land use Map and Zoned P-1 Restricted Preservation District on Zoning Map No. 22 (Heeia-Kaneohe-Maunawili). The Koolaupoko Development Plan public facilities map shows symbols within the general vicinity of the subject site which represents the following:

a. Publicly funded park golf course/modification (Pali Golf Course Improvements), site determined, with in six years; and
b. Publicly funded police station (Koolaupoko (Kaneohe) District Police Station), site undetermined, beyond six years.

To allow construction of a single family residence the property owner is requesting that the State Board and Department of Land and Natural Resources issue a conservation district use permit (CDUP) for the proposed residence. Similarly, following issuance of the requested CDUP, the property owner will be requesting appropriate permits from the city and county of Honolulu for construction of the proposed single family residence.

1.4 DESCRIPTION AND PURPOSE OF PROPOSED ACTION

1.4.1 Description of Property and Proposed Action

The proposed project includes the following items:

- Acquisition of a Conservation District Use Permit (CDUP) for the construction of a single family residence; and
- Design, construction and habitation of the same residence.

The project site is located on tax map key (TMK) parcel 4-2-11:19/Lot 1-A-2-A-2 comprising 35.759 acres, which is owned in fee by Mr. and Mrs. Romeo Cunanan (Figure 3). The proposed project would include the construction of one single family residence on the building site, shown in (Figure 2). The proposed building lot size within the overall parcel, would be about one acre. At present, the entire parcel is forested and unused with the exception of two sets of Hawaiian Electric Company (HECO) overhead transmission lines (138kV) that traverse the property in a northwesterly/southeasterly direction (Figure 2).
(Note: HECO has perpetual easements from the property owner for the powerlines. The easements, which are 75 feet wide, do not contain relocation clauses. HECO field crews regularly examine the towers and lines for signs of damage or potential damage and take immediate corrective actions if required. Also, the easement areas are regularly cleared of trees and brush to insure that the areas below the towers and lines are clear at all times. Information regarding the potential hazards associated with the powerlines is presented below in Section 2.2.1.5.) The property list presently designated Conservation under the State Land Use Classification. Other Conservation and AgricultUre designated lands border the property (Figure 4). The property is also presently designated Preservation (P-1) on the City and County of Honolulu Koolaupoko Development Plan Land Use Map (Figure 5). There are no public facilities planned for the property as indicated on the City and County of Honolulu Koolaupoko Development Plan Public Facilities Map (Figure 6).

1.4.2 Purpose of the Proposed Action

The proposed action has been designed to provide a privately owned single family residence for the owner's use and disposition. The residence would allow the owner to realize economic and personal gains that are not currently available. Additionally, the proposed project would assist in the provision of single family housing on the island.

2. GENERAL DESCRIPTION OF THE PROPOSED ACTION'S TECHNICAL, SOCIAL, ECONOMICAL AND ENVIRONMENTAL CHARACTERISTICS

2.1 DESCRIPTION OF THE SOCIAL AND ECONOMIC CHARACTERISTICS OF THE PROPOSED ACTION

2.1.1 Existing Conditions

The project site is located within U.S. Census Tract 103.02, which includes the area bounded by the Crest of Koolau Range on the south, the Pali Highway on the east, Likelike Highway on the west and generally, Kamehameha Highway on the north. In general, Census Tract 103.02 includes eastern portions of Kaneohe community, but for the most part is vacant, watershed, recreational (golf course and parks) land or wildlife habitat. This census tract, which has a land area of 2,529 acres, had a resident population of 3,232 in 1980 and 3,370 in 1985 (Hawaii, DBED, 1987). Census data also indicate that there were 817 households in 1980 and that the project area average household size is 4.12 persons. As noted previously, there is one single family residence makai of the proposed building site (Figure 2). This residence is the home of four to five persons.

The economic characteristics of the proposed project area and site are generally indistinguishable from the overall economic characteristics of the windward side of the island. The area primarily serves as a "bedroom" community in which the majority of residents work in downtown Honolulu or other areas of the island. Pali Golf Course and Hawaii Loa College, located on Kamehameha Highway below the project site, are the nearest economic generators in the immediate project area.

2.1.2 Social and Economic Characteristics of the Proposed Action

The social characteristics of the proposed project would be minimal in that the new residence would be added to the area. The home could be expected to add about four or five persons to the area. Presumably these persons would be moving from another area on Oahu, and as such, not increase the overall population of the island or significantly change the social characteristics of the island or area.

The economic characteristics of the new construction that is proposed would be limited to the costs of the construction activities. These costs are minor in comparison to the overall economic characteristics of the City and County of Honolulu and/or state. Employment impacts from the proposed project are expected to be positive during the construction phase but are considered relatively minor when compared to the overall employment patterns of the state or City and County of Honolulu.

2.2 DESCRIPTION OF THE ENVIRONMENTAL CHARACTERISTICS OF THE PROPOSED PROJECT

2.2.1 Existing Conditions and Proposed Actions

2.2.1.1 Geology and Physiography

The geology of the project site, and all of the Koolau Range in which the proposed project is located, is characterized by weathered and heavily eroded volcanics that originated from the Koolau Volcano. The project building site is at an elevation of between 350 and 575 feet above mean sea level (MSL). Surface water runoff is directed naturally downslope.

2.2.1.2 Soils and Agriculture Potential

The U.S. Department of Agriculture, Soil Conservation Service (Soil Survey of Islands of Kauai. Oahu. Maui. Molokai and Lanai. State of Hawaii, 1972), has identified the land types of the project site and building locations as Alaeloa silty clay (ALF), 40 to 70 percent slopes, Alaeloa silty clay, 15 to 35 percent slopes (AeE) and Helemano silty clay, 30 to 90 percent slopes (HLMG). These land types are characterized by moderate to rapid to very rapid runoff in which the erosion hazard is moderate to severe. The land types have capability classifications of VIe and VIIe, non irrigated; pasture groups 3, 6 and 15 and woodland groups 6 and 15. These land types are commonly used for pasture, woodland, wildlife habitat and home sites. The building site is located on land type ALF.

The soils of the project area building site have also been examined, primarily for their overall agricultural productivity and designated importance to the state. According to the Detailed Land Classification Island of Oahu, University of Hawaii Land Study Bureau, 1972, the project building site is classified as E109. The E rated soils are considered virtually impossible to work because of excessive rocks and/or steep slopes.

Agriculturally, the project land is not classified within the State Department of Agriculture, Agricultural Lands of Importance to the State of Hawaii (ALISH).

2.2.1.3 Climate and Meteorology

The climate of the project area is typical of Hawaii's climatic conditions in mid-level elevations and/or at the base of steep mountain ridges. Generally, there is greater seasonal and diurnal temperature variation than at lower elevations. Although monthly temperature averages vary only by a few degrees from the warmest months (July and August) to the coolest months (January and February), daily daytime and nighttime temperatures can fluctuate greatly. Daytime temperatures can range from the low 80's (degrees F.) to low 70's (degrees F.). In general, due to the tall vegetation that limits the amount of sunlight at ground level and hence retards evaporation of surface water, as well as the location of the property near the base of the Pali, relative humidity is high, i.e., mid-80's to mid 90's (percent). The project area rainfall averages between 75 and 100 inches per year (University of Hawaii, 1983).

Winds in the project area are typically northeast trades with some evidence of sea breezes during the evening

period. Down drafts and winds swirling off of the Pali above the project site tend to create varied and/or light wind patterns in the project area. The lack of and reduced velocity of winds, is reflected in the high relative humidity of the project site.

2.2.1.4 Natural Hazards

Potential natural hazards to which the project property could be subjected include flooding due to rain water surface runoff and earthquakes.

Flooding in the gulches and natural drainageways of the project site might occur as a result of intense prolonged rains mauka of the subject property. Flooding of portions of the property would not significantly affect the proposed building site as it is above and outside natural drainageways. However, sheet flooding of the building site might occur if appropriate drainage control measures are not taken.

Earthquake and/or volcanic hazards in the project site area are no greater than they are for the island in general (Mullineaux, et al, 1987). Adherence to appropriate design and building codes and standards would reduce potential damage from earthquakes.

The project site does not include lands designated within the coastal high hazard area subject to tsunami inundation along the northeast Oahu shoreline.

Now the house roof will receive the surface water from the rain source. This volume of water will be drained towards the drainage gulch located on the southern side of the house. The drainage system will be a combination of gutters and downspouts from the roof to below ground drainage PVC pipes to the detention pond and finally to the gulch. The extra rainfall outside the roof system will be drained by graded sodded ditches to channel the water towards the gulch.

The construction measures such as proposed drainage, control on erosion sidementation, etc. are as shown on the Grading and Erosion Plan (See Exhibit A). There are three structural techniques to be implemented in this project. The first standard structural practice is the construction of access pad from old Kalanianaole Highway to the project site. This pad is made of crusted stone to provide a place for removing mud from tires thereby protecting public streets. The pad will be 15'x30' and 6" deep. This pad should be maintained throughout the construction period so as to prevent tracking or flowing of sediment on to public rights of way.

The second control to be implemented is the Silt Fence Structural Technique. Silt Fence is to be erected at critical areas of Proposed Driveway to prevent the erosion of the soil. The building site will be surrounded with silt fence so as to minimize soil erosion. All graded areas if not to be paved should be mulched immediately after final grading so as to minimize soil erosion.

2.2.1.5 Man-Induced Hazards

The man-induced hazards to which the proposed residence would be subjected include possible electromagnetic field (EMF) effects, vibrations and sounds due to the close proximity of the overhead electrical transmission lines and the potential for the powerlines and/or towers to fall in heavy storms. EMF from high- and low voltage electrical transmission lines have been investigated in detail in numerous areas of the mainland US as well

as in Hawaii. In general, these studies have demonstrated that no adverse effects are indicated for ecosystems,

wildlife, agricultural crops or livestock production (see Florida Electric and Magnetic Fields Research Commission, 1985 and references thereto; ITT Research Institute, 1979; Llaurado, et al, 1974; and CH2M Hill, 1988). Similarly, the potential adverse effects on certain brands of cardiac pacemakers do not result from transmission lines, rather electromagnetic fields encountered in the home and workplace generally pose more serious problems than do transmission lines (Florida Electric and Magnetic Fields Research Commission, 1985). A recent study (CH2M Hill, 1988) of a similar HECO 138 kV transmission line also indicated that there are no adverse effects on humans, wildlife or ecosystems due to these types of transmission lines. Although sounds and vibrations do emanate from the overhead transmission lines, these effects tend to blend in with background sounds and vibrations and are not noticeable at ground level. The hazards associated with the potential falling of the powerlines and/or towers appears negligible. The lines and towers have withstood several storms in the past, including hurricane Ewa, without any apparent damage or problems. In addition, the towers and lines are examined by HECO, on a regular basis, for signs of damage or potential damage and repaired, if necessary, immediately.

2.2.1.6 Air and Noise Quality

The proposed project would be classified as an "indirect source" of air pollution as defined in the federal Clean Air Act of 1977 because its primary association with air pollution would be due to its potential generation of mobile source, i.e. motor vehicle air pollutants. There would be minor short-term impacts during construction due to construction vehicular movement. Although there are no State Department of Health air quality monitoring stations in the vicinity of the proposed project site, it is presumed that the existing air quality of the project area is similar to other mid-level elevation areas on Oahu and primarily influenced by vehicular traffic and, possibly, salt spray from the ocean. Given the lack of stationary air pollutant sources in the vicinity of the project site and the actions of upslope/downslope wind patterns, it seems safe to presume that all air quality standards in the project area are within state and federal standards.

The existing noise quality of the proposed project site is dominated by natural factors including wind moving through the vegetation on the site and vehicular noise from traffic along the Pali Highway above the project site. Based on noise level measurements taken in other areas on Oahu (see Hawaii, DBED, 1987, page 183), existing noise levels in the project area could be expected to be approximately 40 to 50 dBa; well within state noise quality standards. The proposed project is not expected to significantly add to existing noise levels.

2.2.1.7 Visual Attributes

The present visual character of the project site is one of secluded, mountain vegetation with tall eucalyptus and paper bark trees and shrubbery, interrupted by overhead electrical transmission lines on steel structures. The vegetation at ground level is such that at present ocean views to the north or northwest are not available. However, limited clearing of the vegetation would provide northward views of the ocean between Kaneohe Town and Mokapu Peninsula as well as Mt. Ulumawao above and behind Hawaii Loa College.

The project site is bounded by Kamehameha Highway on the North side and Koolau Mountain Ranges on the Mauka side. The Eastern side is bounded by the Pali Highway and the Makai side by the Likelike Highway. There is a scenic lookout area on the south side of the project site but because of the great distance and the tall vegetation there is no available view to see the house. All the other boundaries are as well vegetated and existing tall trees around. There is one possible public view and that is through Kamehameha Highway by the Pali Golf Course. However, because of the great distance from the highway, it is still hard to get a full view of the house. Therefore, it is our opinion that the location of the proposed single family residence is well above and

passed all critical concerns in terms of the possible unblending with the natural beauty and the natural characteristics of the surrounding area. However, we will take all possible measures such as preservation and improvement whichever is applicable to the existing physical and environmental aspects of the land so the project site is in total agreement with the surrounding areas.

In addition we took pictures of the site at various directions. Mauka and Makai views were given more emphasis. Other views like Eastern and Western views were taken as well. It is our opinion based upon these pictures, that the proposed project is in total agreement with the surrounding area and community. These pictures will be presented by the owner at the public hearing that is to be held on February 27, 1997 at the Kalanimoku Building, 1151 Punchbowl Street, Honolulu, Hawaii 96813.

2.2.1.8 Terrestrial Flora and Fauna

A baseline botanical survey of the project site in late January 1989 (see Appendix A), indicated that the terrestrial flora consists of exotic (introduced) species that are primarily forestry plantings by the Hawaiian Division of Forestry.

On the proposed building site a large stand of brush box (Tristania conferta) with a few smaller clumps of lemon-scented gum (Eucalyptus citridora) covers most of the site. Taro vines (Epipremnum pinnatum) are common on the trunks of many trees. Because the site is heavily shaded, the shrub layer is not dense and ground cover is sparse in most places. Vegetated areas occur where the tree canopy is more open and sunlight can reach the forest floor. Shrubs of clidemia (Clidemia hirta) are locally common. The more shade-tolerant species, such as Hilo grass (Paspalum conjugatum), downy wood fern (Christella parasitica), sword fern (Nephrolepis multiflora), basket grass (Oplismenus compositus) and palm grass (Setaria palmifolia) form scattered patches.

A few native plants are found on the site. These are the pakahakaha fern (Pleopeltis thunbergiana), the mat-forming uluhe fern (Dicranopteris linearis), the pala'a fern (Sphenomeris chinensis) and small saplings of 'ohi'a (Metrosideros polymorpha). No listed, proposed or candidate threatened or endangered plant species designated by federal and/or state governments occur on the two sites, nor are any of the plants found considered to be rare. All of the native species occurring on the site occur elsewhere throughout the Hawaiian Islands in similar environmental conditions.

A faunal survey of the project site was also conducted in late January 1989 (see Appendix B). During the faunal survey, no resident endemic (native) birds were observed at the site. The Common Amakihi (Hemianathus viren), Apapane (Himatione sanauinea), and Elepaio (Chasiempis sandwichensis) might occur in the area due to the nature of the habitat and its proximity to forested land upslope. The only migratory indigenous (native) bird sighted during the survey was one individual Pacific Golden Plover (Pluvialis fulva). No resident indigenous birds were sighted during the survey. A total of 12 exotic (introduced) species were sighted during the survey. These included the Japanese White-eye (Zosterops Japonica), Red-vented bulbul (Pycnonotus cafer), Red whiskered Bulbul (Pycnonotus iocosus), House Finch (Carpodacus mexicanus), Spotted Dove (Streptopelia chinensis), Zebra Dove (Geopelia striata), White-rumped Shama (Copsychus malabaricus), Common Myna (Acridotheres tristis), Northern Cardinal (Cardinalis cardinalis), Red-crested Cardinal (Paroaria coronata), Japanese Bush Warbler (Cettia diphone), and Nutmeg Mannikin (Lonchura punctulata). Table 1 in Appendix B indicates the relative abundance of the exotic birds observed on the project site. No threatened or endangered species of birds were observed during the field survey.

The only feral mammals observed during the survey were the Small Indian Mongoose (Herpestes auropunctatus) and cats. No rats, mice dogs or pigs were observed, but they probably frequent the site, especially given

the probability of food being available in the rubbish and garbage of the residence across the old highway. Also, records of the endemic and endangered Hawaiian Hoary Bat (Lasiurus cinerus semotus) indicate that the species has been reported on Oahu. None were observed during the field survey.

2.2.1.9 Historical and Archaeological Resources

A review of state historic/archaeologic sites data has indicated that one archaeological site (80-14-1174) exists on the project property. This site, which was listed on the Hawaii Register of Historic Sites, but later removed, is known as the Pali Complex and consists of agricultural or habitation features (heiau or house platform) and is located in the upper portion of the property in the sharp bend of the Pali Highway. Other archaeologically significant sites are known to exist in the general area but are outside of and to the west of the project property and proposed building location. Although the Pali Complex site, as well as other known sites in the general area, are outside the proposed building site location, if required, an archaeological reconnaissance survey of the building site would be performed as a condition to issuance of the requested CDUP. Further, if required, as a condition to the CDUP, the owner would agree to preserve or record any additional archaeologically significant sites that might be found within the building site as appropriate and as required by applicable federal, state and county rules and regulations. It appears unlikely that archaeologically or historically significant sites would be found within the building site, given the extent of forestry planting and other recent human activities in the area.

2.2.1.0 Access

Primary access into the project site is via the "Old Kalanianaole Highway" (Kianaole Road). Access to the building site would be improved by the proposed construction activities. At present a portion of the "Old Kalanianaole Highway" is subjected to overtopping by rainwater runoff, rocks and mud during long periods of intense rainfall above the property. As such, with the closure of the road by the State Department of Transportation, Highways Division for safety purposes, debris has accumulated on the road and portions of the roadway on the downslope has washed away. Similarly, portions of the road would be repaired and concrete barriers placed on the downslope side as necessary to allow safe all-weather access. Also, the present roadway closure barrier would be relocated to a point just above the access driveway. The roadway would remain closed to general vehicular traffic but would remain passable to hikers.

The slope of the driveway from the entrance on Old Kalanianaole Highway to the building site is approximately 10-13%. This concern was prepared and addressed by Southeastern Engineers and as shown on the Grading and Erosion Control Plan (see Exhibit A). To achieve this gradient the driveway follows the contour lines and a series of cuts and fills are employed to minimize soil erosion. Areas where the soil is disturbed, scrape and made uneven due to the removal of the underbrush and small trees, the grading and paving contractor must use the cut and fill technique to shape the ground to its almost natural and existing grade. Any excess cut soils at the entrance and throughout the driveway the grading and paving contractor must appropriately dispose said soils to the city and county of Honolulu approved dump site or an approved private landfill.

The Old Kalanianaole Highway is part of the highway system of the city and county of Honolulu, Oahu, Hawaii. The closure barrier was installed by the Hawaii Electric Company for the purpose of preventing the general public from discarding their trash and garbage on the road. The Hawaii Electric company has a perpetual easement on my property where their electric transmission lines are located. Once my project is completed this closure barrier will be an eyesore and therefore the actual physical relocation, is that it must be removed from my property. The Hawaii Electric Company will be notified accordingly when such a move is contemplat-

ed to insure its proper disposal.

2.2.1.11 Water Resources

The (potable) water resources of the project area and/or Honolulu would not be affected by the proposed action. Potable water to the building site would be provided by the Board of Water Supply, City and county of Honolulu. In accordance with City and County of Honolulu Fire Code requirements, fire protection capabilities would be provided by pressurized tanks and sprinkler systems within the home.

2.2.1.12 *Wastewater Disposal*

The existing Honolulu wastewater collection, treatment and disposal system will be unaffected by the proposed project. Wastewater generated by the proposed residence would be collected and treated in accordance with applicable state and county building code requirements. At this time, preliminary engineering studies have indicated that septic tanks or cesspools would be capable of handling the wastewaters. The location of the property with respect to the state/county "Pass-No-Pass Line", in concert with State Department of Health requirements, would determine the appropriate wastewater collection system.

2.2.1.13 Solid Waste Disposal

The present City and County of Honolulu and/or private solid waste collection and disposal systems in effect on Oahu will be unaffected by the proposed project. It is expected that solid wastes generated by the proposed residence would be collected and disposed of at approved county landfill sites.

2.2.1.14 Electrical Power and Communication Systems

The existing Hawaiian Electric Company and/or Hawaiian Telephone Company systems will be unaffected by the proposed project. Electrical power to the building site would be provided via drops from the pole line that runs along the makai side of the "Old Kalanianaole Highway" and feeds the existing residence. Similarly, Hawaiian Telephone Company lines on the same pole line would provide telephone service to the proposed residence.. The owner would coordinate service hook-ups with the two utilities.

2.2.1.15 Public Schools

The public schools serving the project area (Maunawili Elementary, Kailua High School) will be unaffected by the proposed project. It is expected that no more than two to three school age children would live in the proposed residence..

2.2.1.16 Health Care Facilities

Public and private health care facilities and services in the project area and/or greater Honolulu area will not be affected by the proposed project.

2.2.1.17 Police and Fire Protection Services

Police and fire protection services in the project area will be unaffected by the proposed project. As noted previously, fire protection for the proposed residence would be provided by pressurized tanks and sprinkler systems within the home in accordance with applicable fire code requirements.

2.2.1.18 Recreational Resources

Public recreational resources and services in the project area will be unaffected by the proposed project.

3. SUMMARY DESCRIPTION OF THE AFFECTED ENVIRONMENT

3.1 EXISTING CONDITIONS

As indicated previously, the present natural environment of the proposed project is characterized as a relatively secluded woodland that is vacant and serves as wildlife habitat and the site of HECO overhead power transmission lines.

The proposed residential construction project will generally not affect the existing environmental characteristics of the project site. There will be some minor alterations to the general topography of the site and some limited clearing of vegetation, but these are expected to be minimal, limited to the building site and not significantly affect the overall environmental characteristics of the area.

3.2 PROBABLE SOCIAL/ECONOMIC IMPACTS AND MITIGATION MEASURES

The proposed project is not expected to significantly affect the social or economic characteristics of the project area. It is expected that the proposed residence would house four to five persons who presumably would be relocating from other areas on the island. The economic impacts of the proposed project would be limited to the value of the new construction, the value that the new residence would accrue to the owner and the possible increase in real estate taxes that the owner would pay.

3.3 PROBABLE ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

The proposed project is not expected to significantly affect the environmental characteristics of the project area. During construction of the proposed residence there will be some minor clearing and grading for the home site. However, these actions would be limited to only that which is necessary for construction and would

be confined to the building site. The lack of significant potential adverse environmental impacts negates the need for mitigation measures other than the standard construction precautions that would be taken and the measures noted below. All work would be performed in compliance with applicable federal, state and county environmental protection and building rules and regulations. To prevent sheet flooding of the home site, earthen or concrete drainage swales, as required, would be constructed around the building site and on the upper boundaries of the building site. Surface water from these drainage structures would be directed into natural drainageways such that adjoining properties are not adversely affected by the surface water runoff. Should culturally significant sites, as determined by applicable federal or state guidelines, be found within the building site, appropriate preservation and recordation measures would be taken in compliance with applicable federal, state and county rules and regulations and/or permit conditions.

4. IDENTIFICATION AND SUMMARY OF MAJOR IMPACTS AND ALTERNATIVES CONSIDERED

4.1 MAJOR IMPACTS

The major impacts that are expected to result from the proposed project are minor alterations to the topography of the building site; minor clearing of vegetation from the building site and relatively minor direct and indirect economic gains to be realized from the construction of the proposed single family residence. Additionally, other impacts that could result from the proposed project include short-term impacts to the air and noise quality of the immediate proposed construction area.

4.2 ALTERNATIVES CONSIDERED

In keeping with applicable EIS rules and regulations and in keeping with sound land planning practices, those alternatives which could feasibly meet the objectives of the proposed action, even though more costly, have been examined. The alternatives investigated have included other possible building site within the property boundaries; the use of only one of the building site; and the alternative of "no-action". The alternative of utilizing other possible building site within the property boundaries was investigated and rejected due to the lack of other feasible building site. The costs of overcoming any of these building problems would be prohibitive, thereby rendering the proposed residence construction uneconomical. The alternative of no-action would result in the objectives of the proposed project not being met, the continued underutilization of the land and possibly result in the continued unchecked erosion of the property.

5. PROPOSED MITIGATION MEASURES

The mitigation measures proposed to ensure that potential adverse environmental impacts are minimized include limiting construction activities to daytime hours and adherence to federal, state and county environmental protection, health, safety and construction rules and regulations. Other mitigation measures include the construction of appropriate drainage structures to alleviate sheet flooding of the building site, limiting clearing and grading operations to the building site, the preservation and/or recordation of culturally significant sites that might be found within the building sites.

6. DETERMINATION

Based on the information available and the type of governmental action requested at present and in the future, it has been determined that because the proposed project would result in positive social, economic and environmental impacts and would not have a significant negative impact on the environment, an environmental impact statement is not required for the proposed project. It is recognized that compliance with the environmental impact statement process, as defined in HRS Chapter 343 and Chapter 200, Department of Health Environmental Impact Statement Rules, is required and is one of the primary reasons that this EA has been prepared.

7. FINDINGS AND REASONS SUPPORTING DETERMINATION

In considering the significance of potential environmental effects, the applicant has considered the sum of effects on the quality of the environment and evaluated the overall cumulative effects of the proposed action. The applicant has considered every phase of the proposed action, the expected consequences, both primary and secondary and the cumulative as well as the short- and long-term effects of the proposed action. As a result of these considerations, the applicant has determined that:

1. The proposed action does not involve an irrevocable commitment to loss or destruction of any significant natural or cultural resource;

2. The proposed action increases the range of beneficial uses of the environment;

3. The proposed action is in concert with the State and County's long-term environmental policies, goals and guidelines as expressed in Chapter 343 HRS, and any revisions and amendments thereto, court decisions and executive orders;

4. The proposed action does not substantially adversely affect the economic or social welfare of the community or state;

5. The proposed action does not involve substantial secondary impacts, such as population changes or effects on public facilities that are not already contemplated;

6. The proposed action does not substantially affect public health;

7. The proposed action does not involve substantial degradation of environmental quality;

8. The proposed action does not substantially affect rare, threatened or endangered species or habitats;

9. The proposed action does not detrimentally affect air or water quality or ambient noise levels;

10. The proposed action does not substantially affect an environmentally sensitive area such as flood plain, tsunami zone, erosion-prone area, geologically hazardous land, estuary or coastal waters; and,

11. The proposed action is individually limited and cumulatively does not have a considerable effect upon the environment or involve a larger commitment for larger actions.

Further, it appears that the proposed action is compatible with the locality and surrounding project area and appropriate to the physical conditions and capabilities of the area to be served; the existing physical and environmental aspects of the subject area will be preserved; the proposed action will not result in any significant adverse effects to the environment; and the proposed action is in keeping with the objectives and purposes of the project site and area. The applicant will be responsible for and comply with all applicable statutes, ordinances and rules of the federal, state and county governments.

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Exhibit A

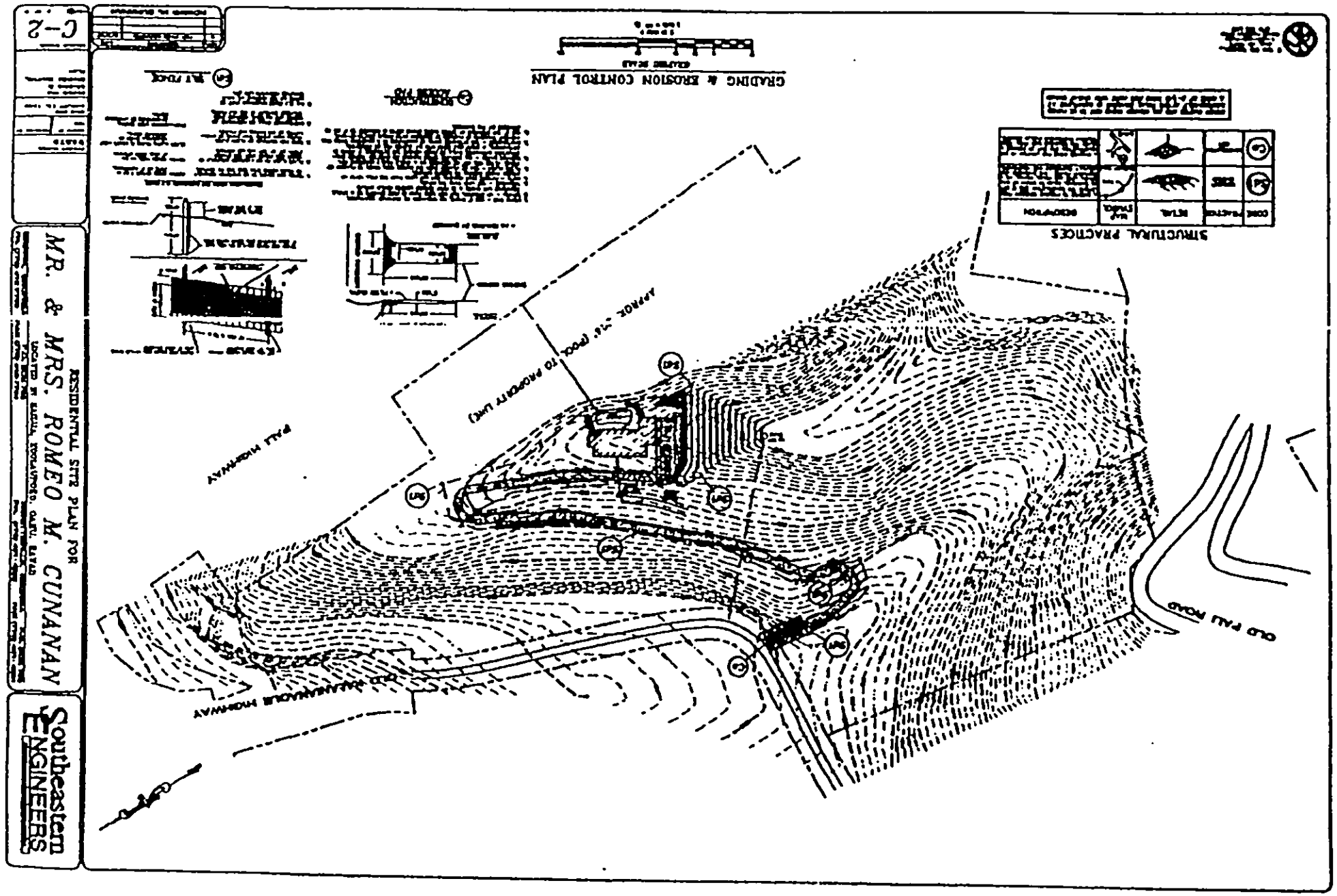

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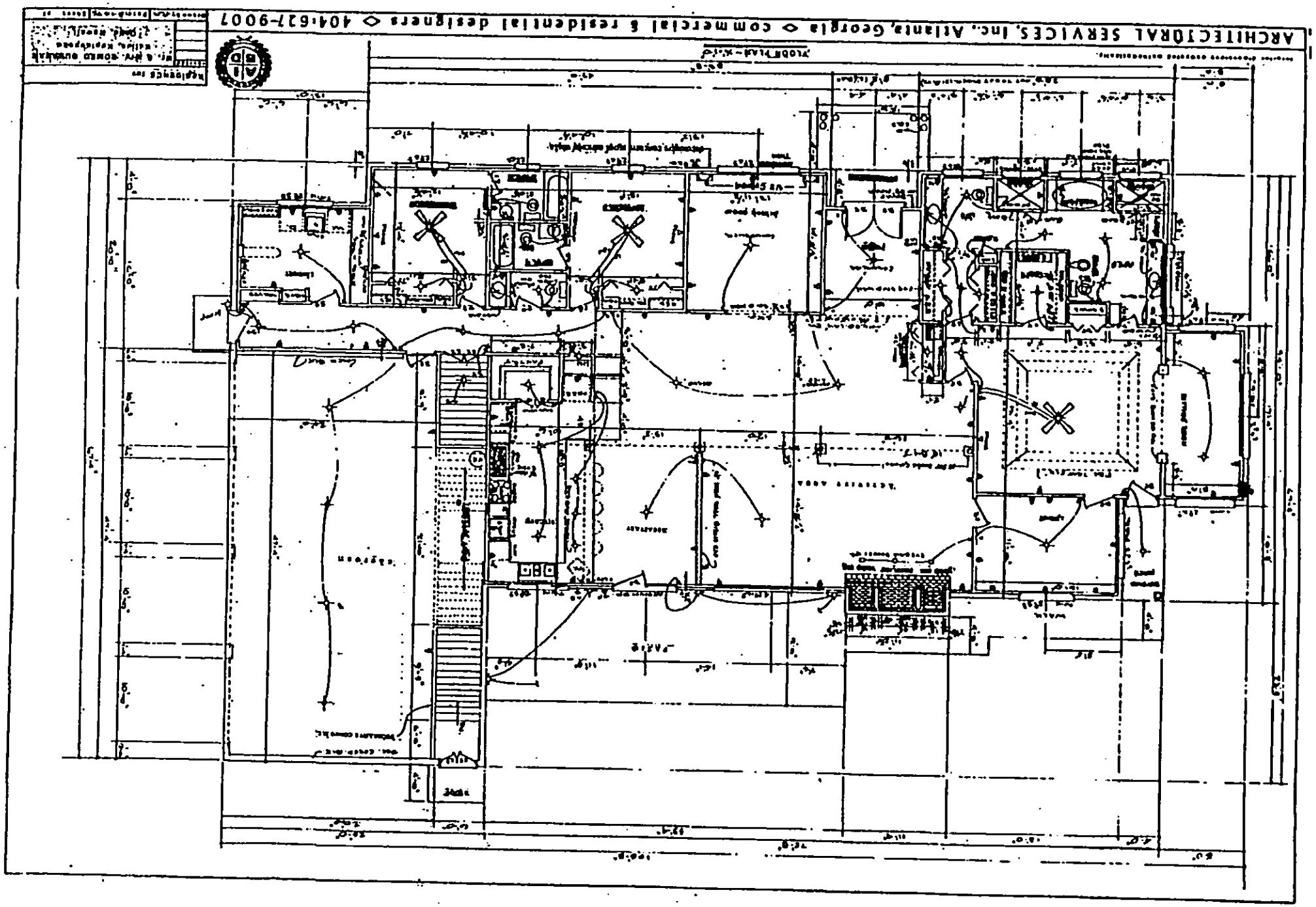
Exhibit B



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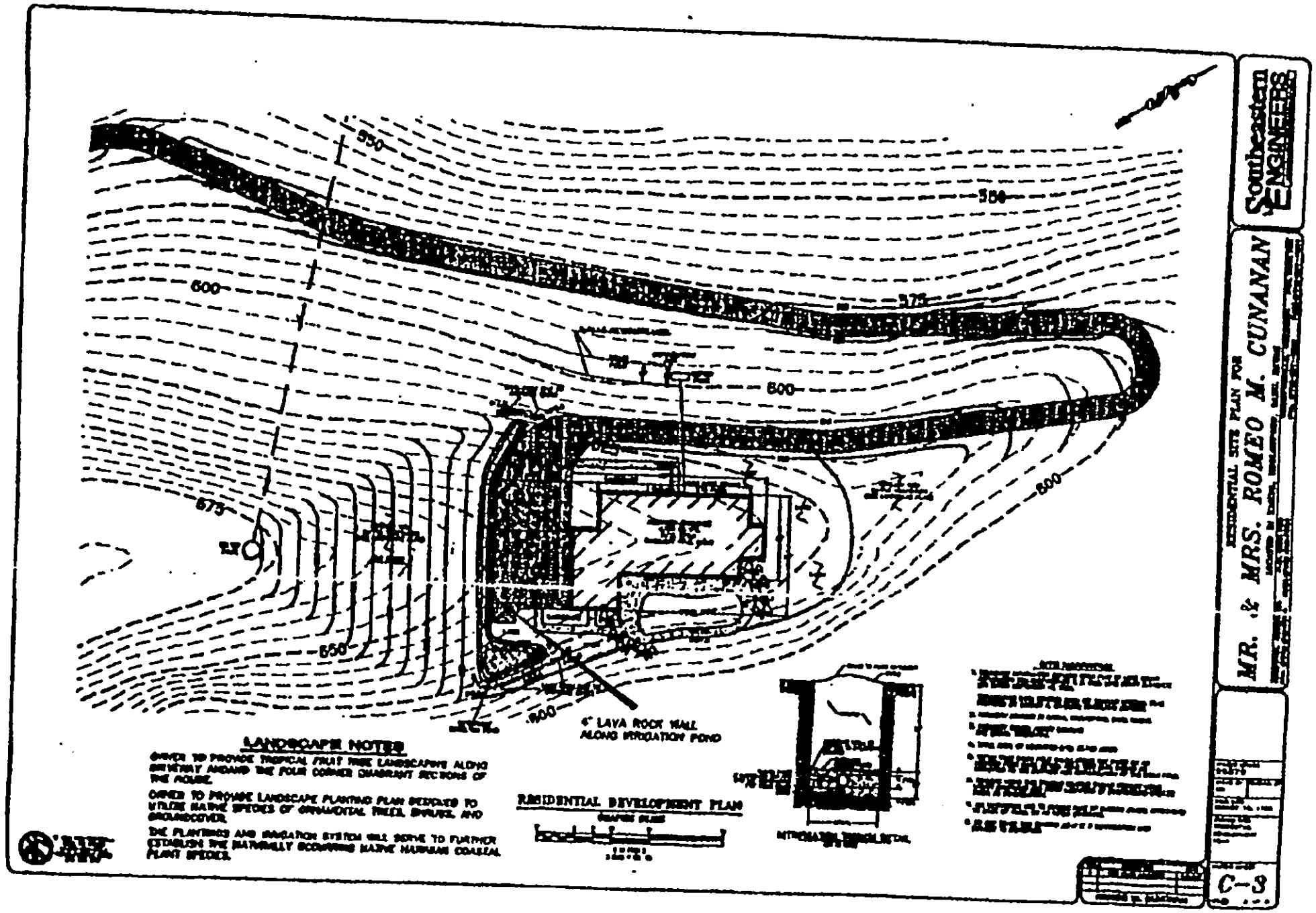

Exhibit C

Description of Exhibit C

(Landscape Concept)

The approximate developable area measures about 330'x330' or about one acre in size. The physical dimensions of the various facilities and related improvements are as shown on the Residential Development Plan. The swimming pool measures approximately 20'x50' and about 200 feet from the eastern side of the property line (Pali Highway). The detention pond/irrigation runs by way of a trench in a easterly and westerly direction and a pond of approximately 20'x30' as the main detention pond. A 4 feet lava rock runs along this E W direction. The pond will serve as a source of irrigation system and will serve to further established the naturally occurring native Hawaiian plant species and other tropical fruit trees landscape to be incorporated in the site. The proposed driveway is to be 10 feet wide and asphalt paved driveway. With the proper approval of the State Health Department a septic tank will be installed as the system to dispose of human waste disposal. All physical dimension of the building structure are as shown on the floor plan and elevations(Refer to exhibit B and exhibits E, F, & G). We will obtain proper building permit and approval from the proper approving local, county, and state agencies before starting this proposed project. Imagine Ho'omaluhia Botanical Garden driveway that leads to different areas of interest and along the drive. There are various groupings of beautiful flowering plants and tall trees. The drive through is just breathtaking and relaxing. This type of landscape is the one we envisioned to have on our proposed driveway. As part of the landscape are tropical fruit trees along both sides of the driveway. The existing landscape (predominantly eucalyptus trees and under brush) on the east, Mauka and Makai sides of the proposed building site will be retained. The (eucalyptus) trees will be blocking the ultra violet rays of the sun, thus creating a passive solar design for the residence and also achieving the environmental friendly goal of the surrounding area and community. The additional landscape will the planting of the tropical fruit trees at the four quadrants of the site and about 15-20 foot from the corner of the building to replace the under brush cuttings and clearings. On the Makai side of the building site, the under brush will be cleared and replaced with dwarf coconut trees. Section of Ti plants, native Hawaiian plants and ginger patches will be distributed proportionately around the site. With this proposed landscape we believe we can achieve the overall objective of the surrounding area, and community and that is total harmony in terms of preservation of the natural lush of the site and the neighborhood.

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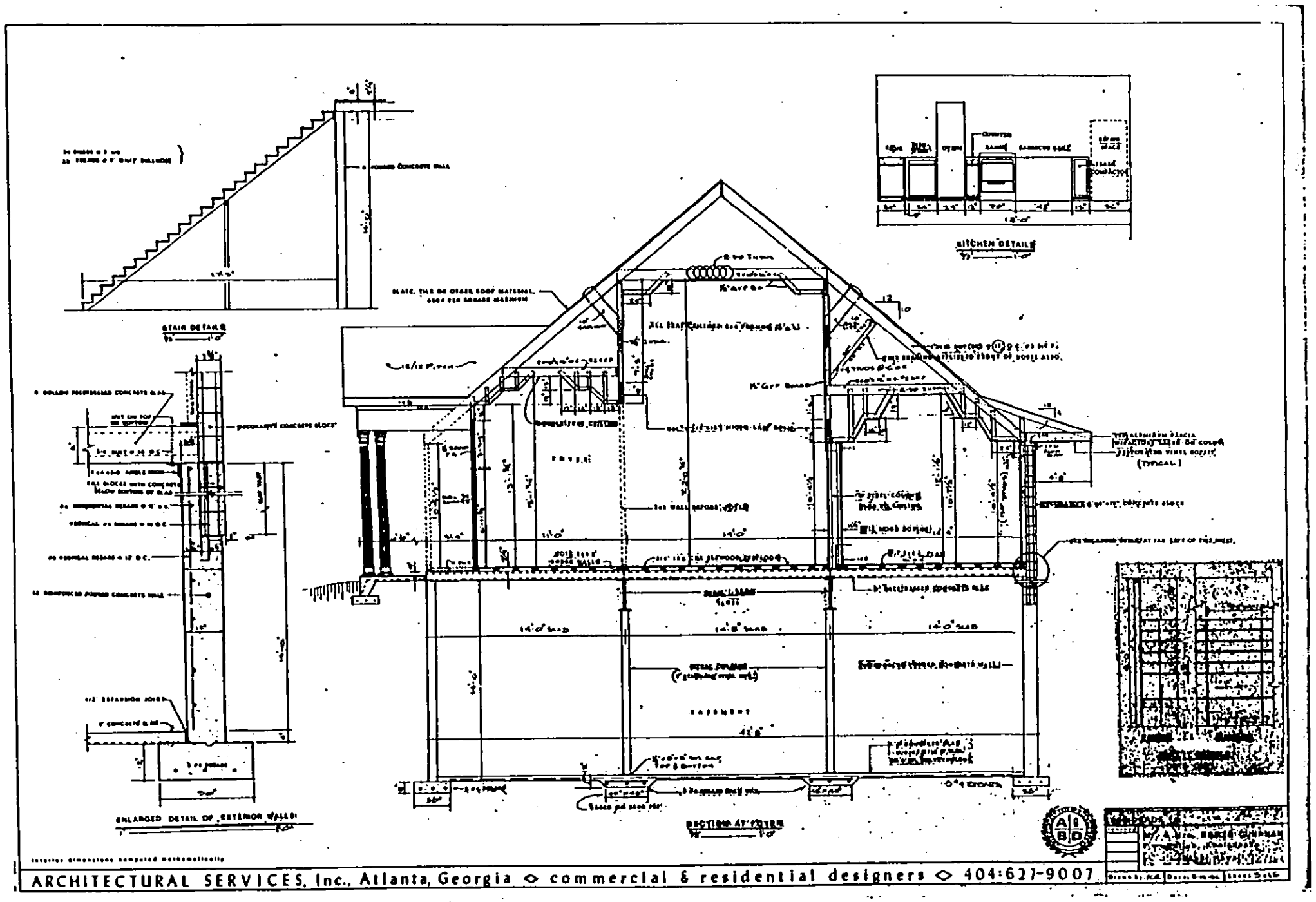

Exhibit D

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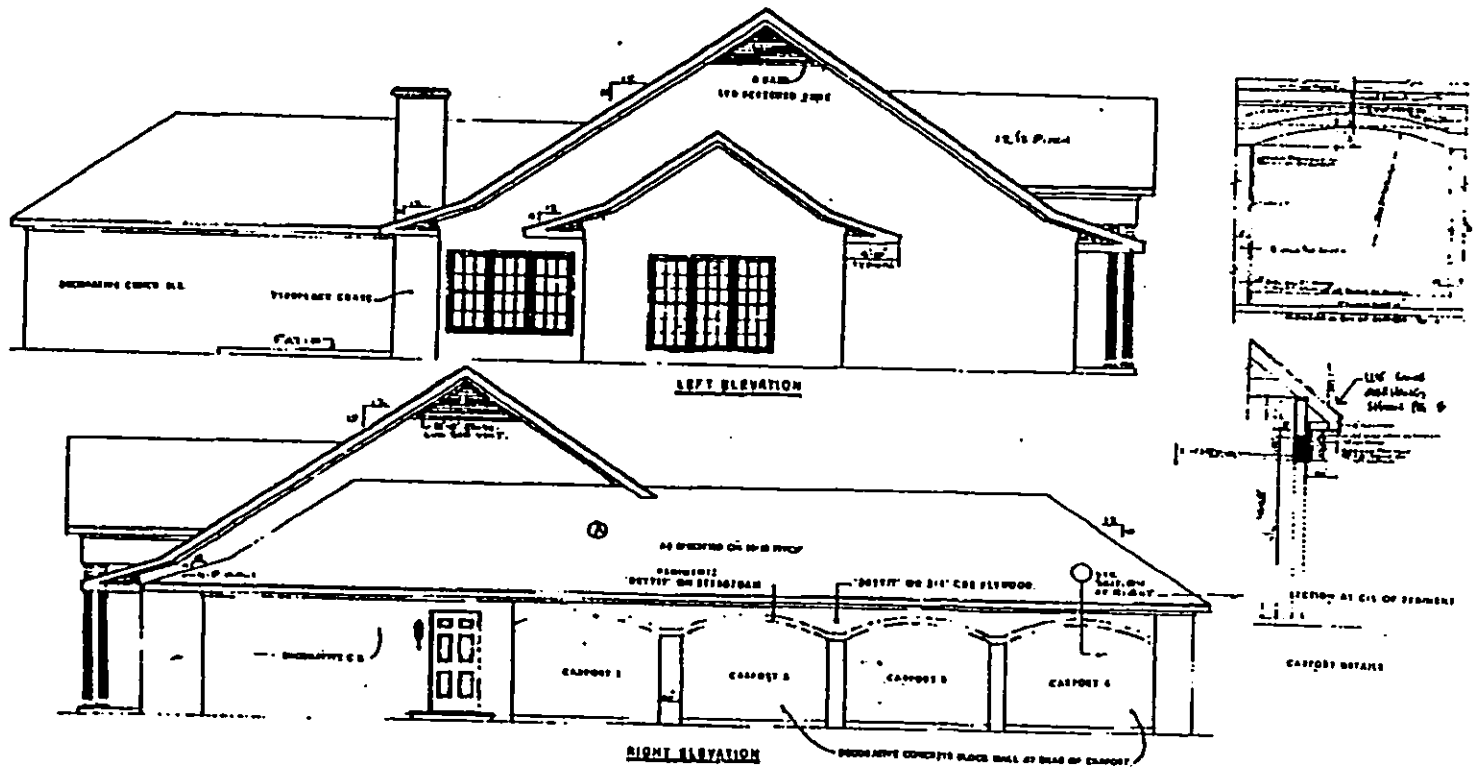

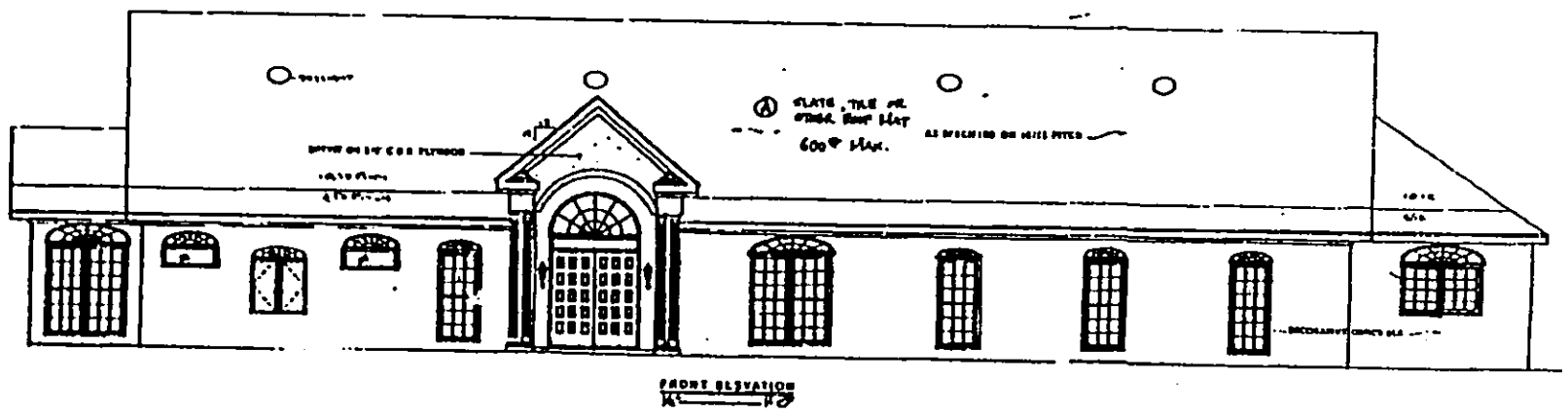

Exhibit E, F, & G

ARCHITECTURAL SERVICES, Inc., Atlanta, Georgia

RESIDENCE for
Mr. & Mrs. ROMEO CURAHAN
Kailua, Koolaupoko
Oahu, Hawaii

APPENDIX A

BOTANICAL SURVEY

BOTANICAL ASSESSMENT

PROPOSED BUILDING SITE ADJACENT TO OLD KALANIANA 'OLE HIGHWAY

KO'OLAUPOKO DISTRICT, O'AHU

by

Winona P. Char

CHAR & ASSOCIATES
Botanical/Environmental Consultants
Honolulu, Hawaii

Prepared for: Gordon A. Chapman
Consulting Services
819 16th Avenue
Honolulu, Hawaii 96816

BOTANICAL ASSESSMENT
PROPOSED BUILDING SITE ADJACENT TO OLD KALANIANA 'OLE HIGHWAY
KO'OLAUPOKO DISTRICT, O'AHU

INTRODUCTION

A field survey of proposed building site adjacent to the Old Kalaniana'ole Highway was conducted on 29 January 1989. The proposed building site, consists of about 1 acre.

A report on the botanical resources found on the subject building site is as follows. The report is to be incorporated into an environmental assessment to be prepared in support of a Conservation District Use Permit application to the State Department of Land and Natural Resources. The primary objectives of the survey were to provide a general description of the vegetation and to search for threatened and endangered plant species.

SURVEY METHODS

Prior to the field survey, maps of the subject site were examined to familiarize the principal investigator with access, terrain characteristics, boundaries, and reference points. The site is easily accessed directly from the old highway on relatively sloping lands. The Site is located across from an existing home.
In this report, the nomenclature of the flowering plants follows Wagner et al. (in press); fern names are in accordance with Lamoureux (1984).

DESCRIPTION OF THE VEGETATION

The vegetation on the island of O'ahu has been greatly disturbed by humans; first by the Polynesian settlers, and, later by other immigrants to the islands. Almost all the vegetation types commonly seen below 1,500 ft. elevation on O'ahu are dominated by introduced or alien species (Fosberg 1972). These are plants which were brought to the islands by humans either intentionally or accidentally after Western contact.

On the building site the vegetation consists principally of blocks of forestry plantings. Since its beginnings in 1903, the Hawaii Division of Forestry has been actively involved in forestation efforts especially on lands which have been heavily impacted by human activities and browsing animals (Skolmen undated). Introduced trees have been planted primarily as they grow rapidly on degraded sites. These are usually timber trees although fruit and ornamental species have occasionally been tried.

"Building Site 1.0 Acre"

A large stand of brush box (Tristania conferta) with a few smaller clumps of lemon-scented gum (Eucalyptus citridora) covers most of the Site. Taro vines (Epipremnum pinnatum) are common on the trunks of many trees.

Because the site is heavily shaded, the shrub layer is not dense and ground cover is sparse in most places. About 50% of the ground is leaf litter, branches, and bare soil. Vegetated areas occur where the tree canopy is more open and sunlight can reach the forest floor. Shrubs of clidemia (Clidemia hirta), 3 to 6 ft. high, are locally common. The more shade-tolerant species such as Hilo grass (Paspalum conjugatum), downy wood fern

(Christella parasitica), sword fern (Nephrolepis multiflora), basket grass (Oplismenus compositus), and palm grass (Setaria palmifolia) ,form scattered patches.

A few native plants are found on the site or on the steep banks of the road cut just outside the site. These are the pskahakaha fern (Pleopeltis thunbergiana), the mat-forming uluhe fern (Dicranopteris linearis), the pala'a fern (Sphenomeris chinensis), and small saplings of 'ohi'a (Metrosideros polymorpha).

THREATENED AND ENDANGERED PLANT SPECIES

No listed, proposed or candidate threatened or endangered plant species designated by the federal and/or state governments (U.S. Fish and Wildlife Services 1985; Herbst 1987) occur on the building site. Nor are any of these plants considered rare (Fosberg and Herbst 1975).

All those native species found on the subject building site occur elsewhere throughout the Hawaiian Islands in similar environmental habitats.

DISCUSSION

There is no botanical reason or concern to impose any restrictions or conditions on the development of the building site for residential use. Introduced species composed largely of forestry plantings predominate. The few native plants found on or adjacent to the building site are not considered rare, threatened or endangered.

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APPENDIX B

AVIFAUNA AND FERAL MAMMAL SURVEY

SURVEY OF THE AVIFAUNA AND FERAL MAMMALS OF BUILDING SITE ADJACENT TO OLD KALANIANAOLE HIGHWAY, WINDWARD, OAHU

Prepared for

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By

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SURVEY OF THE AVIFAUNA AND FERAL MAMMALS OF
BUILDING SITE ADJACENT TO OLD KALANIANAOLE HIGHWAY, WINDWARD, OAHU

INTRODUCTION

The purpose of this report is to summarize the findings of a one field day (26,31 January 1989) bird and mammal field survey of the building site located adjacent to Old Kalanianaole Highway in Windward Oahu (See Fig. 1). Also included are references to pertinent literature.

The objectives of the field survey were to:

1- Document what bird and mammal species occur on the property or may likely occur given the range of habitats available.

2- Provide some baseline data on the relative abundance of each species.

3- Evaluate these findings in light of published and/or unpublished data.

4- Assess the possible changes, if any, in the bird and mammal communities that might occur as a result of the proposed development.

GENERAL SITE DESCRIPTION

The building site located in secondary exotic forest at 500-600 feet elevation (see Fig.1). Vegetation on the building site consists of large trees (mostly eucalyptus species) with an understory of exotic shrubs and weeds. Pali Highway is located up slope and traffic from this highway is noticeable particularly during early and late rush hour periods. Property down slope across Old Kalanianaole Highway, contains a dense tangle of introduced plants including bamboo.

Weather during the field survey was relatively cool and clear. Winds were light NE tradewinds.

STUDY METHODS

Field observations were made with the aid of binoculars and by listening for vocalizations. These observations were concentrated primarily during the peak activity periods of early morning. Attention was also paid to the presence of tracks and scats as indicators of bird and mammal activity.

At various locations (see Fig. 1) eight minute counts were made of all birds seen or heard. Between these count stations walking tallys of birds seen or heard were also kept. These counts provide the basis for the relative abundance estimates given in this report. Census data on birds contained in the annual Honolulu Christmas Count bird surveys conducted by the Hawaii Audubon Society were also consulted in order to acquire a more complete picture of the birdlife activity in the general area (Pyle 1987~1988). Observations of feral mammals 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 density and distribution.

Scientific names used herein follow those given in the most recent American Ornithologist's Union Checklist (A.O.U. 1983), Hawaii's Birds (Hawaii Audubon Society 1984), A Field Guide to the Birds of Hawaii and the Tropical Pacific (Pratt et al. 1987) and Mammals Species of the World (Honacki et al. 1982).

RESULTS AND DISCUSSION

Resident Endemic (Native) Birds:

No endemic birds were recorded during the survey. The Common Amakihi (Hemignathus viren). would be the most likely endemic species to occasionally utilize these properties for foraging. This small green bird is a member of the unique honeycreeper subfamily (Drepanidinae). Unlike many species that belong to this group Amakihi are still quite common (Berger 1972, Scott et al, 1988), This species forages on both native and exotic forest searching for insects and nectar. Recent reports of this species foraging on the slopes at Punchbowl crater may indicate that is has developed some ability to deal with the limiting factors of mosquito transmitted avian diseases which here-to-fore have restricted it to higher less mosquito infested habitat (Pyle, ornithologist and compiler of bird observations for Hawaii Audubon Society pers, comm., Eddinger 1984).

Two other species of endemic birds, Apapane (Himatione sanguinea) and Elepaio (Chasiempis sandwichensis), might also infrequently occur in the area given the nature of the habitat and its proximity to forested land up slope.

Migratory Indigenous (Native) Birds:

Pacific Golden Plover (Pluvialis fulva) Only one plover was recorded during the field survey. Plovers prefer open areas such as mud flats and lawns. They arrive in Hawaii in early August and depart to their arctic breeding grounds during the last week of April (Johnson et al. 1981). Johnson et al. (1981) and Bruner (1983) have also shown plover are extremely site-faithful on their wintering grounds and many establish foraging territories which they defend vigorously. Such behavior makes it possible to acquire a fairly good estimates of the abundance of plover in any one area. These populations likewise remain relatively stable over many years. No other migratory shorebirds were observed nor would any be expected in this habitat.

Resident Indigenous (Native) Birds:

No resident indigenous species were observed. The only possible species in this category would be the Short-eared Owl (Asio flammeus). This species, however, occurs more frequently in grasslands than forested habitat.

Exotic (Introduced) Birds:

A total of 12 species of exotic birds were recorded during the field survey. Table One shows the relative abundance of these species. The most numerous species during the one day survey were Japanese White-eye (Zosterops japonicus), Red-vented Bulbul (Pycnonotus cafer) and House Finch (Carpodacus mexicanus). Red-whiskered Bulbul (Pycnonotus jocosus) was not reported on the windward side of Oahu by Williams (1982) Williams and Giddings (1984) and Williams and Evenson (1985). The discovery of Red whiskered Bulbul on the project site marks the first verified record for this species in windward Oahu. With the exception of the Common Barn-Owl (Tyto alba), Melodious Laughing-Thrush (Garrulax canorus) and Red billed Leiothrix (Leiothrix lutea) all of the exotic species that would be expected in this type of habitat and at this elevation on Oahu were survey (Pratt et al. 1987).

Feral Mammals:

The only feral mammals observed during the survey were the Small Indian Mongoose (Herpestes auropunctatus) and cats. Two mongooses and three cats were seen and scats of others were found. No rats or mice were recorded but it would be highly unusual if these ubiquitous mammals did not occur on the property. Without a trapping program it is difficult to conclude anything about the relative abundance of rats, mice, mongooses and

cats. However, it is likely that their numbers are similar to what one would find elsewhere in similar habitat on Oahu. No feral pig were observed but they may possibly be present in the area.

Records of the endemic and endangered Hawaiian Hoary Bat (Lasiurus cinerus semotus) are sketchy but the species has been reported from Oahu (Tomich 1986). None were observed on this field survey.

CONCLUSION AND RECOMMENDATIONS

A brief field survey can at best provide a limited perspective of the wildlife present in any given area. Not all species will necessarily be observed and information on their use of a site must be sketched together from brief observations and the available literature. The number of species and the relative abundance of each species may vary throughout the year due to available resources and reproductive success. Species which are migratory will quite obviously be a part of the ecological picture only 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 ecosystem (Williams 1987). Thus only long term studies can provide the insights necessary to acquire both a broad view as well as a more definitive perspective of the bird and mammal populations in a particular area. However, when brief field studies are coupled with data gathered from other similar habitats the value of the conclusions drawn are significantly increased. The following are broad conclusions related to bird and mammal activity on the property:

1. The present environment provides a limited range of habitats which are utilized by the typical array of exotic birds one would expect at this elevation and in this type of environment on Oahu.

2. The type of development planned for proposed building site should not significantly alter the composition of the present avifauna. The common exotic House Sparrow (Passer domesticus) is almost exclusively associated with urban areas. This species could invade the area following development.

3. In order to obtain more data on mammals, a trapping program would be required. The brief observations of this survey did not reveal any unusual mammal activity. Present mammal populations should also not experience any significant change following development.

KEY TO TABLE 1

Relative Abundance = Number of individuals observed during walking survey or average frequency on eight minute counts

A = Abundant (10+)

C = Common (5-10)

U = Uncommon (less than 5)

R = Rare (number which follows is total recorded)

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Table 1

Relative abundance of exotic birds on proposed site adjacent to Old Kalanianaole Highway, Windward, Oahu.

Common Name	Scientific Name	Relative Abundance*
Spotted Dove	Streptopelia Chinensis	U=1
Zebra Dove	Geopelia Striata	C=5
White Rumped Shama	Copsychus Malabaricus	U=2
Common Myna	Acridotheres Tristis	U=2
Red-Vented Bulbul	Pycnonotus Cafer	A=12
Red-Whiskered Bulbul	Pycnonotus Jocosus	R=4
Northern Cardinal	Cardinalis cardinalis	U=3
Red-Crested Cardinal	Paroaria coronata	R=2
Japanese Bush-warbler	Cettia Diphone	R=1
Japanese White-eye	Zosterops Japonicus	A-11
House Finch	Carpodacus Mexicanus	A=12
Nutmeg Mannikin	Lonchura Punctulata	R=6

*See page 6 for key to symbols

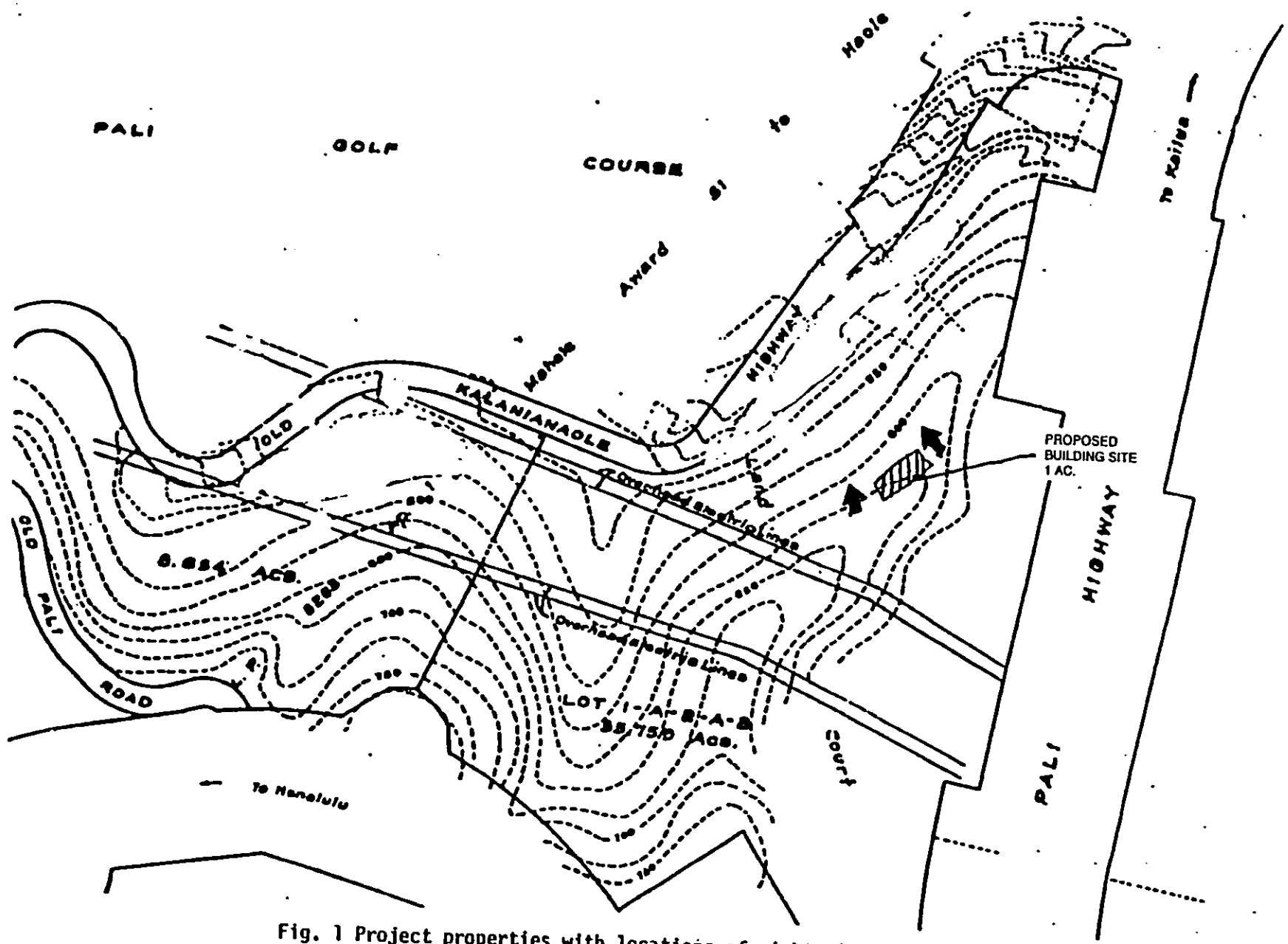


Fig. 1 Project properties with locations of eight minute count stations indicated by a ➧

RECEIVED
DIVISION OF
LAND MANAGEMENT
JAN 23 1 05 PM '97

January 21, 1997

Romeo and Linda C. Cunanan
15 Knight Drive
Newnan, GA 30263

SUBJECT: Cunanan Residence and Related Improvements
Kailua, Koolaupoko, Oahu, Hawaii
TMK: (1) 4-2-11:19

Dear Applicant:

As a concerned longtime windward Oahu resident, Architect and Planner, I am writing to express my concerns regarding the Draft Environmental Assessment (DEA) necessary for a Conservation District Use Application for subject project. I am very interested in this beautiful, lush region. My family, friends and I have hiked extensively throughout the area. My daily commute over the Pali Highway to and from Honolulu for the last 27 years have been enhance by the magnificent scenery along the way. Listed are my concerns related to the project and the DEA. Please address these concerns in your final environmental assessment

A. The proposed building site is located on a narrow ridge with steep side slopes that parallel the Pali Highway and terminate at Castle Junction. Extensive grading will be required to build on this steep site. Two red earth slide areas are visible between the building site and the Pali Highway. How will you prevent aggravating this ongoing soil slippage problem along the Pali Highway cut areas?

B. Much of the property is steep (50-70% side slopes, see Fig 1). When constructing an access road to the proposed ridge site, how are you going to control drainage, erosion and soil slippage in this heavy rainfall area where mauka flooding occasionally occurs? Will the construction of this access road pass through and disturb the natural drainageway or valley along the northwestern portion of the property? See this discussion under 2.2 1.4 Natural Hazards

C. Under 2.2.1.0 Access, concerning discussion of repairs to the road, is the owner to repairing the washed away area 20 feet deep drop-off on the downslope side where the road has collapsed and the paving width is reduced to 12 feet?

D. 2.2.1.7 Visual Attributes This section discusses visual attributes as viewed from the site outward. A much more important consideration to be addressed is the visual impact a residence located on this secluded site has on the general public. This house site will be plainly visible as one approaches Castle Junction from Kailua, Kaneohe and Honolulu (see Fig.1 for location).

As an Architect, I'm supportive of private enterprise, real estate development, the housing industry and generally boosting the economy. But, as an Planner I see this land as an inappropriate site for residential use. The City Land Use Ordinance states it clearly. The purpose of the preservation districts is to preserve and manage major open space and recreation lands and lands of scenic and other natural resource value.

Sincerely,

Wallace Gretz
1224 Aulepe Street
Kailua, Hawaii 96734

February 14, 1997

Romeo Cunanan
15 Knight Drive
Newnan, Georgia, 30263

Mr. Wallace Gretz
1224 Aulepe Street
Kailua, Hawaii, 96734

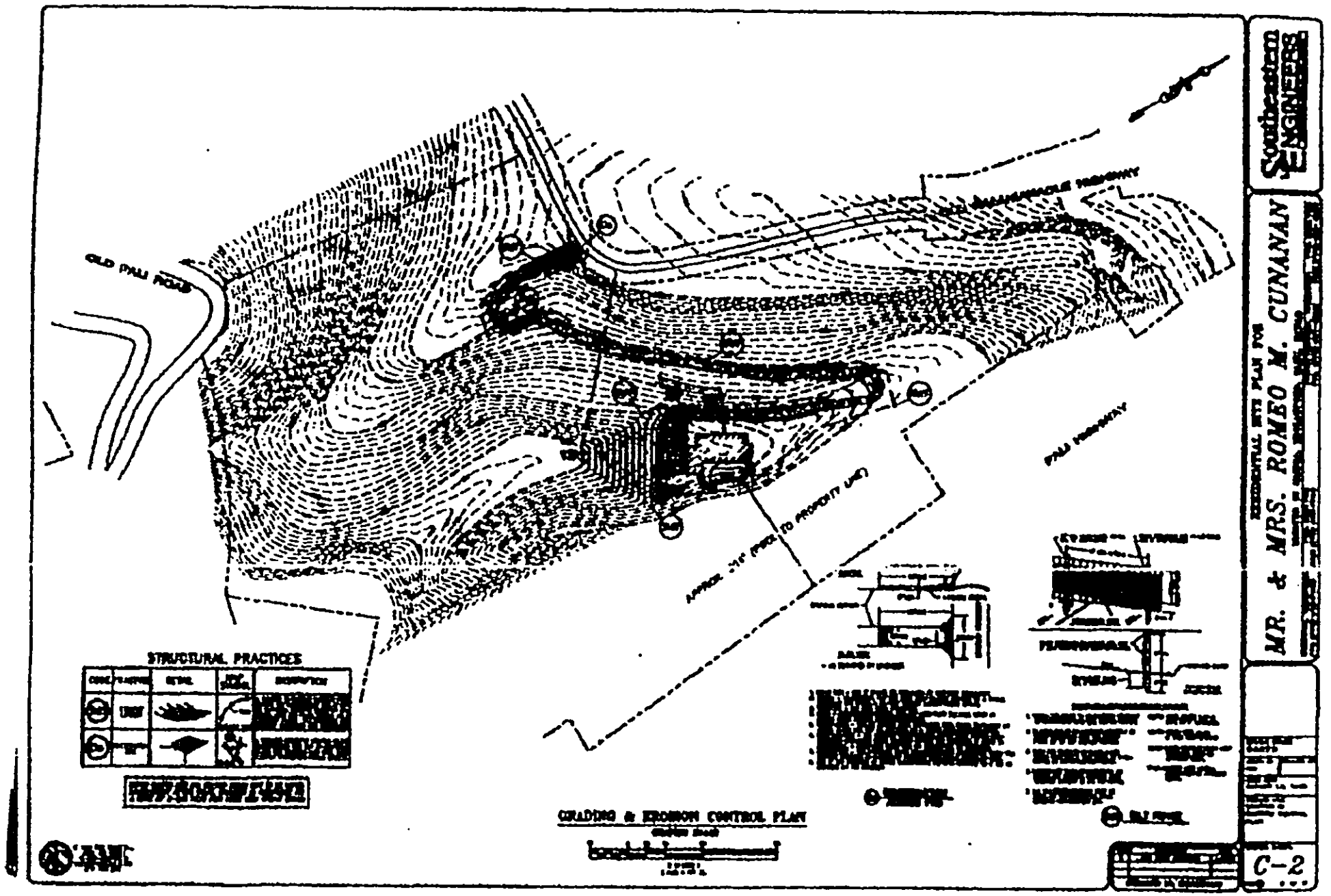
Dear Mr. Gretz,

I have received your letter dated January 21, 1997 through the DLNR posting in their Bulletin Board Publication. As an architect and planner, I appreciate your concern with my proposed project as it affects the surrounding area in terms of visual impacts and the environment. My answers to your concerns are enclosed. I appreciate your interest in this matter and hope the impact generated by my proposed project are minimal and hence acceptable by the community standards in the State of Hawaii.

Thank you and I remain,

Very Truly Yours,

Romeo Cunanan



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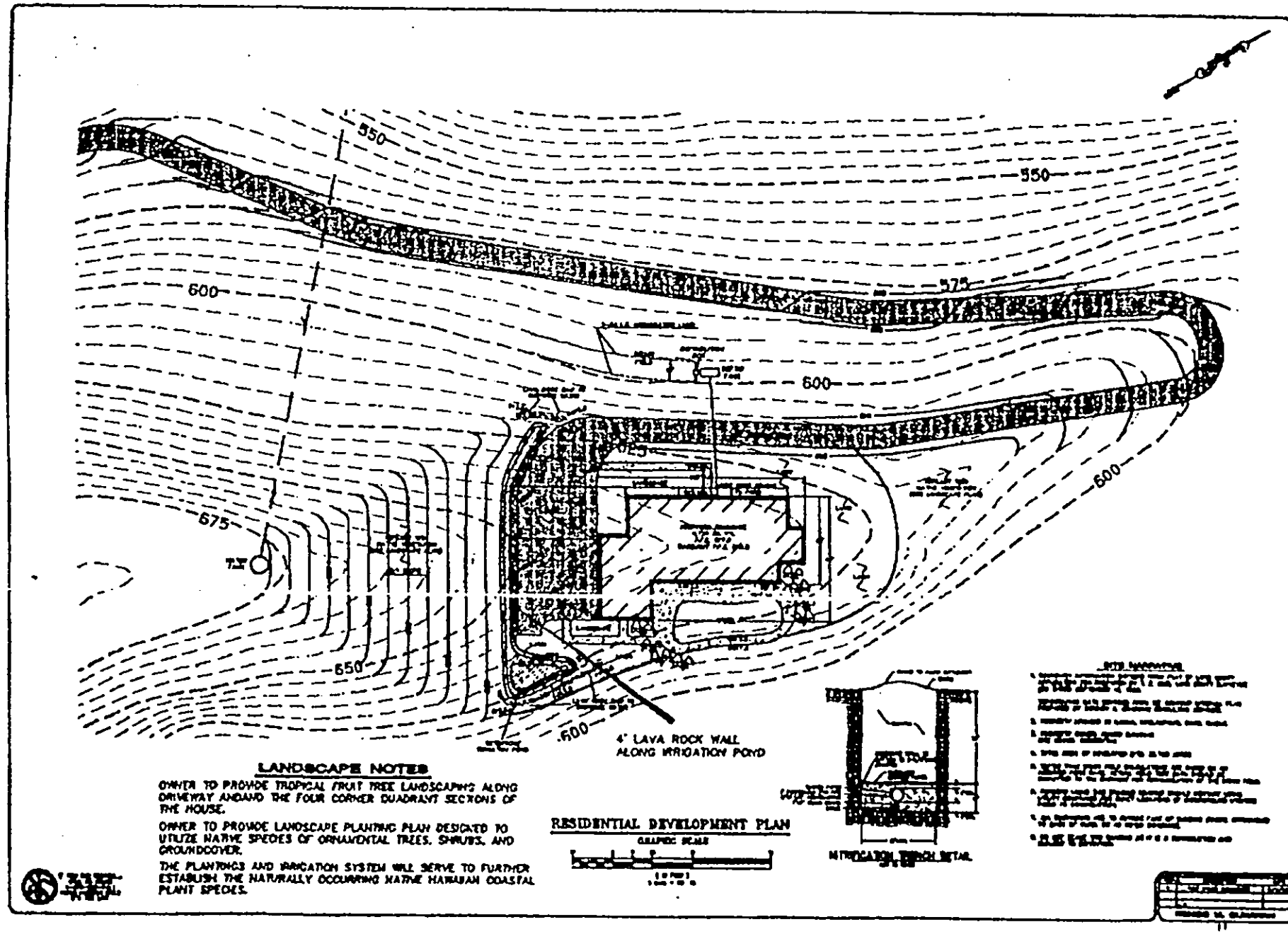

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THE VISUAL IMPACTS FROM PUBLIC VANTAGE POINTS

The visual impacts from the public vantage points is the one I want to address now. As previously noted in the DEA Report the present visual character of the project site is one of secluded, mountain vegetation with tall Eucalyptus trees and shrubbery. The project site is bounded by Kamehameha Highway on the North side and the Koolau Mountain Ranges on the south side. The Eastern side is bounded by the Pali Highway and the western side by the Likelike Highway. There is a Scenic Lookout Area on the south side of the project site but because of the great distance and tall existing vegetation there is no available view to see the house. All the other boundaries are as well vegetated and existing tall trees around. There is one possible public view and that is through Kamehameha Highway by the Pali Golf Course. However, because of the great distance from the highway, it is still hard to get a full view of the house. Therefore, it is our opinion that this house is well above and passed all critical concerns in terms of the possible un-blending with the natural beauty and the natural characteristics of the surrounding area. However, we will take all possible measures such as preservation and improvement whichever is applicable to the existing physical and environmental aspects of the land so the project site is in total agreement with the surrounding area.

RESIDENTIAL DEVELOPMENT PLAN

The approximate developable area measures about 330'x330' or about one acre in size. The physical dimensions of the various facilities and related improvements are as shown on the Residential Development Plan. The swimming pool measures approxi-mately 20'x50' and about 200 feet from the eastern side of the property line (Pali Highway). The detention pond/irrigation runs by way of a trench in a easterly and westerly direction and a pond of approximately 20'x30' as the main detention pond. A 4 feet lava rock runs along this E_W direction.The pond will serve as a source of irrigation system and will serve to further established the naturally occurring native Hawaiian plant species and other tropical fruit trees landscape to be incorporated in the site. The proposed driveway is to be 10 feet wide and asphalt paved driveway. With the proper approval of the State Health Department a septic tank will be installed as the system to dispose of human waste disposal. All physical dimension of the building structure are as shown on the floor plan and elevations. We will obtain proper building permit and approval from the proper approving local, County and State agencies before starting this proposed project. Imagine Ho'omaluhia Botanical Garden driveway that leads to different areas of interest and along the drive. There are various groupings of beautiful flowering plants and tall trees. The drive through is just breathtaking and relaxing. This type of landscape is the one we envisioned to have on our proposed driveway. As noted previously as part of the landscape are tropical fruit trees along both sides of the driveway. On a previous correspondence I have also incorporated the type of landscape around the building site.

GRADING AND EROSION CONTROL PLAN

The construction measures such as proposed drainage, control on erosion sidementation, etc, are as shown on the Grading and Erosion Plan. There are three structural techniques to be implemented in this project. The first standard structural practice is the construction of access pad from Old Kalanianaole Highway to the project site. This pad is made of crusted stone to provide a place for removing mud from tires thereby protecting public streets. The pad will be 15'x30' and 6" deep. This pad should be maintained throughout theconstruction period so as to prevent tracking or flowing of sediment on to public rights of way.

The second control to be implemented is the Silt Fence Structural Technique. Silt Fence is to be erected at critical areas of Proposed Driveway to prevent the erosion of the soil. The building site will be surrounded with silt fence so as to minimize soil erosion. All graded areas if not to be paved should be mulch immediately after final grading so as to minimize soil erosion.

January 24, 1997

Romeo M. Cunanan
15 Knight Drive
Newnan, Georgia, 30263
Tel No. (770) 251- 4140

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

Re: File No. OA-2842
Size and Description of Proposed Project.

Dear Mr. Uchida,

The proposed single-storey residential dwelling will serve as the main residence of the applicant. The main residence is approxi--mately 3000 sq. ft and the long dimension runs parallel to Old Kalanianaole Rd. It comprises of 3 Bedrooms, Main Hall and the Activity Room all situated on the Main Floor. The dwelling will feature a Monier Tile Roof or equivalent Roof covering. The dwelling will feature an Exterior material made of Architectural Split Face Hollow Blocks framed against 2x4 studs throughout the building. The Garage will be integrated with the Main Framing System of the house. The construction will be of double wall construction with at least R-30 insulation on walls and roof, attic as well. The existing landscape (predominantly Eucalyptus trees and under brush) on the East, South and West sides of the building site will be retained. The (Eucalyptus) trees will be blocking the UV rays of the Sun, thus creating a Passive Solar Design for the dwelling and also achieving the environmental friendly goal of the surrounding community. The additional landscape will be the planting of tropical fruit trees at the four quadrants of the siteand about 15 feet from the side of the building to replace the under brush cuttings and clearings. On the North side of the building site, some of the existing Eucalyptus trees will be cleared to get a clear view of the ocean beyond. Also dwarf coconut trees will dominate this side to replace the under brush. A section of Ti plANTS> NATIVE Hawaiian plants and ginger patches will be distributed proportionately on this side as well. So the overall objective of environmental friendly of the surrounding landscape is achieved with this new proposed plan.

Thank you for your consideration.

Very Truly Yours,

Romeo M. Cunanan

DEPARTMENT OF PUBLIC WORKS

CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

JEREMY HARRIS
MAYOR

KENNETH E. SPRAGUE
DIRECTOR AND CHIEF ENGINEER

IN REPLY REFER TO

97-14-0054

January 30, 1997

RECEIVED
97 FEB 5 P2:17
OFC. OF CONVEYANCES

DEPT. OF LAND
& NATURAL RESOURCES
STATE OF HAWAII

RECEIVED
FEB 5 4 12 PM '97
LAND MANAGEMENT
DIVISION

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

Dear Mr. Wilson:

Subject: Your Letter, OA-2842, Relating to a Conservation District Use Application for a Single-Family Residence at Kailua, Oahu, Tax Map Key: 4-2-11: 19

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

Engineering:

Figure 1 in Appendix B indicates a very severe slope to old Kalanianaole Road. Address the extent of the grading construction required for access, area required to achieve this, and measures to mitigate impact. Should there be any questions, please contact Gerald Takayesu at 527-6104.

Refuse Collection:

We do not object to this application. Our refuse collection trucks will collect refuse from this residence on Saturdays only. Refuse must be placed curbside fronting this residence on Friday evening or Saturday morning. Should there be any questions, please contact David Shiraishi at 527-5697.

Very truly yours,

KENNETH E. SPRAGUE
Director and Chief Engineer

DEPARTMENT OF TRANSPORTATION SERVICES

CITY AND COUNTY OF HONOLULU

PACIFIC PARK PLAZA
711 KAPIOLANI BOULEVARD, SUITE 1200
HONOLULU, HAWAII 96813

97 FEB 10 A8:52

JEREMY HARRIS
MAYOR

CHERYL D. SOON
ACTING DIRECTOR

JOSEPH M. MAGALDI, JR.
DEPUTY DIRECTOR

& NATURAL RESOURCES
STATE OF HAWAII

February 5, 1997

TSP1/97-00211R

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

FEB 10 12 02 PM '97

Dear Mr. Wilson:

Mike

Subject: Conservation District Use Application #OA-2844 for Cunanan Residence

In response to your January 15, 1997 letter, we reviewed the information provided regarding the subject application. The draft environmental assessment stated that the present roadway closure barrier on the "Old Kalanianaole Highway" will be relocated to a point just above the access driveway into the building site. The ownership of "Old Kalanianaole Highway" should be verified to insure that the relocation of the roadway closure barrier is coordinated with the appropriate agencies.

Should you have any questions regarding this matter, please contact Faith Miyamoto of the Transportation System Planning Division at 527-6976.

Sincerely,

CHERYL D. SOON
Acting Director

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

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

DEPUTIES

GILBERT COLOMA-AGARAN

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

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
33 SOUTH KING STREET, 6TH FLOOR
HONOLULU, HAWAII 96813

December 19, 1996

MEMORANDUM

LOG NO: 18675 ✓
DOC NO: 9612EJ20

RECEIVED
JAN 9 12 03 PM '97
DEPT. OF LAND & NATURAL RESOURCES

TO: Dean Uchida, Administrator
Land Division

FROM: Don Hibbard, Administrator
Historic Preservation Division

SUBJECT: **Chapter 6E-42 Historic Preservation Review -- Conservation District Use Application for Single Family Residence and Related Improvements**
Romeo and Linda Cunanan (File No. OA-2842)
Kaeleuli, Ko'olaupoko, O'ahu
TMK: 4-2-11:19

A review of our records shows that historic site 50-80-14-1174, known as the Pali Complex, is located in the upper limits of the property. Other archaeological sites are known to exist in the general vicinity. However, no archaeological inventory survey has been conducted for the proposed project area, so it cannot be determined if, or how many, significant historic sites are in the project area.

Therefore we recommend that a Board decision be deferred until an archaeological inventory survey of the proposed project area is performed to determine if any historic sites are present, and, if so, to gather sufficient information to evaluate their significance. A report of the finds should be submitted to the State Historic Preservation Division for review. At that point, we can indicate to the Board if significant historic sites are present, and if so, we can recommend appropriate mitigation conditions.

The Draft EA states that the applicant has proposed recording of archaeologically significant sites that might be found within the areas of the building site. So the applicant seems to be also indicating that a survey is needed, and will be done.

EJ:jk

BENJAMIN J. CAYETANO
GOVERNOR

GARY GILL
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4186

JAN 27 3 51 PM '97

January 22, 1997

RECEIVED
97 JAN 23 A11:05
& NATURAL RESOURCES
STATE OF HAWAII

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

Dear Mr. ~~Wilson~~ Mike,

Subject: Draft Environmental Assessment for the Cunanan Residence & Related Improvements, Oahu

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

1. Please provide plans and drawings of the proposed house, roadway access and other accessory facilities.

2. Discuss other foreseeable future development in the area and the cumulative impacts from all development. Future development in the area include the proposed Wasco Residence which was announced in the December 8, 1996, Environmental Notice.

3. Please illustrate the cumulative visual impacts of the proposed structures from public places such as roads and lookouts. Photos of existing conditions taken from public view points are extremely helpful in evaluating cumulative visual impacts. Renderings of future structures superimposed on photos of existing views should be provided. We recommend constructing and painting the buildings with materials and colors that blend with the surroundings. We also recommend landscaping to reduce the visual impacts.

4. Is there an effort to put the Pali Complex (archaeological site 80-14-1174) on the Hawaii or National Register of Historic Sites? Please describe present and future plans to preserve and protect this important site.

5. Please consult with the State Department of Health regarding wastewater disposal for this project.

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

Sincerely,

Gary Gill
Director

c: Chapman Consulting
Romeo & Linda Cunanan

February 17, 1997

Respondent: Romeo Cunanan

Response to Mr. Kenneth Sprague, Director and Chief Engineer, Letter Dated January 30, 1997.

The slope of the driveway from the entrance on Old Kalanianaole Highway to the building site is approximately 10-13%. This concern was prepared by Southeastern Engineers and as presented in the grading and erosion control plan (see Exhibit A). To achieve this gradient the driveway follows the contour lines and a series of cuts and fills are employed to minimize soil erosion. Areas where the soil is disturbed and made uneven due to the removal of the underbrush and small trees, the grading and paving contractor must use the cut and fill technique, to shape the ground to its almost natural and existing grade. Any excess cut soils at the entrance and throughout the driveway the grading and paving contractor must appropriately dispose said soils to the city and county of Honolulu approved dump site or an approved private landfill.

February 17, 1997

Respondent: Romeo Cunanan

Response to Cheryl D. Soon, Acting Director Dept. of Transportation Services, City and County of Honolulu, Letter Dated February 5, 1997.

The Old Kalanianaole Highway is part of the highway system of the city and county of Honolulu, Oahu, Hawaii. The closure barrier was installed by the Hawaii Electric Company for the purpose of preventing the general public from discarding their trash and garbage on the road. The Hawaii Electric company has a perpetual easement on my property where their electric transmission lines are located. Once my project is completed this closure barrier will be an eyesore and therefore the actual physical relocation, is that it must be removed from my property. The Hawaii Electric Company will be notified accordingly when such a move is contemplated to insure its proper disposal.

February 17, 1997

Respondent: Romeo Cunanan

Response to the Memorandum from Don Hibbard (Administrator Historic Preservation), Dated December 19, 1996

Given the extent of forestry planting and other recent human activities in the area, it appears unlikely that archaelogically or historically significant sites will be found within the building site. However, if the issuance of the CDUP is predicated upon actually performing another archaelogical reconnaissance survey on the proposed building site, the owner will perform such a task. If there are archaelogical significant sites found on the proposed building site, such findings will be preserved and recorded as required by applicable federal, state and county rules and regulations.

February 17, 1997

Respondent: Romeo Cunanan

Response to Cheryl D. Soon, Chief Planning Officer, Office of Environmental Quality Control Letter, Dated January 23, 1997.

Point No. 1. The state land use classification of the property is conservation; and that the pro posed site is designated for preservation use on the Koolaupoko development plan land use map and zoned P-1 restricted preservation district on zoning map No. 22 (Heeia-Kaneote-Maunawili). This paragraph will be incorporated in final environmental assessment (EA).

Point No. 2. The Koolaupoko development plan public facilities map shows symbols within the general vicinity of the subject site which represents the following:

a.) Publicly funded park golf course/modification (Pali Golf Course Improvements), site determined, within six years; and
b.) Publicly funded police station (Koolaupoko (Kaneohe) District Police Station), site undetermined, beyond six years.

This item to be incorporated in the final environmental assessment (EA).

Point No. 3. The concern on the Mauka and Makai views in order to promote pleasing and attractive living environments shall be protected whenever possible. The present landscape of the proposed project site is one of secluded, mountain vegetation with tall Eucalyptus trees and shrubbery. The project side is bounded by Kamehameha Highway on the north and the Koolau Mountain Ranges on the Mauka side. The Eastern side is bounded by the Pali Highway and the Makai side by the Likelike Highway. There is a scenic lookout area on the Mauka side of the project site but because of the great distance and tall existing vegetation there is no available view to see the house. All the other boundaries are as well vegetated and existing tall trees around. There is one possible public view and that is through Kamehameha Highway by the Pali Golf Course. However, because of the great distance from the highway, it is still hard to get a full view of the house. Therefore, it is our opinion that the location of the proposed single family residence is well above and passed all critical concerns in terms of the possible unblending with the natural beauty and the natural characteristics of the surrounding area. However, we will take all possible measures such as preserva tion and improvement whichever is applicable to the existing physical and envi ronmental aspects of the land so the project site is in total agreement surrounding area. This paragraph will be incorporated in the final environmental assessment (EA).

Point No. 4. The potential impacts of runoff to areas downstream of the proposed project will

not impose any more danger than the current way of handling the runoff because we will catch the runoff via graded sodded ditches to discharge to the gulch. The water in the roof will be discharged through gutters and downspouts connected to a drainage pipe below ground and discharged the flow of water to the natural drainage way or gulch. This item will be incorporated in the final environmental assessment (EA).

Point No. 5. This concern is addressed in section 2.2.1.9 Historical and Archaeological Resources of the DEA report.

Point No. 6. This is addressed in Point No. 3 above. However, to protect and preserve the proper balance of the proposed project with the surrounding area, the owner will present the pictures he took at different directions of the proposed project site. These will be presented at the public hearing on February 27, 1997 at the Kalanimoku Building, 1151 Punchbowl Street, Honlulu, Hawaii 96813.

PLANNING DEPARTMENT
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET, 8TH FLOOR • HONOLULU, HAWAII 96813-3017
PHONE (808) 523-4711 • FAX (808) 523-4950

JEREMY HARRIS
MAYOR

CHERYL D. SOON
CHIEF PLANNING OFFICER

CAROLL TAKAHASHI
DEPUTY CHIEF PLANNING OFFICER

RECEIVED
'97 JAN 27 AM 8 46
OFC. OF
QUALITY

January 23, 1997

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

Dear Mr. Wilson:

Conservation District Use Permit (CDUP) Application
No. OA-2842/Draft Environmental Assessment (DEA)
for the Proposed Cunanan Residence & Related Improvements,
Koolaupoko, Oahu, Hawaii, TMK: 4-2-11: 19

In response to your department's request that was received on December 31, 1996, we have reviewed the subject CDUP Application/DEA and have the following comments to offer:

1. The first sentence of section 1.3 REQUESTED GOVERNMENTAL ACTION on Page 8 of the DEA should clarify that the present State Land Use classification of the property is Conservation; and that the proposed site is designated for Preservation use on the Koolaupoko Development Plan Land Use Map and zoned P-1 Restricted Preservation District on Zoning Map No. 22 (Heeia-Kaneohe-Maunawili). This information should be included in the Final Environmental Assessment (FEA).

2. The Koolaupoko Development Plan Public Facilities Map shows symbols within the general vicinity of the subject site which represents the following:

   a. publicly funded Park Golf Course/Modification (Pali Golf Course Improvements), site determined, within six years; and

   b. publicly funded Police Station (Koolaupoko (Kaneohe) District Police Station), site undetermined, beyond six years.

3. Based on the information we received, the application did not address mauka and makai views in relationship to the proposed project from public places. Moreover, a visual impact assessment of mauka and makai views from public places would determine if the proposal is consistent with Section 24-6.2.(a)(2) Public Views of the Development Plan Special Provisions for Koolaupoko, which states the following:

> "In order to promote pleasing and attractive living environments and panoramic mauka and makai views from public places, views of major landmarks from public places shall be protected whenever possible.

4. Since the proposed project would result in an increase in impervious surface area, the FEA should disclose the potential impacts of runoff to areas downstream of the proposed project.

5. Given that the archaeological site (80-14-1174) known as the Pali Complex which consists of agricultural or habitation features (heiau or house platform) is located in the upper portion of the subject property, and that the owner would agree to preserve or record any additional archaeologically significant sites that might be found within the building site as appropriate and as required by applicable federal, state and county rules and regulations, comments from the State Historic Preservation Division should be disclosed in the FEA.

6. Based on our review, the DEA lacks sufficient mauka and makai view analysis, drainage/runoff and historical/archaeological data. As a general policy, we oppose expansion of urban development on lands intended for Preservation.

Should you have any questions, please contact Matthew Higashida of our staff at 527-6056.

Sincerely,

CHERYL D. SOON
Chief Planning Officer

CDS:js

cc: /Office of Environmental Quality Control

February 14, 1997

RECEIVED
'97 FEB 18 P2:54

Romeo Cunanan
15 Knight Dr.
Newnan, Georgia, 30263

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

Re: January 22, 1997 Letter to Mr. Michael Wilson
Chair, Department of Land and Natural Resources

Dear Mr. Gill,

Per the instruction given by Ms. Lauren Tanaka I am forwarding the following response and documents to the referenced letter above for your file. I hope I have answered your concerns in the letter adequately.

Thank you and I remain,

Very Truly Yours,

Romeo Cunanan

February 5, 1997

Ms. Lauren Tanaka
State of Hawaii
Department of Land and Natural Resources
Land Division
P. O. Box 621
Honolulu, Hawaii, 96809

Re: DEA Concerns per your Telefax of February 4, 1997

Dear Ms. Tanaka,

The answers to your various concerns raised toward DEA are as follows:

Point 1. The various drawings are enclosed with this letter.

Point 2. There is no plan for future developement in this land other than this proposed project. As far as the Wasco residence, it is completely independent from our proposed project. Our project is the only structure and other related improvements specific to this parcel TMK 4-12-11-19/A-2-A-2.

The Visual impact concern from Public view.

Point 3. Please refer to the item, the Visual Impacts from Public Vantage View.

The Pali Complex Historical Site.

Point 4. As noted previously, the Pali Complex (Archaeological site 80-14-1174) has been taken off from Hawaii Register of Historical Sites. This complex consists mainly of agricultural and house platform features and situated on the upper portion of the property in the sharp bend of the Pali Highway. The location is quite unique and hence at this time there is no plan to disturb the site.

Final Approval of Waste Disposal System.

Point 5. Of course before we install the waste water disposal system, we will obtain the necessary permit and approval from the State Health Department.

In Summary, the potential environmental effects, the overall cumulative effects of the proposed project have been evaluated

and observed that the proposed project is compatible with the locality and surrrounding area. The proposed project is in keeping with the objectives and purposes of conservation.

I want to express my apprecation for all your actions concerning this application.

Thank you and I remain.

Very Truly Yours,

Romeo Cunanan

THE VISUAL IMPACTS FROM PUBLIC VANTAGE POINTS

The visual impacts from the public vantage points is the one I want to address now. As previously noted in the DEA Report the present visual character of the project site is one of secluded, mountain vegetation with tall Eucalyptus trees and shrubbery. The project site is bounded by Kamehameha Highway on the North side and the Koolau Mountain Ranges on the south side. The Eastern side is bounded by the Pali Highway and the western side by the Likelike Highway. There is a Scenic Lookout Area on the south side of the project site but because of the great distance and tall existing vegetation there is no available view to see the house. All the other boundaries are as well vegetated and existing tall trees around. There is one possible public view and that is through Kamehameha Highway by the Pali Golf Course. However, because of the great distance from the highway, it is still hard to get a full view of the house. Therefore, it is our opinion that this house is well above and passed all critical concerns in terms of the possible un-blending with the natural beauty and the natural characteristics of the surrounding area. However, we will take all possible measures such as preservation and improvement whichever is applicable to the existing physical and environmental aspects of the land so the project site is in total agreement with the surrounding area.

January 24, 1997

Romeo M. Cunanan
15 Knight Drive
Newnan, Georgia, 30263
Tel No. (770) 251- 4140

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

Re: File No. OA-2842
Size and Description of Proposed Project.

Dear Mr. Uchida,

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Thank you for your consideration.

Very Truly Yours,

Romeo M. Cunanan

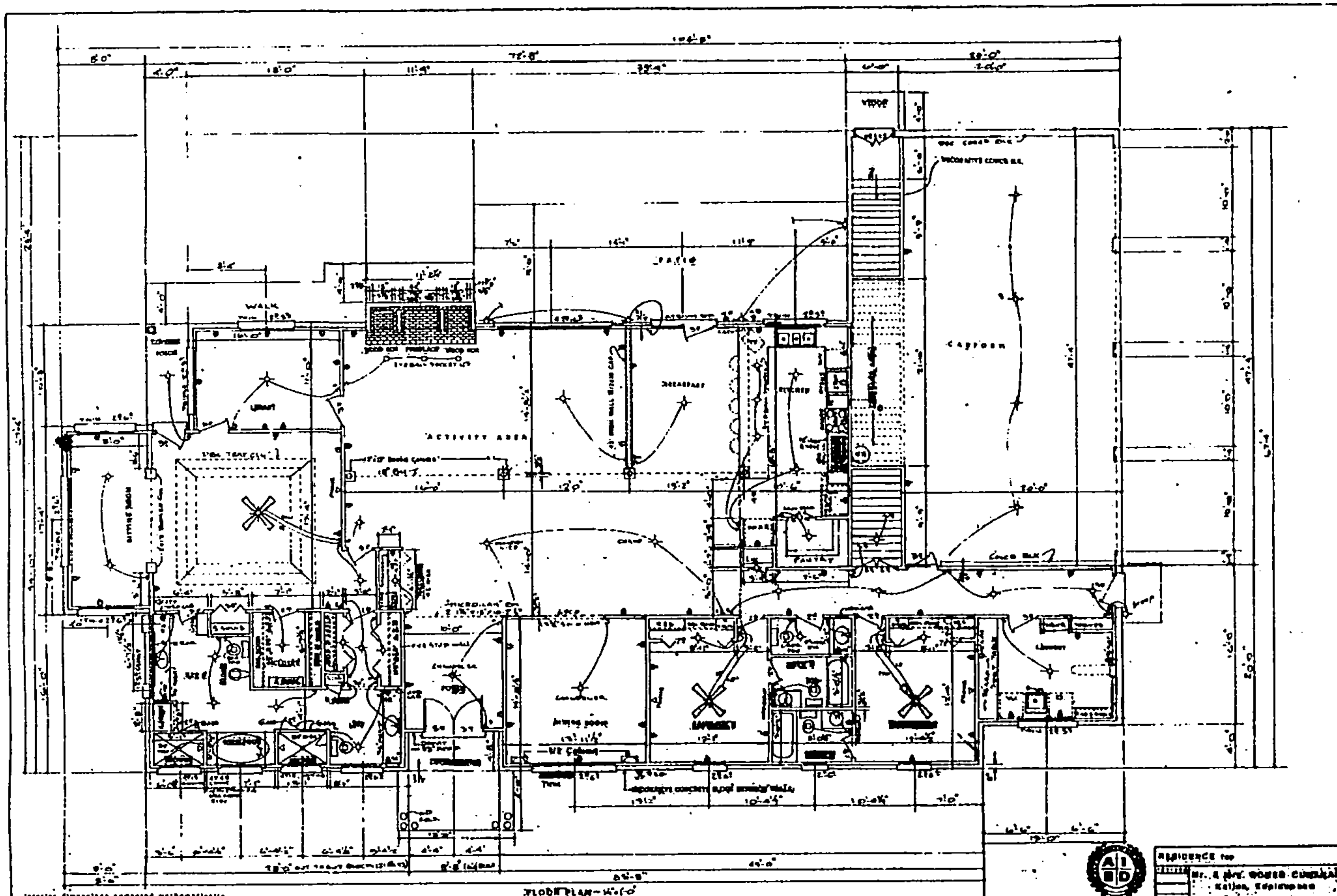
RESIDENTIAL DEVELOPMENT PLAN

The approximate developable area measures about 330'x330' or about one acre in size. The physical dimensions of the various facilities and related improvements are as shown on the Residential Development Plan. The swimming pool measures approxi-mately 20'x50' and about 200 feet from the eastern side of the property line (Pali Highway). The detention pond/irrigation runs by way of a trench in a easterly and westerly direction and a pond of approximately 20'x30' as the main detention pond. A 4 feet lava rock runs along this E_W direction.The pond will serve as a source of irrigation system and will serve to further established the naturally occurring native Hawaiian plant species and other tropical fruit trees landscape to be incorporated in the site. The proposed driveway is to be 10 feet wide and asphalt paved driveway. With the proper approval of the State Health Department a septic tank will be installed as the system to dispose of human waste disposal. All physical dimension of the building structure are as shown on the floor plan and elevations. We will obtain proper building permit and approval from the proper approving local, County and State agencies before starting this proposed project. Imagine Ho'omaluhia Botanical Garden driveway that leads to different areas of interest and along the drive. There are various groupings of beautiful flowering plants and tall trees. The drive through is just breathtaking and relaxing. This type of landscape is the one we envisioned to have on our proposed driveway. As noted previously as part of the landscape are tropical fruit trees along both sides of the driveway. On a previous correspondence I have also incorporated the type of landscape around the building site.

GRADING AND EROSION CONTROL PLAN

The construction measures such as proposed drainage, control on erosion sidementation, etc, are as shown on the Grading and Erosion Plan. There are three structural techniques to be implemented in this project. The first standard structural practice is the construction of access pad from Old Kalanianaole Highway to the project site. This pad is made of crusted stone to provide a place for removing mud from tires thereby protecting public streets. The pad will be 15'x30' and 6" deep. This pad should be maintained throughout theconstruction period so as to prevent tracking or flowing of sediment on to public rights of way.

The second control to be implemented is the Silt Fence Structural Technique. Silt Fence is to be erected at critical areas of Proposed Driveway to prevent the erosion of the soil. The building site will be surrounded with silt fence so as to minimize soil erosion. All graded areas if not to be paved should be mulch immediately after final grading so as to minimize soil erosion.



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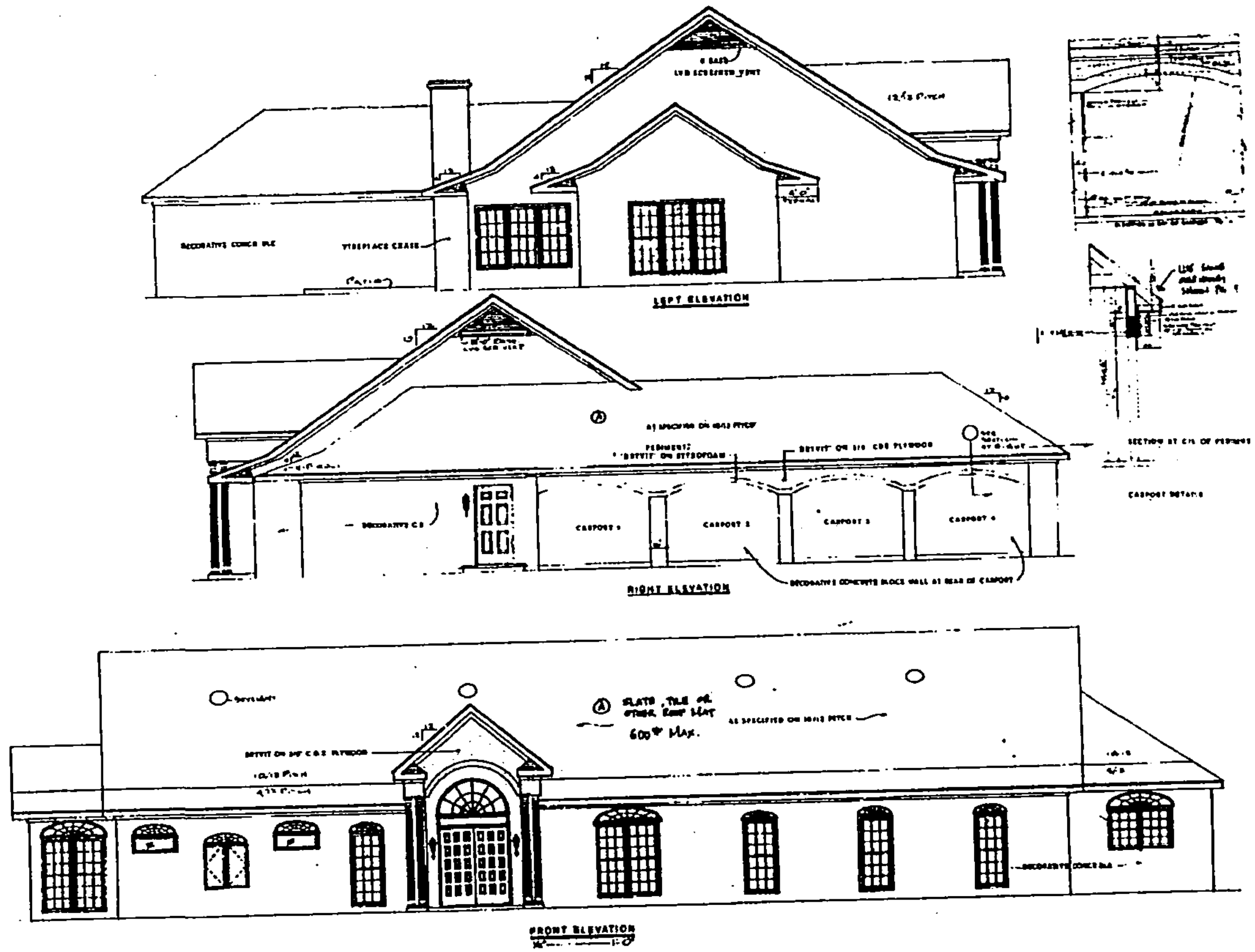

RESIDENCE for
Mr. & Mrs ROMEO CUNANAN
Kailua, Koolaupoko
Oahu, Hawaii
Sheet 1 of

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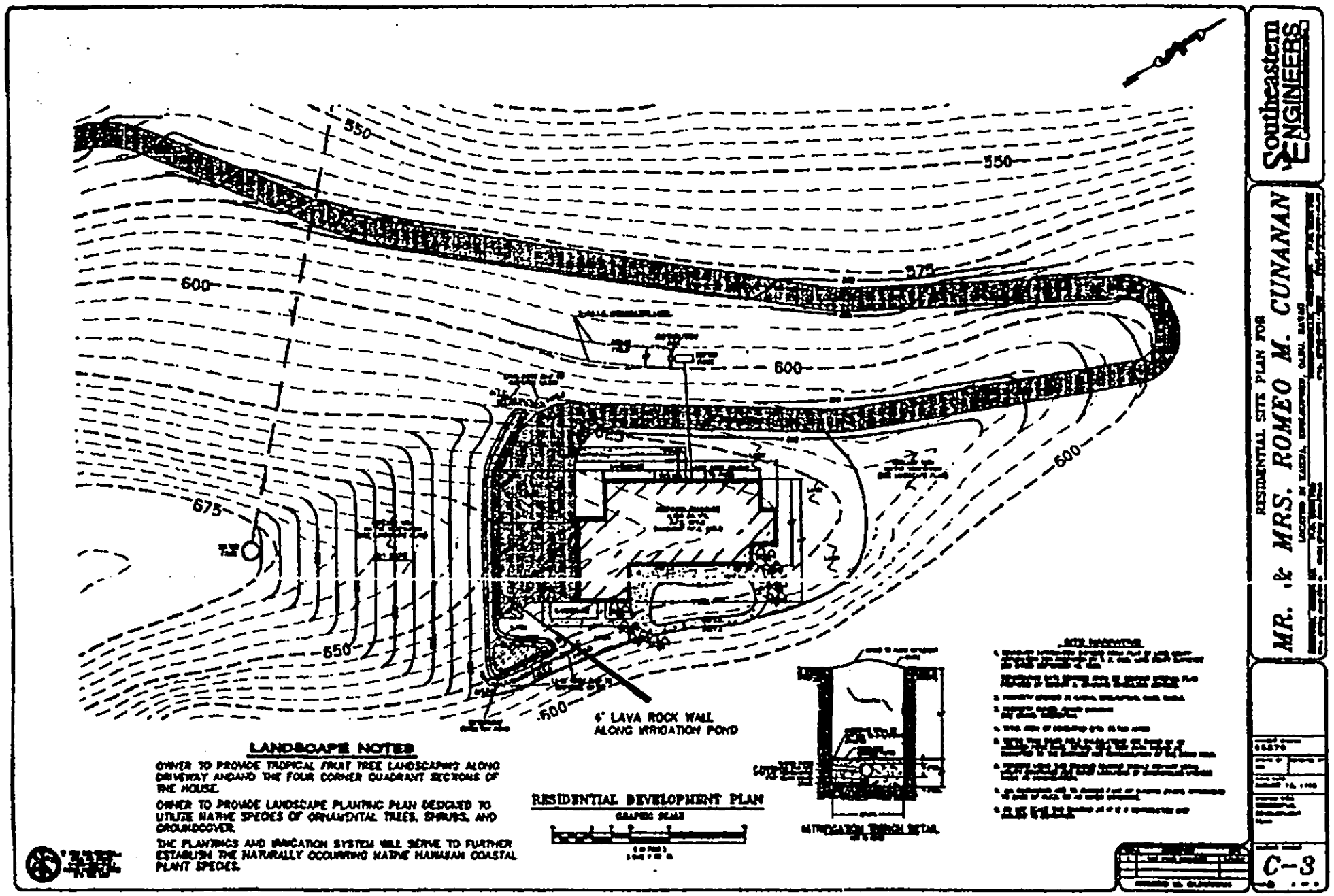

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