LINDA LINGLE
GOVERNOR OF HAWAII

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

ROBERT K. MASUDA
DEPUTY DIRECTOR

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
Office of Conservation and Coastal Lands
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

ref: OCCL: MC

File No: CDUA MA-3389

FEB 12 2007

MEMORANDUM

TO: Genevieve Salmonson, Director
Office of Environmental Quality Control

FROM: Samuel J. Lemmo, Administrator
Office of Conservation and Coastal Lands

SUBJECT: Final Environmental Assessment (FEA)/Finding of No Significant Impact (FONSI) for Conservation District Use Application (CDUA) MA-3389

The Department has reviewed CDUA MA-3389, and Final Environmental Assessment (FEA) for the single-family residence and landscaping at Kaliae in the Hana District, Maui, TMK (2) 1-2-001:004. The Draft Environmental Assessment (DEA) for CDUA MA-3389 was published in OEQC's December 8, 2006 *Environmental Notice* for the subject project.

The FEA is being submitted to OEQC. We have determined that this project will not have significant environmental effects, and have therefore issued a FONSI. The FONSI does not constitute approval of the CDUA; authority to grant or deny the final permit lies with the Board of Land and Natural Resources.

Please publish this notice in OEQC's upcoming February 23, 2006 *Environmental Notice*. We have enclosed four copies of the FEA for the project. Comments on the draft EA were sought from relevant agencies and the public, and were included in the FEA.

Please contact Michael Cain of our Office of Conservation and Coastal Lands staff at 587-0380 if you have any questions on this matter.

c: David Niehaus et al, 1630 Pi`ihiolo Road, Makawao, HI 96768

Kaliae

Our vision for the Future

Environmental Assessment

TMK: (2) 1-2-001-004

February 2nd, 2007

Contents

tab 1

Environmental Assessment – 2/2/07

Summary

Applicant/Owner:
David Niehaus and Deborah Mathias (husband and wife)

Property Location:
Kaliae, Maui, Hawaii

Tax Map Key:
2-1-2-001-004

Parcel Size:
63 Acres

Approving Agency:
Department of Land & Natural Resources
P.O. BOX 621
Honolulu, Hawaii 96813

Proposed Action: The applicants, Deborah Mathias and David Niehaus, propose to construct a one story, single-family residential dwelling and related accessory use improvements (garage, water catchment system, private wastewater treatment system, minor road improvements, and pool), and to reforest a 3-acre area with native Hawaiian trees and shrubs. The applicant also proposes to construct two shade cloth houses for the propagation of native Hawaiian trees for planting on the parcel. An agricultural storage shed, which will be necessary for rain catchment will also be constructed to replace the temporary, existing catchment system. The proposed structural improvements will be on approximately one-half acre of the sixty-three acre property. The applicant proposes to plant three acres with trees that are indigenous to Hawaii and have been propagated on site. The property is located within the State Land Use Conservation District, General Subzone. The project area is located within the County Special Management Area (SMA). The project area is accessed via a 7/10 mile easement through the Ko'olau Forest Reserve and an existing dirt access road on the property.

Determination:
The proposed action will have no significant impact on the environment. A Finding of No Significant Impact (FONSI) is anticipated, subject to the provisions of Section 11-200-9, Hawaii Administrative Rules.

Agencies Consulted:
State

- Historic Preservation Division, Department of Land and Natural Resources (DLNR)
- Office of Conservation and Coastal Lands (DLNR)
- Division of Forestry and Wildlife (DLNR)
- Commission on Water Resource Management (DLNR)
- Engineering Division (DLNR)
- Land Division (DLNR)

County of Maui
- Planning Department

Federal
- Department of the Interior Fish and Wildlife Service

Community
- Keanae-Wailua Community Association

1. INTRODUCTION

1.1 Identification of Applicant and Ownership

The applicants are the Niehaus family (David Niehaus, Deborah Mathias, and Neil Strumingher). The Applicants' ownership of the property is evidenced by the deed recorded in the bureau of conveyances of the State of Hawaii on May 31, 2005.

1.2 Identification of Approving Agency

The approving agency for this environmental assessment is:
State of Hawaii
Department of Land and Natural Resources
Board of Land and Natural Resources
P.O. Box 621
Honolulu, Hawaii 96809

1.3 Identification of Agencies and Community Groups Consulted in Making Assessment

The following agencies provided assistance or information in preparing this assessment:

State
- Historic Preservation Division, Department of Land and Natural Resources (DLNR)
- Office of Conservation and Coastal Lands (DLNR)
- Division of Forestry and Wildlife (DLNR)
- Commission on Water Resource Management (DLNR)
- Engineering Division (DLNR)
- Land Division (DLNR)
- Department of Health

County of Maui
- Planning Department

Federal
- Department of the Interior Fish and Wildlife Service
- Natural resource Conservation Services, USDA

Community
- Keanae-Wailua Community Association
- OHA
- Maui Invasive Species

2. PROJECT DESCRIPTION

2.1 Location

The triangular shaped, 63-acre parcel is located at Kaliae, Maui, TMK 2-1-2-01-04. There are over five thousand acres of state forest land surrounding the parcel. There are cliffs on two of its boundary sides formed by Kopiliula and East Wailuaiki streams, and a 200+ foot oceanfront bluff on the third.

2.2 Existing Uses and Activities

This parcel has been used for cattle grazing since before statehood and can support approximately fifty head of cattle. It is relatively unimproved pastureland except for an existing tent structure used for water catchment and three 2000 gallon tanks used for water storage. The King's Trail traverses the lower region of the property staying below 400 feet elevation and gives access to the shoreline. No valuable fishing or gathering exists on the vacant parcel itself.

2.3 Surrounding Area Uses and Activities

The property is bordered by the Ko'olau state forest which could be used for hunting, hiking and gathering if permitted by the state. The property's sea cliffs are too high for fishing, but shoreline access and neighboring streams can be reached via the King's trail. Keanae and Wailua homesteads (zoned agricultural), located to the west, do not border the parcel and are hidden by densely vegetated ridges and valleys. These residents could use the King's trail for access to cultural and recreational activities along the shoreline.

2.4 Proposed Uses and Activities

A. Single Family Dwelling: Construction of a one-story, single-family residential dwelling on post and pier framing, consisting of 4 bedrooms and 3 baths, kitchen, living room, foyer and entry of approximately 3,468 square feet. The applicant also proposes to construct a detached garage of 768 square feet as well as a swimming pool of 700 square feet. Two 30,000 gallon water tanks are proposed, as well as a private wastewater

treatment system that meets all applicable County and State regulations. The applicant wishes to put in a four-inch gravel road base set on an existing dirt access road with pavement on areas with a gradient steeper than 20 percent. There will be minimal grading as the house will be on post and pier rather than a slab. The proposed improvements will be sited along the east edge of the property at approximately 550 feet elevation, 25 feet from the Kopiliula cliff edge boundary and a quarter mile above the northern sea cliff. The proposed improvements comply with section 13-5-41, HAR and "Single Family Residential Standards," dated September 6, 1994, "Conservation District," Hawaii Administrative Rules as set forth below:

Single-Family Residential Standards	Project Dimensions
Minimum lot size: 10,000 square feet	Lot size: 63 acres
Minimum setbacks: Front: 25 feet Sides: 25 feet Back 25 feet	Front: 2,010 feet (makai) Sides: 25 feet and 1460 feet Back: 1,130 feet
Maximum developable area: 5,000 square feet	Developable area: 5,000 square feet Main living area: 3,468 Swimming pool: 500 square feet Garage: 1,000 square feet
Maximum height limit: 25 feet	Maximum height: 25 feet
Compatibility provisions: landscaping	Landscaping will consist entirely of native plants belonging in a wet forest habitat. (Ohia, Hala, Hapu'u, Lama). Sites will be revegitated within 30 days of work commencement.
Color/surface of structures	Neutral colors such as brown and green, and materials such as wood and stone will be used on the house exterior to harmonize with the physical environment.
Wastewater treatment system	Construction of a private wastewater treatment system meeting all applicable County and State regulations.
Minimum grading/contouring of property	Existing topography will require minimal grading (less than 0.01 % of property).
Connecting structures	Garage shall be detached from house to avoid need for additional

	bulldozing (per HAR single family residential standards – see plot plan). Garage will be less than 20' from house.
Building/grading code, shoreline setback compliance	Applicant will comply with all building/grading code and shoreline setback requirements.
One kitchen	The dwelling has only one kitchen.

B. Landscaping Improvements: Planting of small shrubbery and ground cover, around the perimeter of the residential dwelling as permitted land uses within the general subzone under sections 13-5-14 HAR. The landscaping will improve upon the beauty of the property by replacing existing weed species with native Hawaiian plants. Plant species being considered are Ohia, Hapu'u, Lama, Lauhala, and a multitude of native under story shrubs, sedges, and ferns. The final landscaping plan, which will depend on the availability of planting materials at the time of construction, will be submitted during the construction plan approval.

C. Agriculture: Two 20 by 60 foot shade cloth houses for harboring of native trees to be planted at proposed 3-acre reforesting site (refer to Site Map Plan – M2). One 60 by 60 foot open-walled agriculture shed for water catchment and storage of planting materials and equipment. This shed will replace the existing water catchment tent structure.

2.5 Timetable for Development

The applicant proposes to begin work on improvements within 12 months of receipt of all required permits from the State and County. The commencement of the shade cloth houses and propagating of trees will begin immediately upon approval of the CDUA and environmental assessment. Adult trees, however, may not be ready for planting until up to four years, and some six years, due to the fact that an over story must first be in place. It is anticipated that all the single family dwelling and accessory structures will be completed within two years of commencement of construction. It is anticipated that an extension permit will be required for the planting of the trees as the under story trees can not be planted until the upper story trees are at least four years old.

2.6 Funding and Source

Development of the resident and accessory infrastructure is estimated to cost approximately $850,000. Agricultural infrastructure (including water tanks, catchment shed, and shade cloth houses) is estimated to cost $100,000.

3. ENVIRONMENTAL SETTING, IMPACTS & MITIGATION MEASURES

3.1 Physical Characteristics

3.1.1 Physiography and Soils

The elevation of the property ranges from 200 feet at the northern sea cliffs to 900 feet at its mauka border with the state forest. The overall slope of the property is approximately 3 to 25 percent **(see USDA report and Topographical Maps – M1 & M4).**

In a representative soil profile, the surface layer is dark brown silty clay about 9 inches thick. The upper part of the subsoil, about 18 inches thick, is dark brown and reddish-brown silty clay that has a sub-angular blocky structure. The lower part of the subsoil is a very dark gray silty clay loam. The substratum is soft, weathered basic igneous rock. The soil is strongly acidic in the surface layer and strongly acidic to medium acidic in the subsoil. Water permeability is moderately rapid. Runoff is slow and the erosion hazard is slight.

Impacts and Mitigation: Very minor changes to the land form will result from the construction of the single-family residential dwelling and related accessory use improvements, and so no significant adverse impacts are expected. The proposed action would result in the loss of very little agricultural land as the site for development is small compared to the overall size of the parcel.

3.1.2 Natural Hazards

Flood and coastal hazards. The shoreline of the property is approximately 2710 feet in length and is characterized by steep 200 foot sea cliffs. The east and west borders of the property are the tops of even taller cliffs that drop down to Kopiliula and Wailuaiki streams respectively.

Impacts and Mitigation: The project site is located above 500 feet elevation and thus the threat of a tsunami is negligible. Threat of flood is also negligible due to the height of the property above the stream bed cliffs.

3.1.3 Flora/Fauna

No plant species listed by the U.S. Fish & Wildlife Services or State as threatened or endangered occur on the property or immediate vicinity. Adjacent to the property, there is a designated critical habitat for the endangered Mariscus Pennatiformis (no common name), a type of sedge along the coastal edge of TMK 2-1-2-001-004 and the endangered Ischaemum Byrone (Hilo Ischaemum) – see map from US Fish & Wildlife Service (Resources Map – M8). The property itself consists of introduced grasses as well as noxious trees such as guava, inkberry, and lantana. There are also numerous old common mangos. Few Ohia and Lauhala trees occur on the cliff borders of the property where livestock and machinery could not access.

No endangered or otherwise rare bird or mammal species were observed within the project area or vicinity. Known occupied fauna within the property consists predominantly of lowland introduced birds such as the Japanese White Eye, Mynah, and occasional cardinal. No endemic or indigenous birds are observed. Mammal species

observed include field mice, rats and mongoose. No endemic or indigenous mammals are observed.

Sea turtles and other marine species and habitats are observed in the reefs off of the cliffs of the property. Freshwater species and habitats may also exist in the streams far below the property boundaries.

Impacts and Mitigation: No rare or endangered plant or animal species or habitats would be affected since there is no evidence of threatened, endangered or rare plants, birds, or mammals within the property and project site. Any type of marine habitat would not be affected as construction would occur far from the ocean cliffs and streambeds (refer to Site Map Plan – M2) and all erosion and runoff will be contained within the site boundaries.

3.1.4 Historical/Cultural and Archaeological Resources

The greatest historic value of the property is the Alanui o Piilani or "King's Trail" traversing the parcel. An on site inspection was done by Ms. Tori Nohara of Na Ala Hele in June 2005. Per Ms. Nohara, the trails leading into Kopiliula and Wailuaiki are in remarkable condition. Unfortunately, the trail connecting across the ridge top has been destroyed by past grading and grubbing when the parcel was used for cattle grazing. On July 20, 2005 the applicant met with Ms. Melissa Kirkendall of the State Historic Preservation Division, DLNR. At this meeting, the 1993, onsite inspection done by Ms. Theresa Donham was reviewed. In the 1993 CDUA , Ms Donham did not find any other historical sites other than the King's Highway and the possible platform referred in the letter by Mr. Baker of DOFAW, above the ocean cliffs.
The ahpua'a name Kaliae was not found in Places and Names of Hawaii (1981). According to the map (Dorrance 2000:60) and information in Sugar Islands (2000) the subject area appears not to have been cultivated in sugar. Hana was a region famous in legend and history … supported chiefly by fields of mulched (dry) taro cultivation and sweet potato, the steep stream Wailua being almost the only area of wet taro. (Handy&Handy 1972:272). It is not likely that wet taro was cultivated here – as the property is located hundreds of feet above any natural water source.

Impacts and Mitigation: The applicants have no plans for construction in either of the above areas and have carefully made their plans far away (mauka side) from any historic or cultural sites. The applicants understand that there is the possibility of other historical sites being present on the property. It is requested that the archeological survey be required only at the sites where construction or planting is planned. If any significant historic sites are found it is understood by the applicant that appropriate mitigation and changes will be made. (Specifically, we will immediately stop work and contact OHA should <u>any</u> Native Hawaiian cultural or traditional deposits are found.) In addition, there are no observable traditional and customary native Hawaiian practices being exercised outside the shoreline area and "King's Trail." Known traditional and customary native Hawaiian practices and other valued cultural, historical or natural resources on the property that are located along the shoreline and "King's Trail" will be recognized and allowed by the applicant.

3.1.4a Cultural Impacts Assessment

The referenced property (Kaliae) appears to have had no significant cultural use to past or present communities. Therefore, we foresee no cultural impact from the proposed project.

3.1.5 Air and Noise Quality

Air: The air quality in the Hana district is very clean due to the low population

and low industrial activities. Vehicular exhaust may pollute the air, but to an untraceable amount.

Noise: The noise generated within the vicinity of the project area mainly comes from natural sources like wind.

Impacts and Mitigation: Given that the project is far from the Hana Highway or any neighboring residents, no short-term or long-term increase in noise or air pollutants will be experienced in or around the project area.

3.1.6 Scenic and Open Space Resources

The present landscape of the project area, and remainder of property, is characterized by gradually sloping pastureland overgrown with noxious trees and shrubs. The project area will not have views of any extensive coast line, neighboring residents, distinguished landmarks, or the Hana Highway.

Impacts and Mitigation: The location of the residential dwelling and remainder of improvements will have no impact on the public's view to and along the shoreline. Development will be compatible with the visual environment by using colors and materials that blend in with natural surroundings. Large amounts of open space will remain. More than 59 acres of the 63-acre parcel will be untouched, with 3 acres going to native tree restoration and much less than 1 acre for residential dwelling and accessories. Native landscaping will occur immediately on and around the project site to help blend in with some of the same tree and plant species that can be observed scattered in the gulches below.

3.1.7 Coastal Resources

The coastal resources of the property consist of 200 + foot sea cliffs that do not give access to the ocean except via the "King's Trail" that runs east to west (see exhibit – Historical Resources Map – M7). The county of Maui Public Access to the Shoreline Inventory does not list the property as one which provides public access from the Hana Highway to the ocean. All ocean access in the vicinity is solely by the "King's Trail."

Impacts and Mitigation: The project does not involve any direct or indirect modifications to the near shore environment, nor will cause the possibility of erosion and sedimentation seepage into the ocean because of not only the distance between the project site and the coastline, but also because a sedimentation basin will be built. Therefore there will be no physical disruption of the existing coastal habitat nor changes in wave energy striking the shoreline. Lateral pedestrian access along the coast via the "King's Trail" will be recognized by the applicant and will be many hundred yards below and out of view of the residential dwelling and accessory structures.

3.2 Socioeconomic Considerations

The project will generate minor and impermanent improvements to the economy resulting from construction related jobs.

3.3 Public Facilities and Services

3.3.1 Access

The access to the property is via a 12-foot wide easement through the Koolau Forest Reserve containing an area of 48,000 square feet or 1.02 acres. It runs seven tenths of a mile from Hana Highway to the top of the property. Access from the top of the property to the project site is via an already existing dirt access road. Pedestrians could access the property via the " King's Trail" from the west via Wailuaiki Bay, or from the east via the mouth of the Kopiliula Stream. [See Existing Access Map (easement) – M6]

Impacts and Mitigation: The existing roadway is adequate to accommodate the proposed action except will need four-inch gravel road base and pavements on areas with gradient steeper than 20 percent. The proposed action will have no adverse effects on access to either side of the property via the "Kings Trail". The access to the public should be improved if the DLNR will supervise and allow some type of trail maintenance. At present the trail is virtually impassable due to overgrowth of noxious plants.

3.3.2 Water Resources

No municipal water system is available to the property. The three existing 30X60 foot tents and 2,000 gallon storage tanks provide water to the property and will supply the project area until they are replaced by the 60X60 foot catchment shed and the two 30,000 gallon tanks. We will not need to apply for "after the fact" permits for neither the tent structures nor the water storage tanks as they will promptly be taken down once the 60X60 agriculture shed is built.

Impacts and Mitigation: Because there is no municipal water service to the property, the project will have no adverse affect on anyone else's water. There is ample rainfall (over 100 inches per year) to support a catchment system that meets the requirements of the proposed uses.

3.3.3 Utilities

Maui County electrical lines run across the property and are serviced by Maui Electric Company (See Map – Existing Utilities). Past owners installed telephone lines

Impacts and Mitigations: There is no anticipated adverse impact upon electrical services sine the lines cross the property and contain properly installed transformers. Both electrical and telephone services are available to the project area.

3.3.4 Police and Fire Protection

The area is currently serviced by the Hana Police and Fire Departments, which are located approximately 11 miles east on Hana Highway.

Impacts and Mitigations: The construction of a single-family dwelling with accessories and growing of four acres of trees will not in and of itself create an unreasonable demand for expansion of either police or fire service. Water for private protection will be supplied by catchment and swimming pool and will meet all County regulations.

3.3.5 Wastewater

There are no municipal sewage treatment facilities or public sewer pipelines on the property.

Impacts and Mitigation: Applicants will be required to apply for a permit from Maui County for a private wastewater treatment system. A component of the building permit application is a requirement for a State Department of Health approved individual waste water system. **(see Septic System Drawing)**

3.3.6 Public Schools

This area is serviced by the Hana Elementary and High Schools which are located approximately 11 miles east on the Hana Highway.

Impacts and Mitigation: A single family dwelling will not have a significant impact on the public school system.

4. Summary of Alternatives Considered to Proposed Action

4.1 No Action

A "No Action" alternative would result in no construction of a single family residence and accessory structures, as well as no construction of shade cloth houses and catchment shed for cultivating native Hawaiian trees. A "No Action" alternative would result in no related employment prospects. There would be no increase in the land value or associated government revenues from higher property taxes. The owners would not be able to use the property for their personal and preferred use. For these reasons, a "No Action" alternative is not practical nor favorable.

4.2 Alternative Location

The location of the proposed single family residence, accessory structures, and agricultural structures are depicted on the site plan (see Site Plan Map – M2) The applicants wish to locate their residence on the eastern side of the parcel at about 550 feet elevation in order to take best advantage of the mountain and ocean views -- as well as to create a buffer between their home and the King's Trail and sea cliffs. Furthermore, by placing their dwelling in the proposed location, the applicants are in no sight of neighboring parcels or residents. The proposed residence will not be visible from Hana Highway or the coastline.

4.3 Alternative Use

The applicants have not identified any alternative uses for the project area that would satisfy their needs. The construction of a single family residence and agricultural structures, as well as a native tree replanting project, were the main reasons for purchasing the parcel.

5. Expected Determination and Significance Criteria

5.1 Determination

This Draft Environmental Assessment concludes that no significant negative impacts upon society and/or the environment, long or short term, will result due to the proposed action. The proposed construction of a single family residence with accessory structures, shade cloth houses, catchment sheds and storage tanks, as well as the planting of trees are all identified land uses within the General Subzone of the Conservation District as in HRS 13-5-14. As such, in compliance with HRS 343 11-200-11, a Finding of No Significant Impact (FONSI) is anticipated. Thus it is in the opinion of the applicant that the manageable impacts of the project do not warrant the preparation of an Environmental Impact Statement.

5.2 Significance Criteria

Chapter 200 of Title 11, Administrative Rules of the Department of Health which is entitled "Environmental Impact Statement Rules" gives a significance criteria for evaluating the impacts of a proposed action upon the environment. The relationship of the proposed Single-Family Residence to these criteria is reviewed below.

1. **Involves an irrevocable commitment to loss or destruction of any natural or cultural resources.**
   The proposed action will not involve a loss or destruction of any natural or cultural resources.

2. **Curtails the range of beneficial uses of the environment.**
   The proposed action will not curtail the range of beneficial uses of the environment. All development and construction effluent will occur and be contained on private property. No long or short-term negative environmental impacts are anticipated.

3. **Conflicts with the State's long-term environmental policies or goals and guidelines as expressed in Chapter 344, HAR, and any revisions thereof and amendments thereto, court decisions, or executive orders.**
   The proposed action does not conflict with the State's long-term environmental policies, goals and guidelines.

4. **Substantially affects the economic or social welfare of the community or State. Substantially.**
   The proposed action will not have a significant impact upon either the economic or social welfare of the community or State.

5. **Substantially affects the public health.**
   The proposed action is not anticipated to substantially or negatively impact public health.

6. **Involves Substantial secondary impacts, such as population changes or**

effects on public facilities.
The proposed action will not involve substantial secondary impacts. The construction of a single family dwelling will not create additional public pressures such as population increase, which would lead to a greater need of public facilities.

7. **Involves a substantial degradation of the environmental quality.**
The proposed action is not anticipated to substantially degrade environmental quality.

8. **Is individually limited, but cumulatively has considerable effect upon the environment or involves a commitment for larger actions.**
The proposed action will not create a commitment for larger action nor will it contribute to a cumulative negative effect upon the environment. The proposed action is a stand-alone project for the construction of a single family dwelling and accessory structures, and agricultural structures.

9. **Substantially affects a rare, threatened, or endangered species or habitat.**
The project area is devoid of any rare, threatened or endangered species. The project will not place any nearby habitat at risk.

10. **Detrimentally affects air or water quality or ambient noise levels.**
Air quality impacts resulting from the project will be short-term and insubstantial. The property is isolated from neighboring residences and public places, thus short term increases in noise level will be insubstantial. Water quality of any streams and ocean will not be affected as runoff away from the project area will be minimal.

11. **Affects or is likely to suffer damaged by being located in an environmentally sensitive area such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, fresh water, or costal waters.**
The proposed action will not affect or suffer damage by being in an environmentally sensitive area. The proposed site (elevation 500 feet) is well above the base flood elevation of 23 feet above mean sea level. The proposed site is well out of the range of any streams or washes, and exists on very permeable, erosion resistant, silty, clay soil.

12. **Substantially affects scenic vistas and view plains identified in County or State plans or studies.**
The proposed action will not substantially effect scenic or vistas and/or public view plains. The proposed site will not be visible from Hana Highway or from Wailua or Nahiku, or any, residences. The applicants propose to landscape the parcel with appropriate native trees, shrubs, sedges, and ferns to soften the visual impact of the development from the adjoining state forest.

13. **Requires substantial energy consumption.**

The proposed single family residence and accessory structures, as well as agricultural structures, will not consume substantial amounts of energy.

6. Permits, Variances, and Approvals

6.1 Special Management Area Use Permit

Project site is located within the Special Management Area (SMA), thus it is subject to the SMA Rules and Regulations of the County of Maui. However, because the project is a single family residence, it is specifically exempt from the SMA requirements.

6.2 Shoreline Setback Certification/Variance

Project area is not in the County of Maui shoreline setback zone. Even if it were, project area is located at 500 feet elevation, more than a thousand feet from the parcel's sea cliffs.

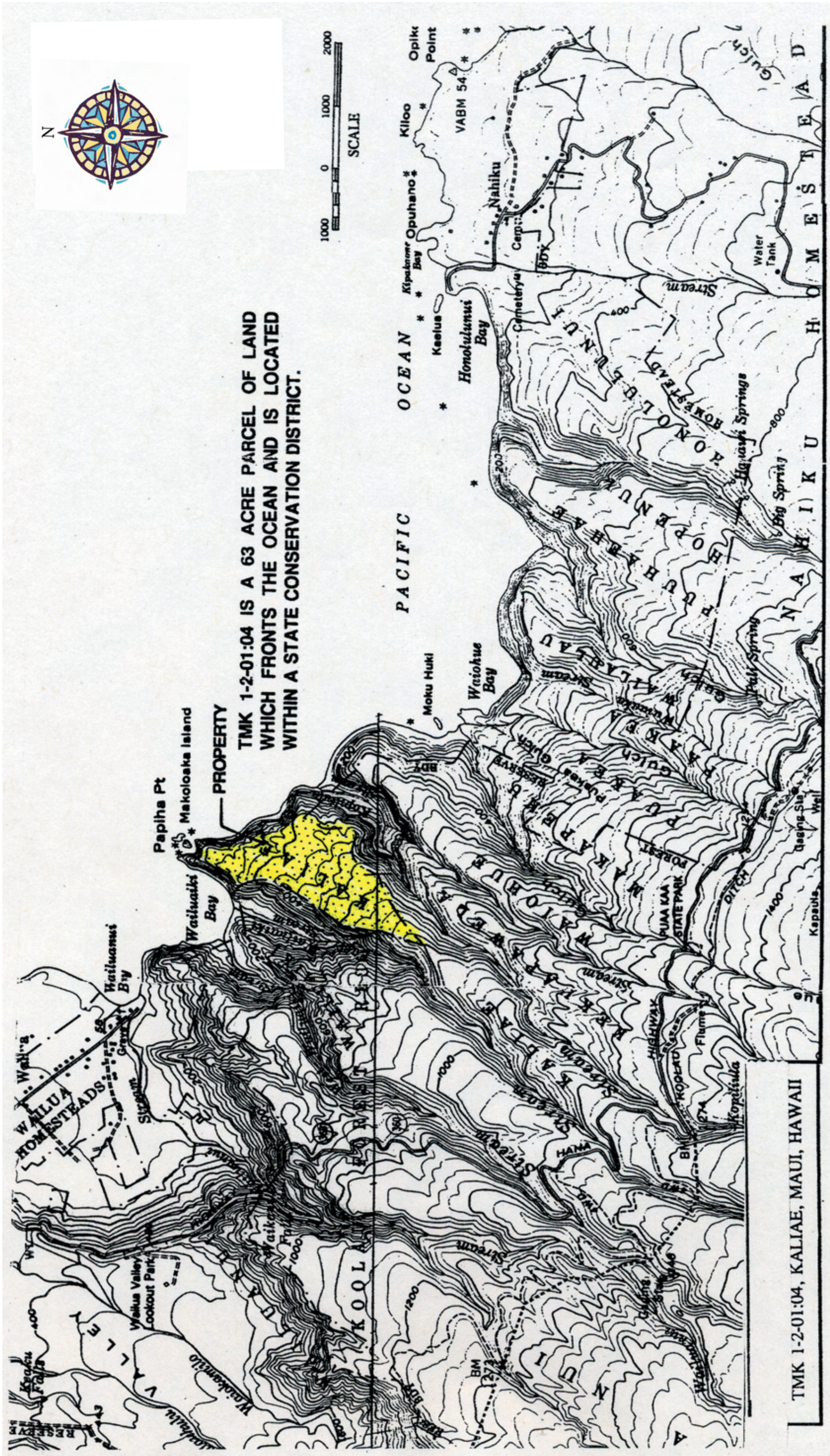
6.3 Other Departmental Permits

Additional construction related permits shall be obtained from County and State as is required of the Building Permit process which is administered by the Department of Public Works, County of Maui. Applicants also will obtain the Department of Health's approval for an Individual Wastewater System (IWS), and a Public Works approval for structural design of the single family dwelling, and accessory and agricultural structures.

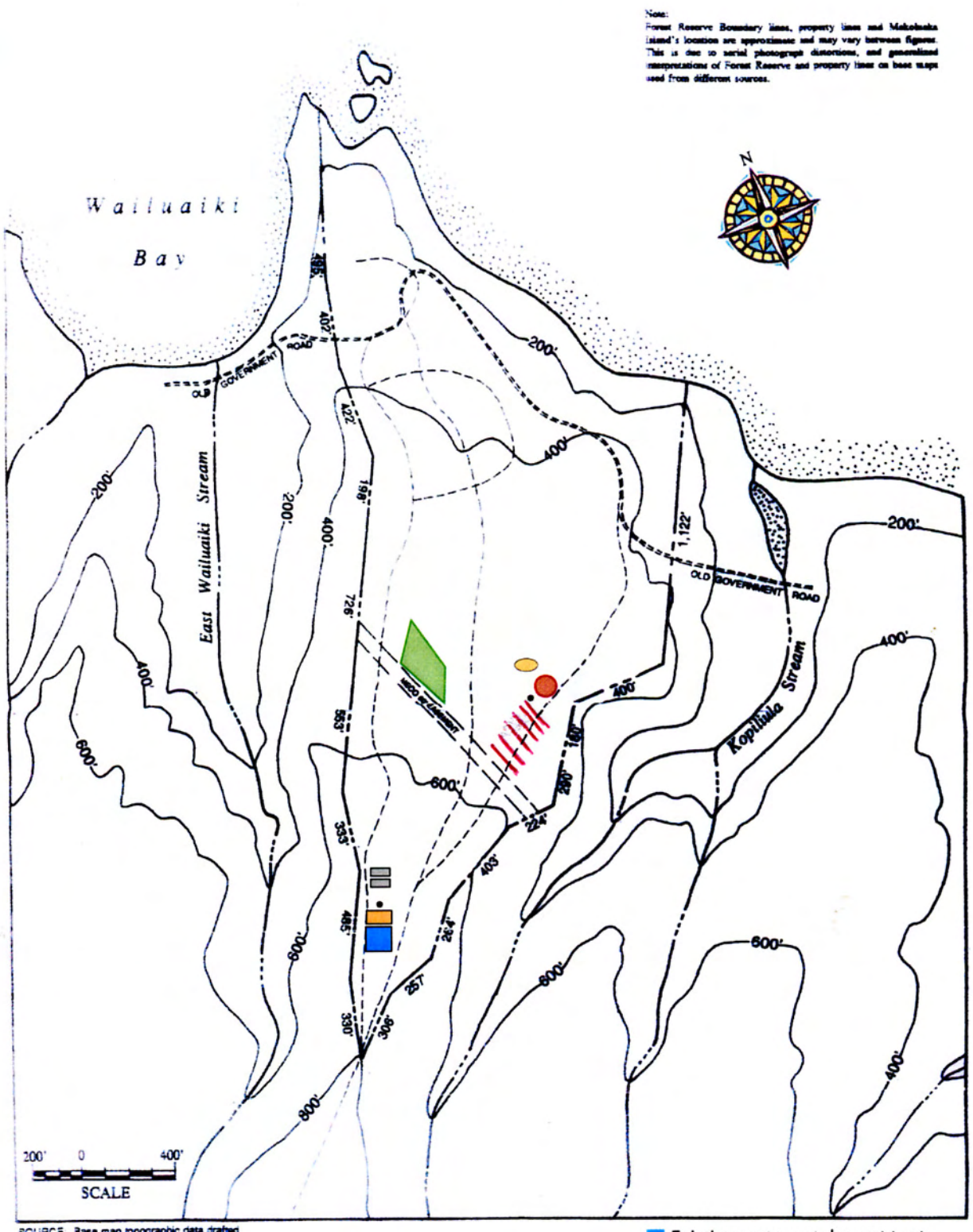
tab

2

AREA MAP / TOPOGRAPHY



SITE MAP



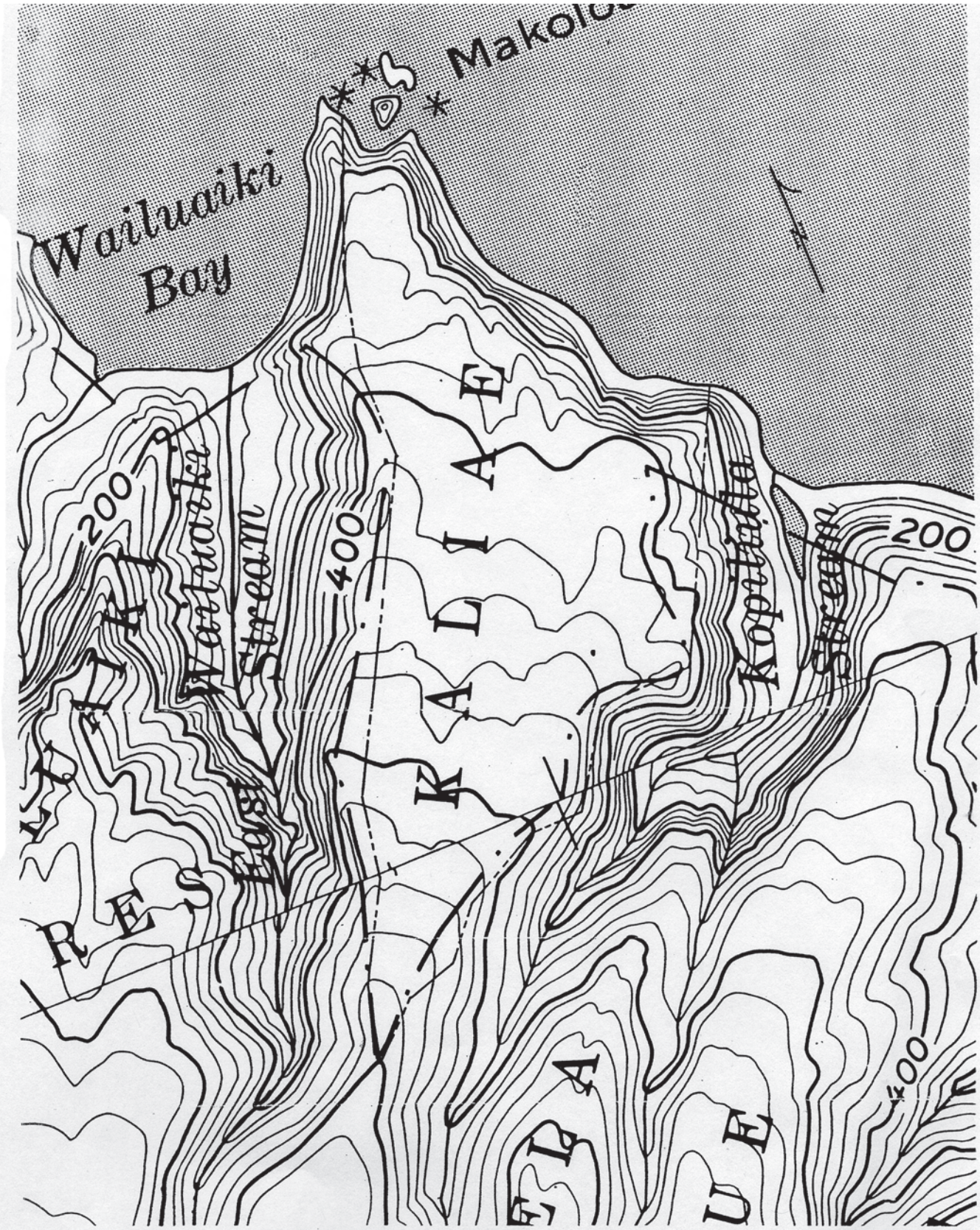
PROPERTY SITE MAP

TMK 1-2-01:04, KALIAE, MAUI, HAWAII

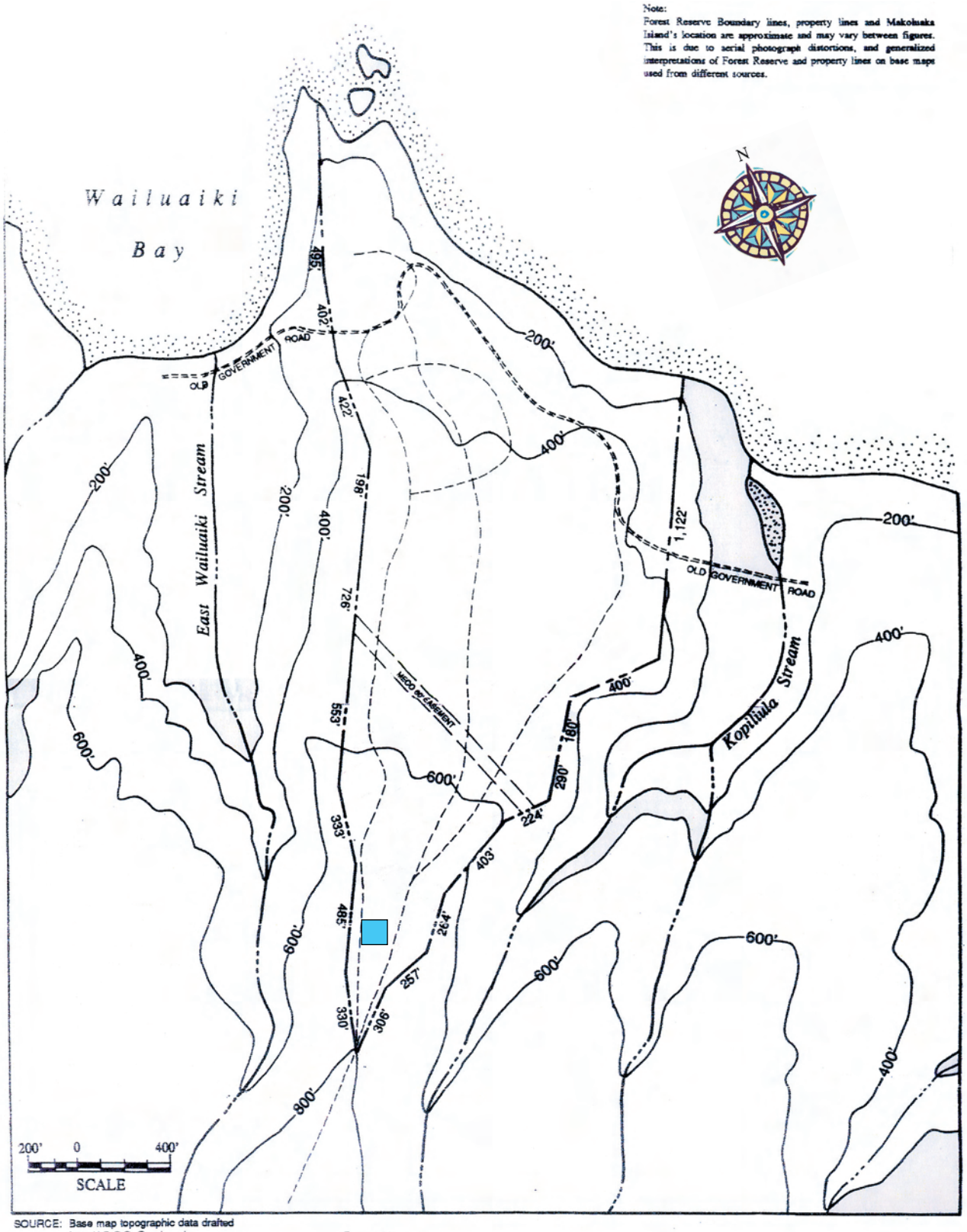
INTERISLAND DESIGN GROUP, INC.
560 N. Nimitz Hwy., Suite 201F
Honolulu, HI 96825 • 808-536-5455

M2

TOPOGRAPHY


Wailuaiki Bay
Wailuaiki Stream
Koolauula Stream
200
400
RESERVE
SOURCE: Basemap adapted from U.S.G.S. Quadrangle
200' 0 400'
SCALE
Legend
Forest Reserve Boundary
Property line
Note:
Forest Reserve Boundary lines, property lines and Makoluaka Island's location are approximate and may vary between figures. This is due to aerial photograph distortions, and generalized interpretations of Forest Reserve and property lines on base maps used from different sources.

EXISTING STRUCTURES



Legend

- Property Line
- Existing Trail
- Old Government Road
- Maui Electric Company Utility Easement (Placement on map is approximate.)

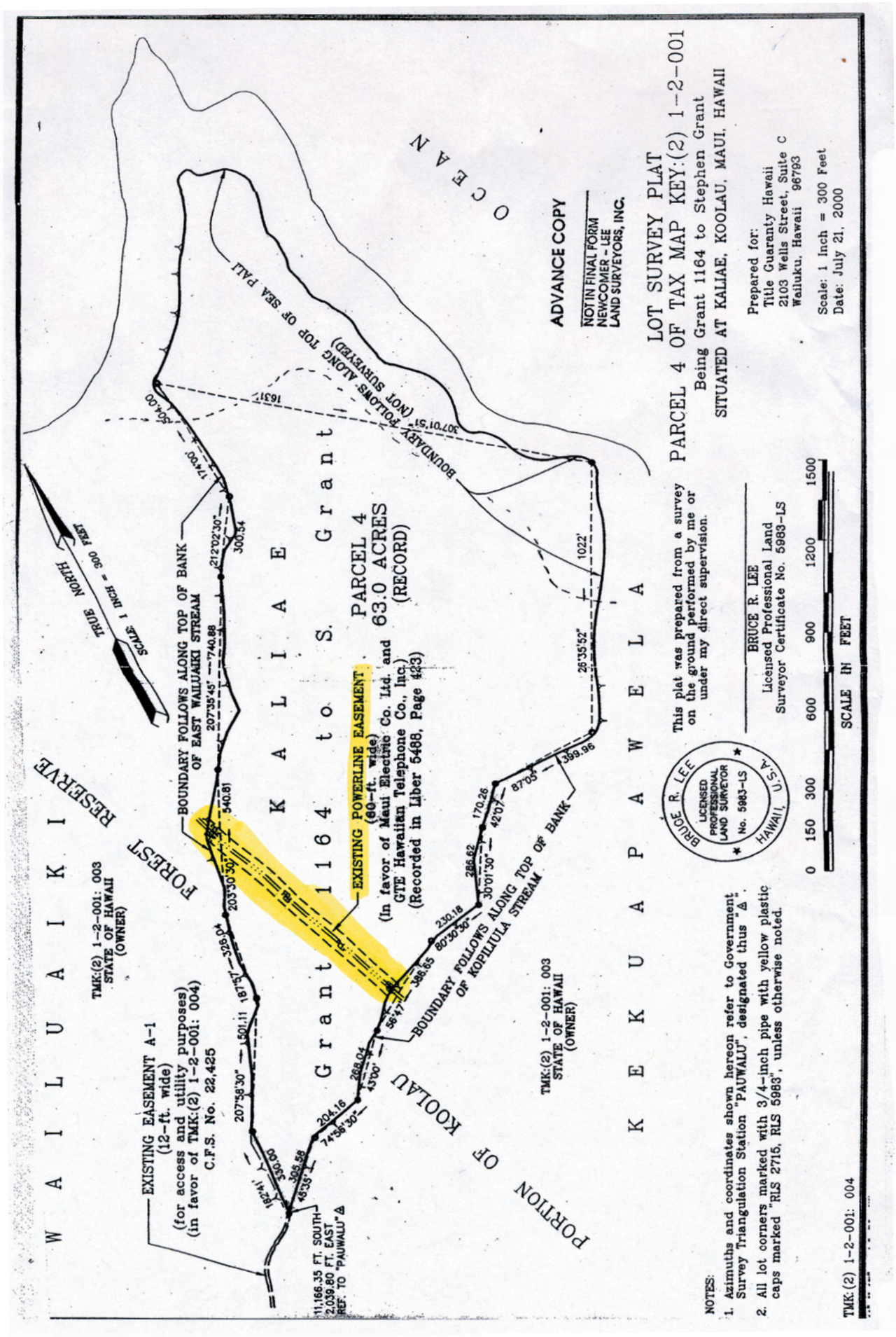
Existing water catchment tents

PROPERTY SITE MAP

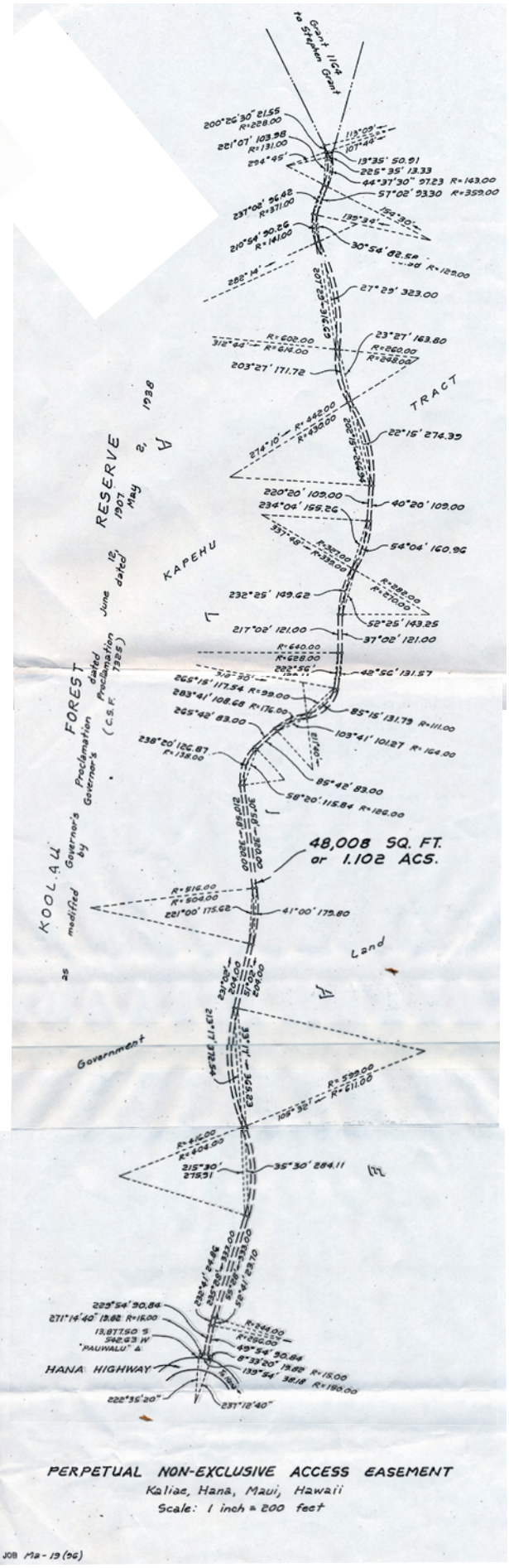
TMK 1-2-01:04, KALIAE, MAUI, HAWAII

I·D·G INTERISLAND DESIGN GROUP, INC.
560 N. Nimitz Hwy., Suite 201F
Honolulu, HI 96825 • 808-536-5455

EXISTING UTILITIES



EXISTING ACCESS



HISTORICAL, ARCHAEOLOGICAL & COASTAL RESOURCES

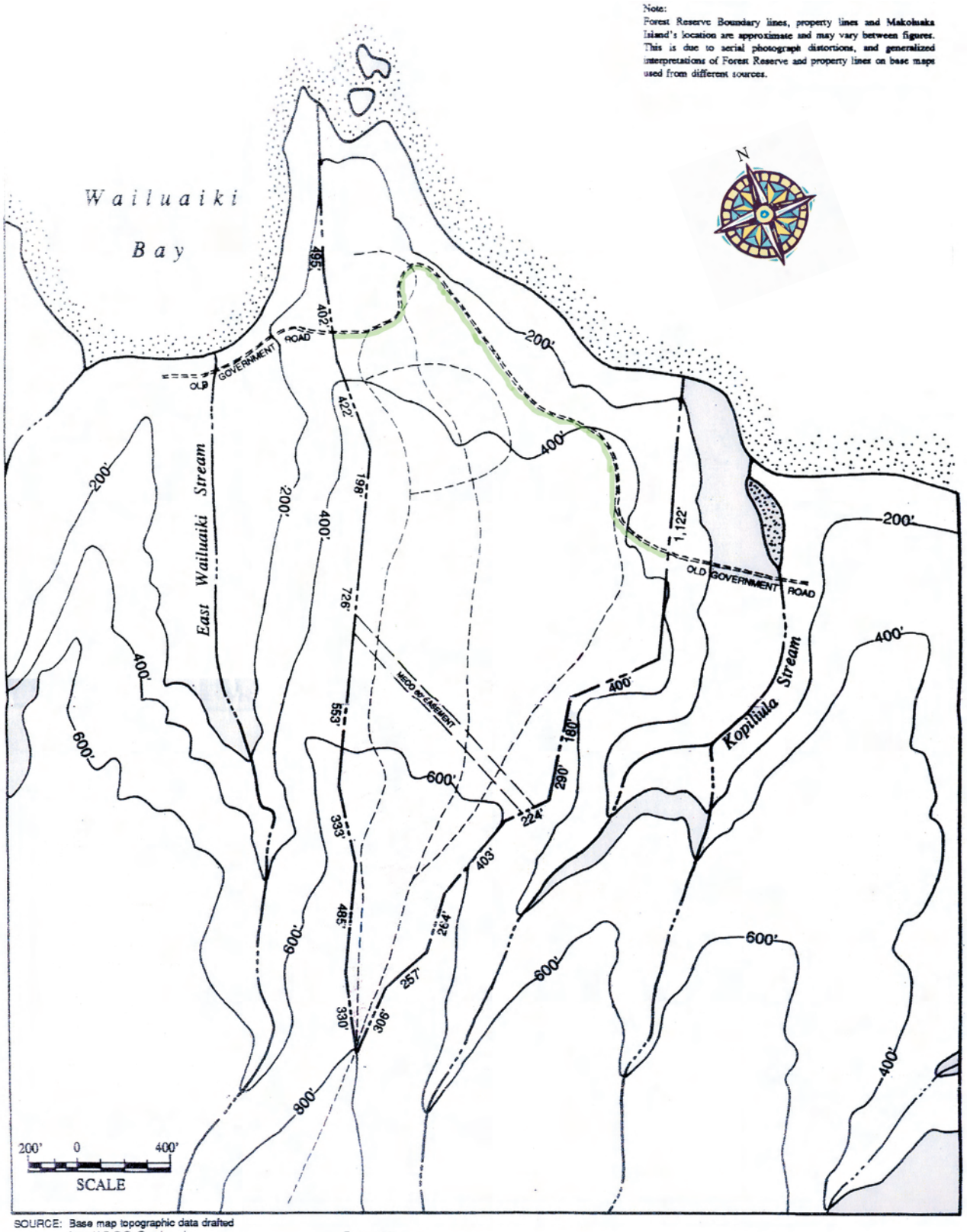
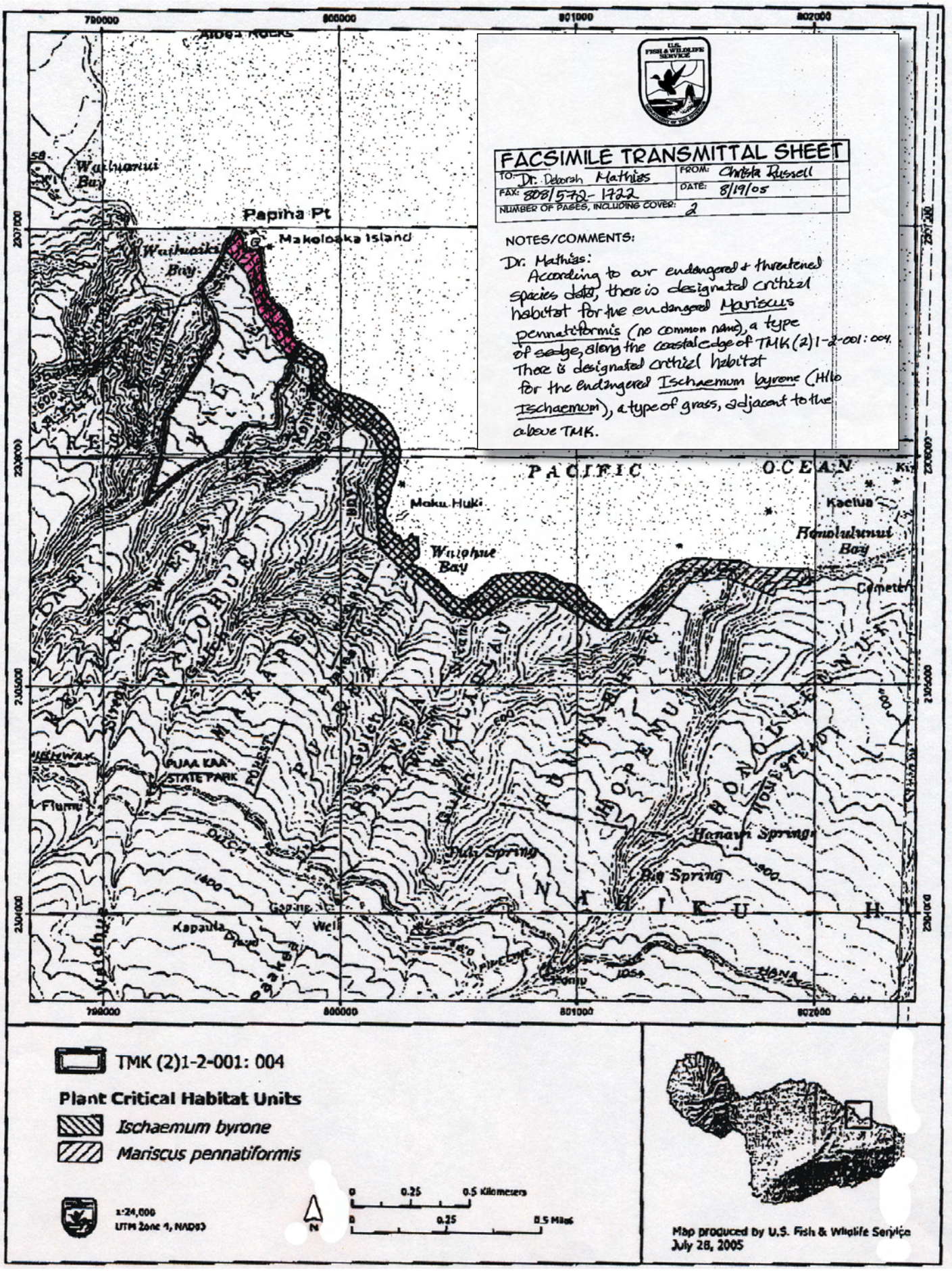


FIGURE 6.
PROPERTY SITE MAP

TMK 1-2-01:04, KALIAE, MAUI, HAWAII

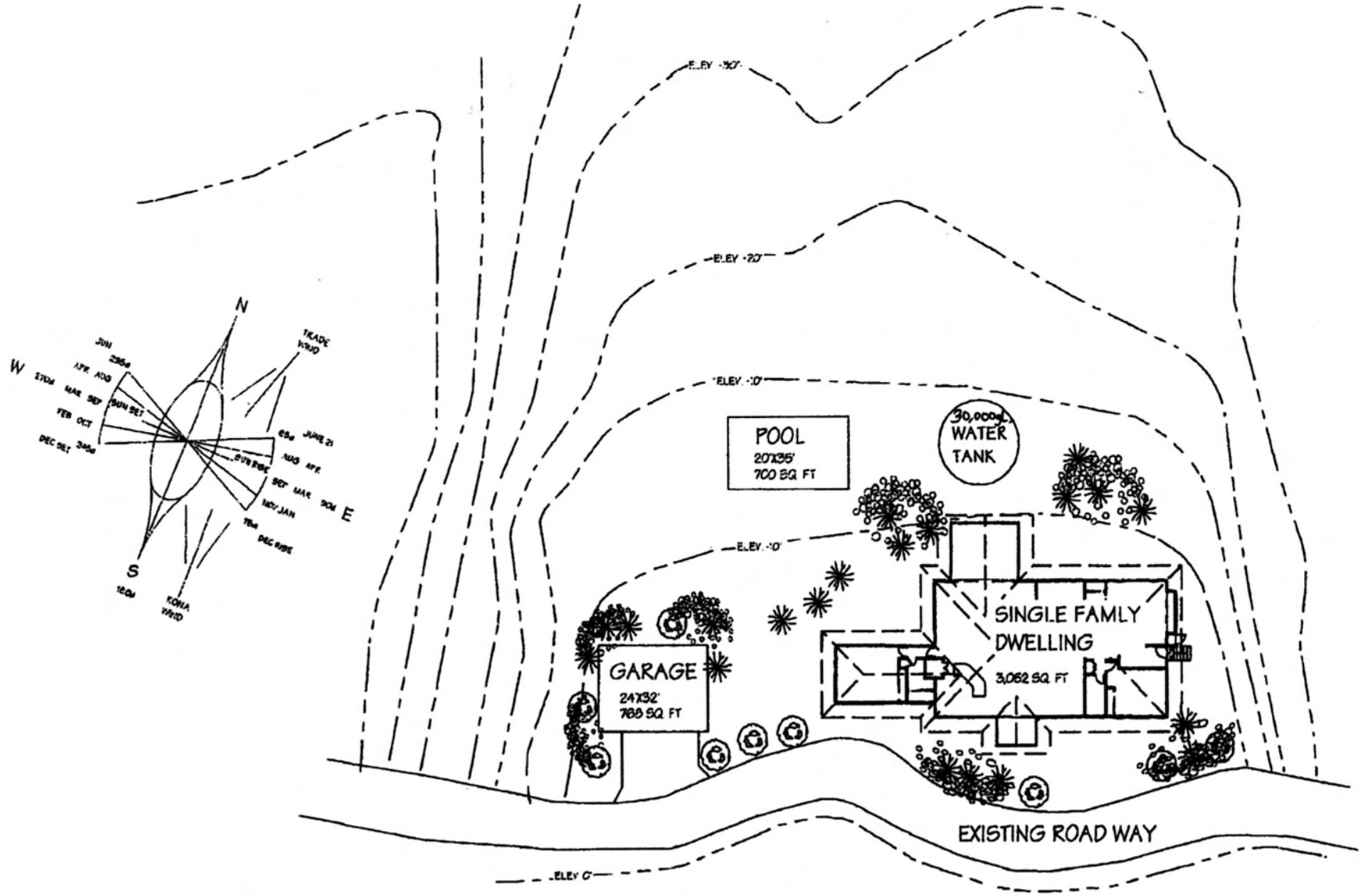
I·D·G INTERISLAND DESIGN GROUP, INC.
560 N. Nimitz Hwy., Suite 201F
Honolulu, HI 96825 • 808-536-5455

RESOURCES


FACSIMILE TRANSMITTAL SHEET
TO: Dr. Deborah Mathies
FROM: Christa Russell
FAX: 808/572-1722
DATE: 8/19/05
NUMBER OF PAGES, INCLUDING COVER: 2
NOTES/COMMENTS:
Dr. Mathias:
According to our endangered & threatened species data, there is designated critical habitat for the endangered Mariscus pennatiformis (no common name), a type of sedge, along the coastal edge of TMK (2)1-2-001:004. There is designated critical habitat for the endangered Ischaemum byrone (Hilo Ischaemum), a type of grass, adjacent to the above TMK.
Papiha Pt
Makoloska Island
Waihuaki Bay
PACIFIC OCEAN
Maku Huki
Waiohue Bay
Kaelua
Honolulunui Bay
Cemetery
PUAA KAA STATE PARK
Flume
Ditch
Gaping Well
Kapaula Pond
Honaw Spring
Big Spring
Pua Spring
Waiohue Stream
TMK (2)1-2-001: 004
Plant Critical Habitat Units
Ischaemum byrone
Mariscus pennatiformis
1:24,000
UTM Zone 4, NAD83
0 0.25 0.5 Kilometers
0 0.25 0.5 Miles
N
Map produced by U.S. Fish & Wildlife Service
July 28, 2005

tab

3



PLANTED AREAS

PATH WAYS

OHIA TREES (11 TOTAL)

HAPU FERNS (21 TOTAL)

ASSORTED GROUND COVER

TO INCLUDE: APPROX. 2,000 SQ. FT.

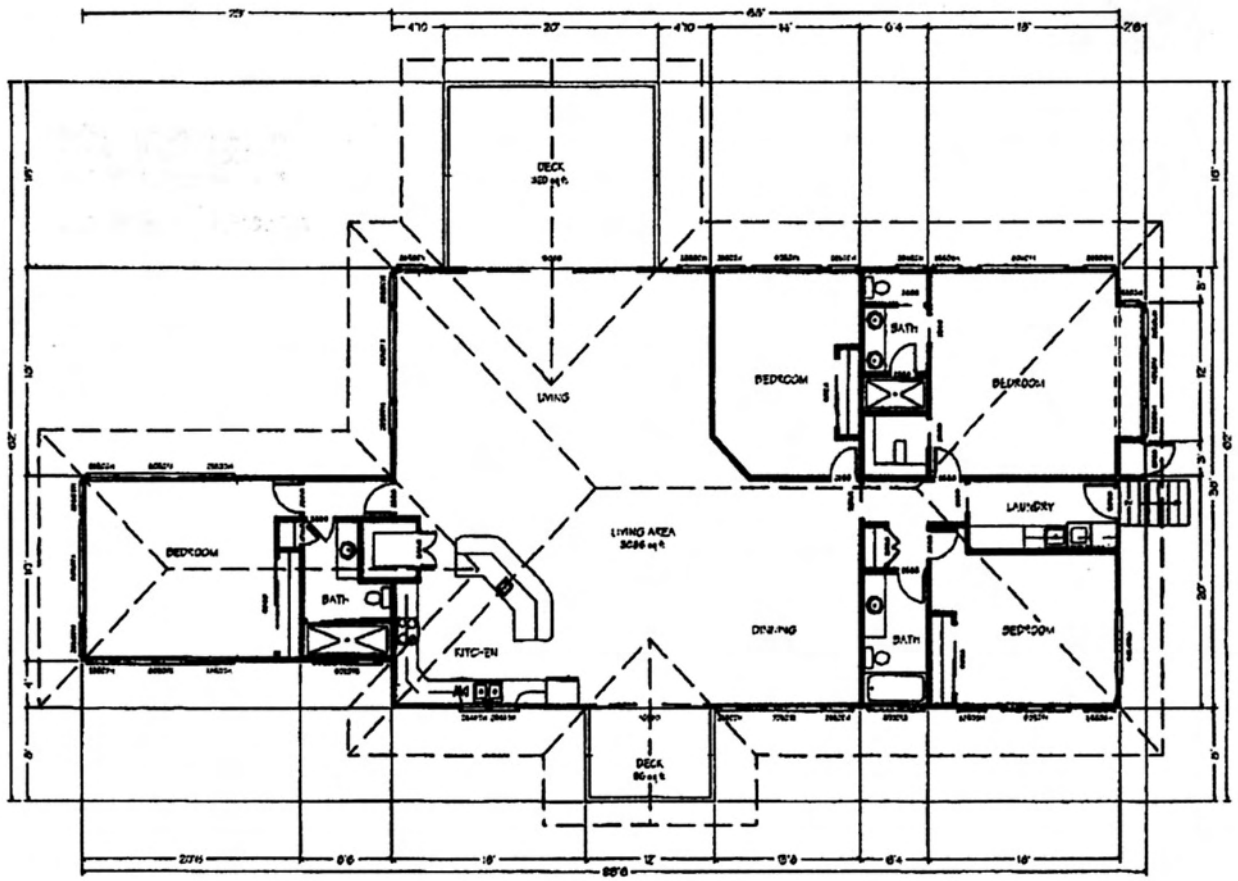
SITE PLAN 1"=40'

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Signature

MELVIN JAY FIELDING
REGISTERED PROFESSIONAL ARCHITECT
No. 5271
HAWAII, U.S.A.

P1

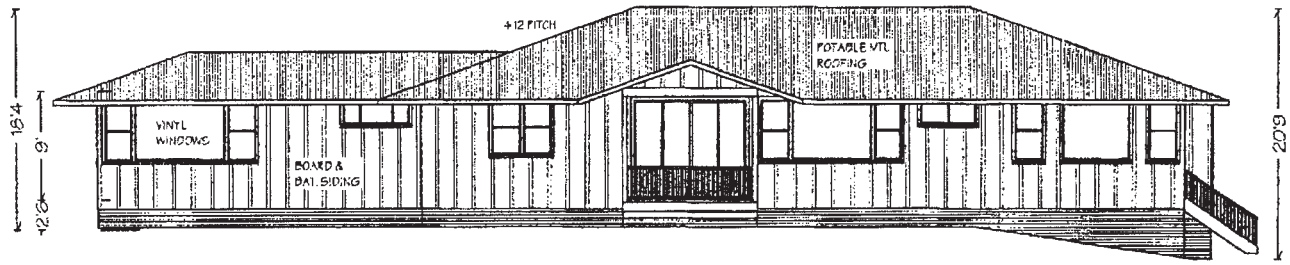


SFD FLOOR PLAN 1/16"=1'

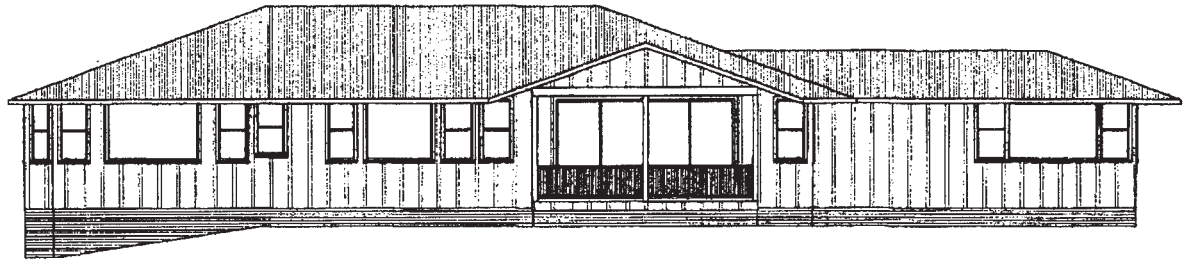
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Signature

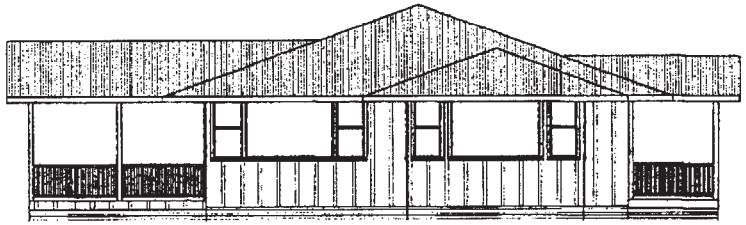
MELVIN JAY FIELDING
REGISTERED PROFESSIONAL ARCHITECT
No. 5271
HAWAII, U.S.A.



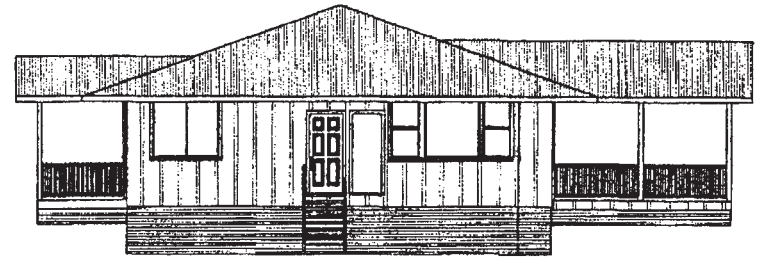
SOUTHER ELEVATION



NOTHERN ELEVATION



WEST ELEVATION



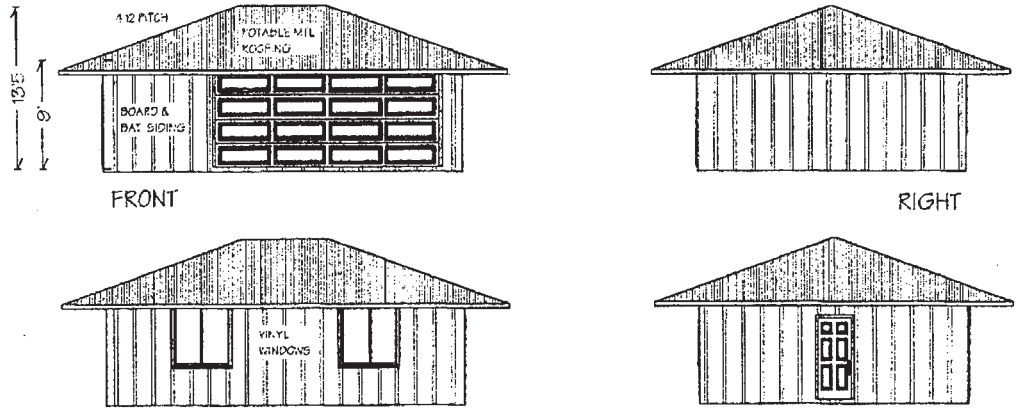
EAST ELEVATION

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

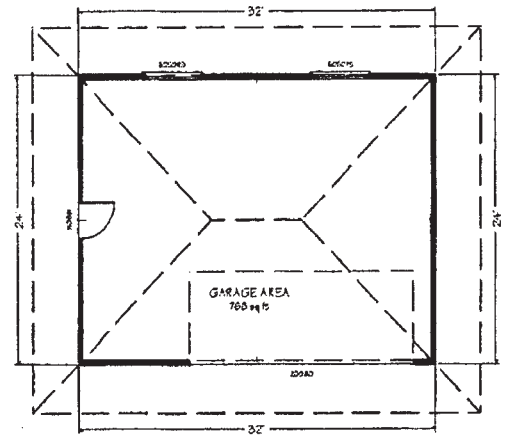
Signature

MELVIN JAY FIELDING
REGISTERED PROFESSIONAL ARCHITECT
No. 5271
HAWAII, U.S.A.

SFD ELEVATIONS 1/16"=1'



GARAGE SIDE ELEVATIONS 1/16"=1'

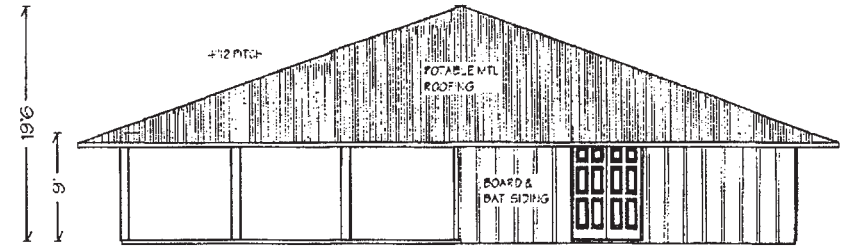


GARAGE FLOOR PLAN 1/8"=1'

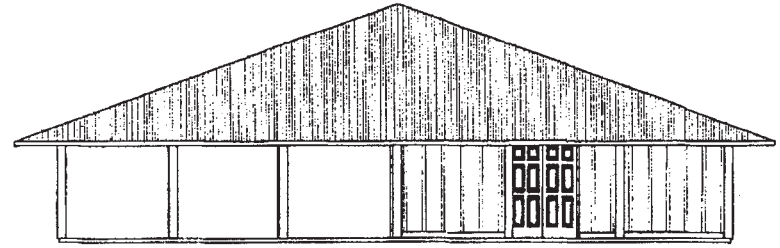
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Signature

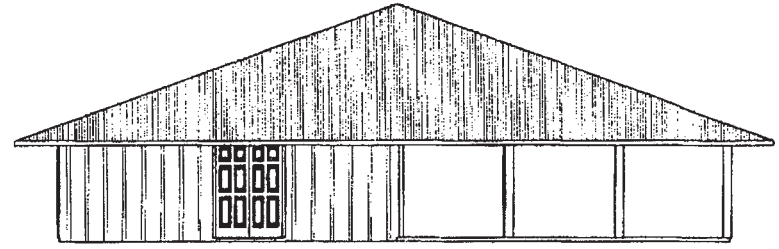
MELVIN JAY FIELDING
REGISTERED PROFESSIONAL ARCHITECT
No. 5271
HAWAII, U.S.A.



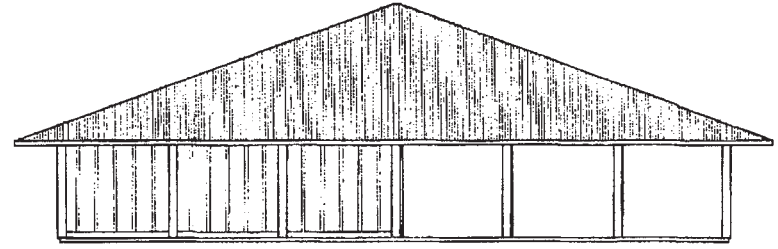
FRONT



LEFT

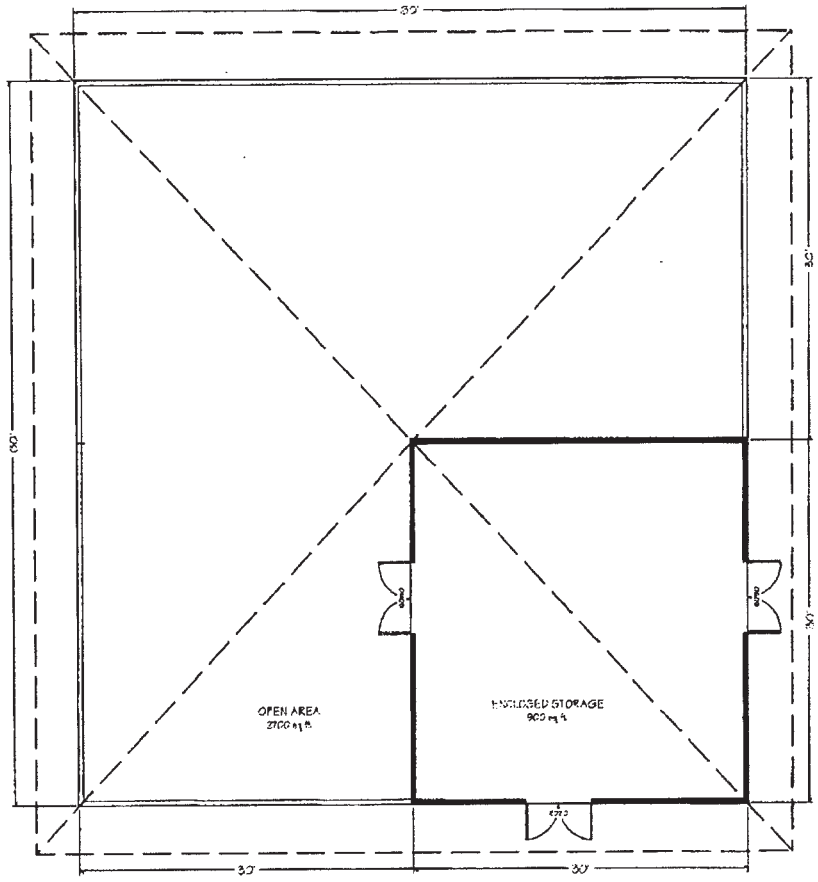


RIGHT



BACK

AGRICULTURAL SHED ELEVATIONS 1/16"=1'



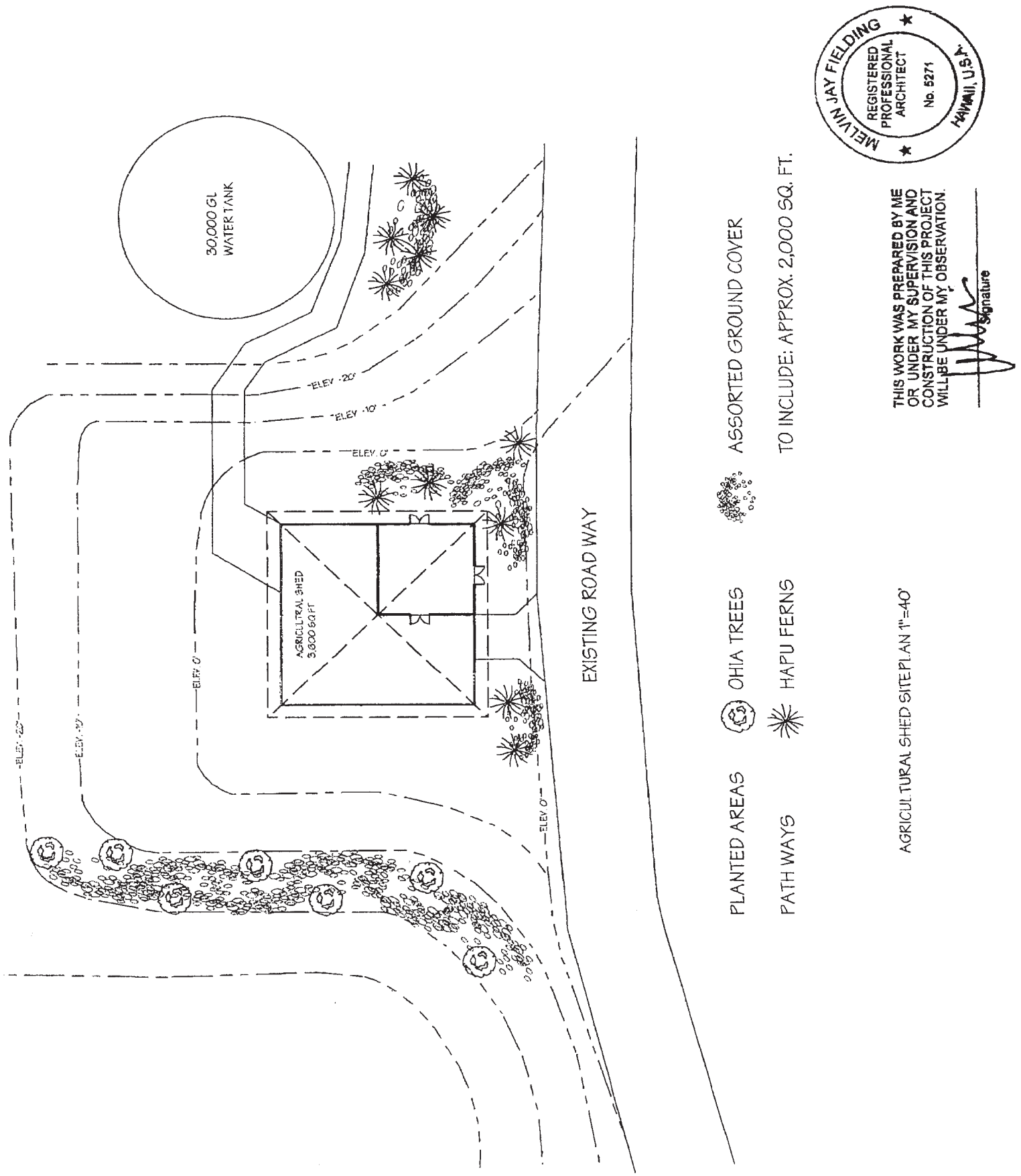
AGRICULTURAL SHED PLAN 1/16"=1'

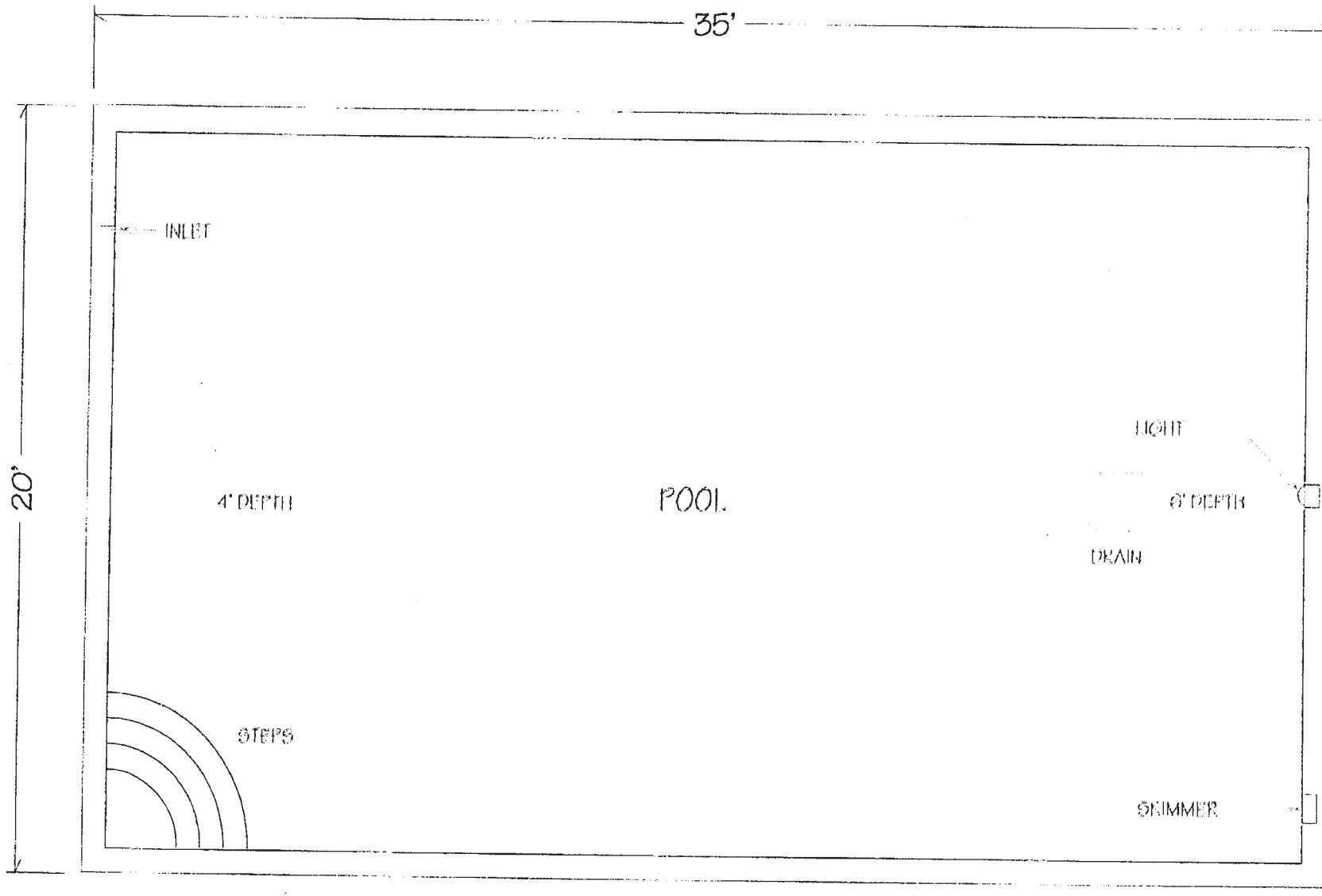
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Signature

MELVIN JAY FIELDING
REGISTERED PROFESSIONAL ARCHITECT
No. 5271
HAWAII, U.S.A.

Agricultural Shed and Water Tank Site Plan



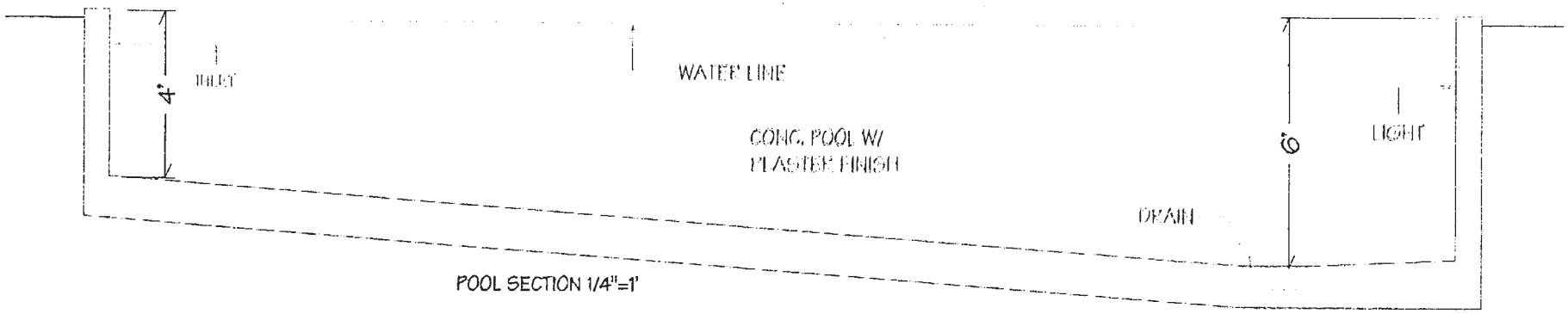


POOL PLAN 1/4"=1'

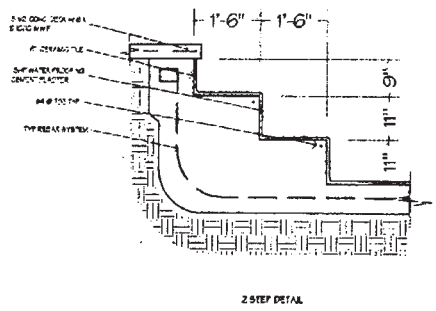
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Signature

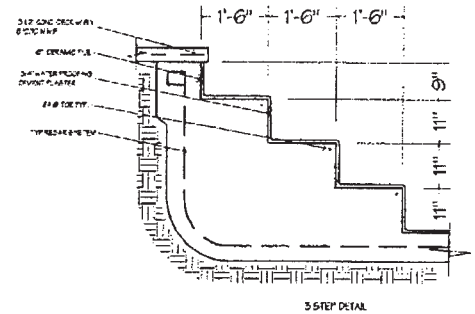
MELVIN JAY FIELDING
REGISTERED PROFESSIONAL ARCHITECT
No. 5271
HAWAII, U.S.A.



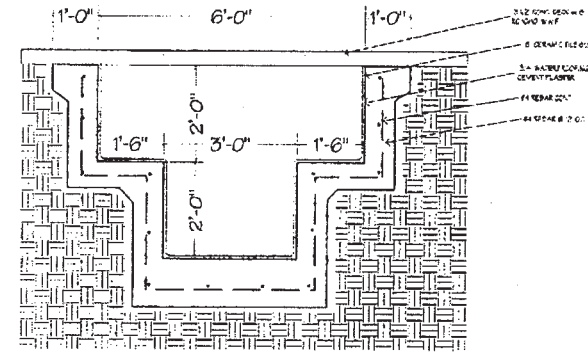
POOL SECTION 1/4"=1'

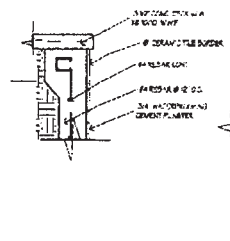


2 STEP DETAIL

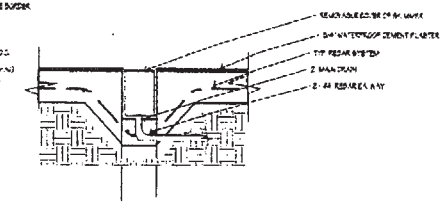


3 STEP DETAIL

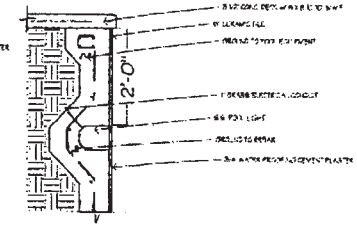




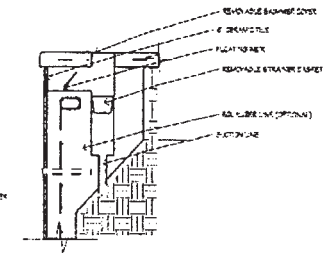
COPING/BOND BEAM



MAIN DRAIN



LIGHT NICHE



SURFACE SKIMMER DETAIL

POOL DETAILS 1/4"=1'

GENERAL NOTES

[redacted]

[redacted]

[redacted]

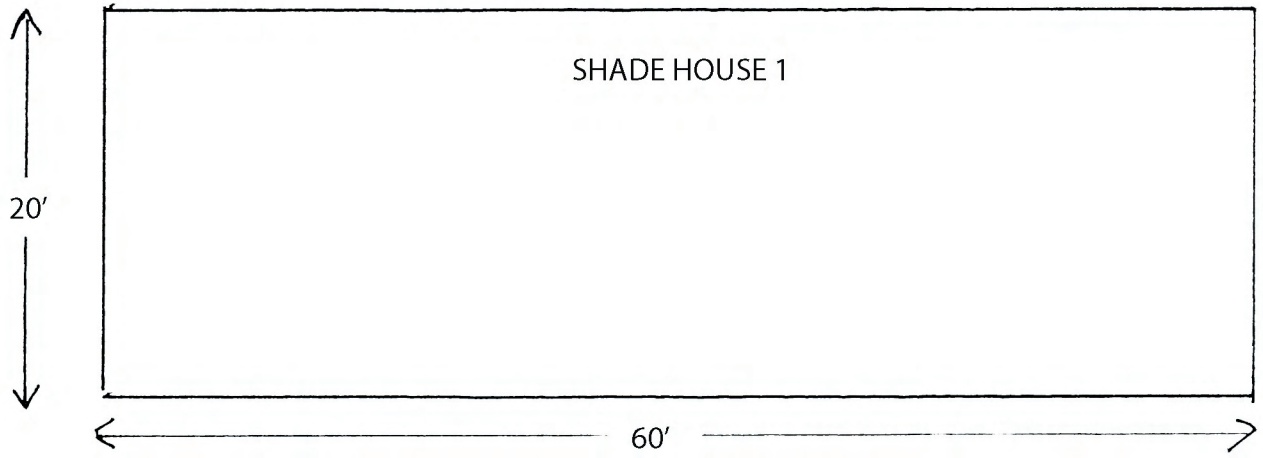
[redacted]

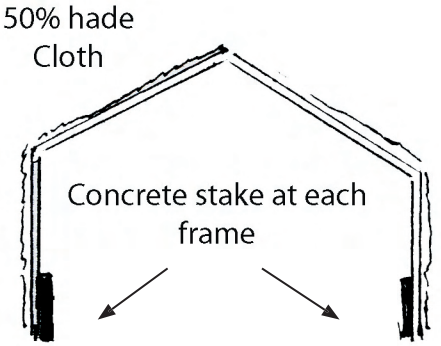
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

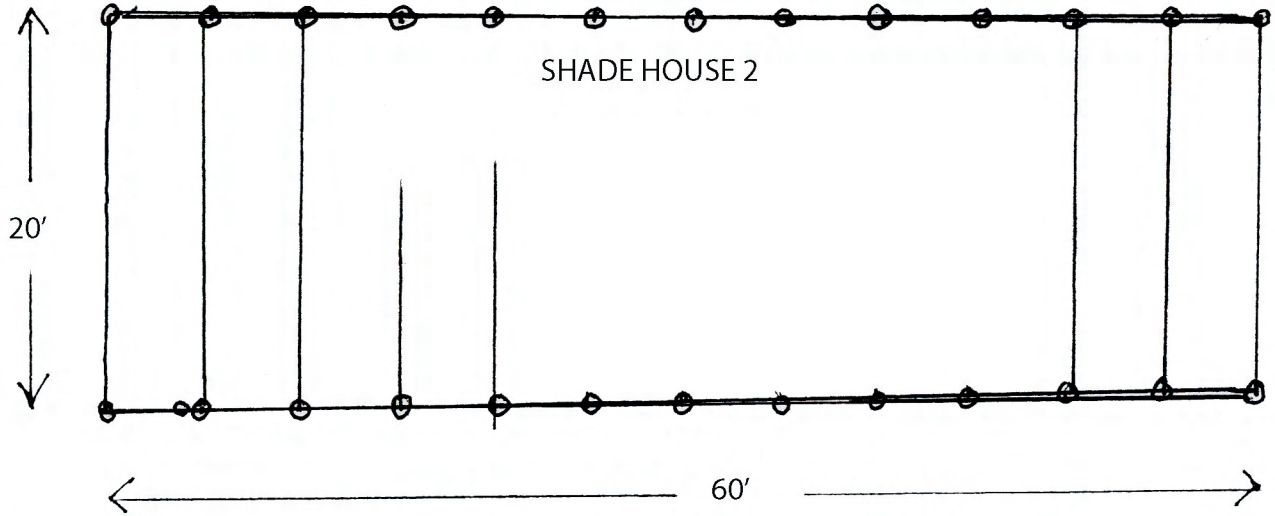
Signature

MELVIN JAY FIELDING
REGISTERED PROFESSIONAL ARCHITECT
No. 5271
HAWAII, U.S.A.

SHADE CLOTH HOUSES



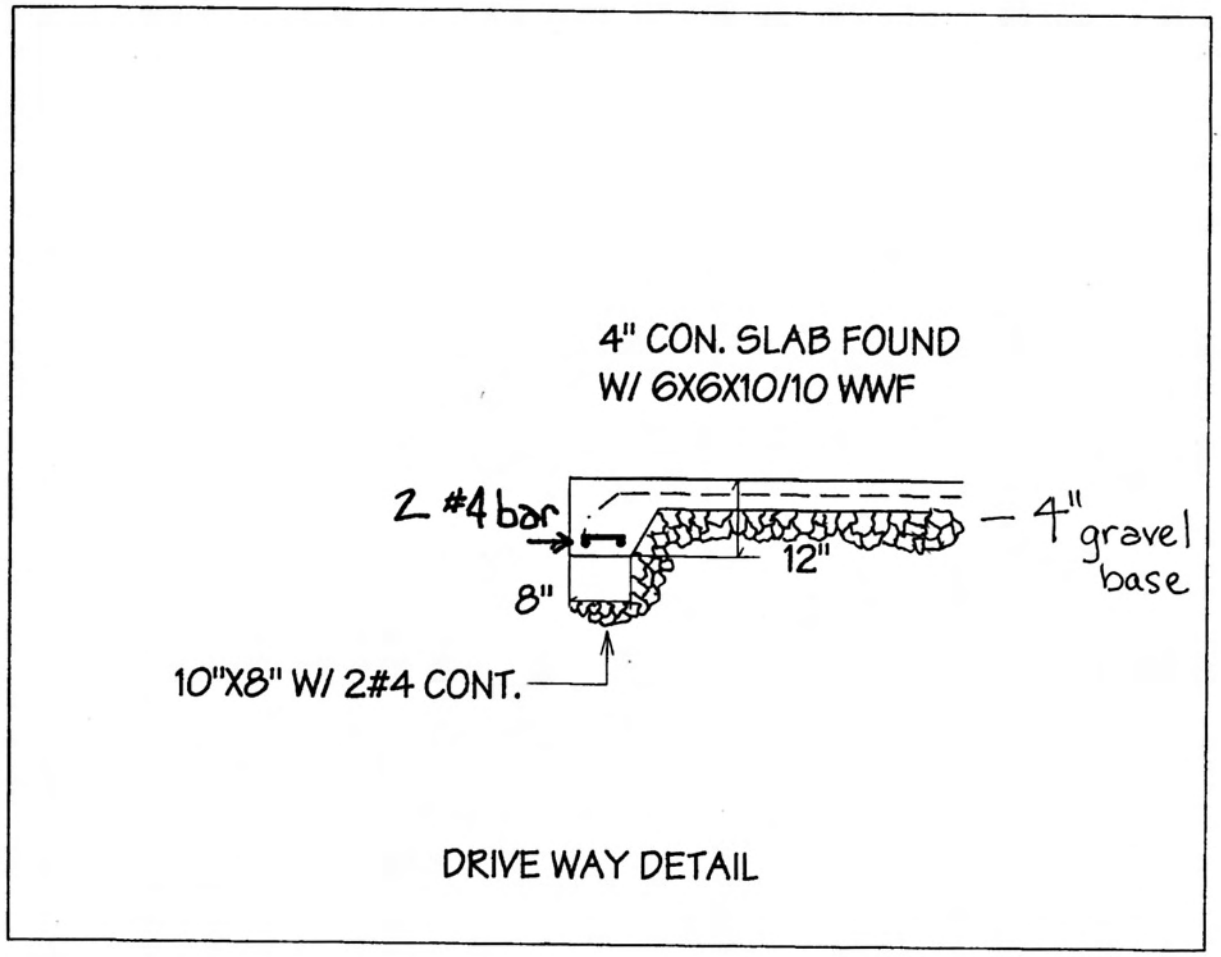




1″ metal tubing as
frame to 50%
shade cloth

scale: 1″=10′

DRIVEWAY IMPROVEMENTS



DRIVE WAY DETAIL

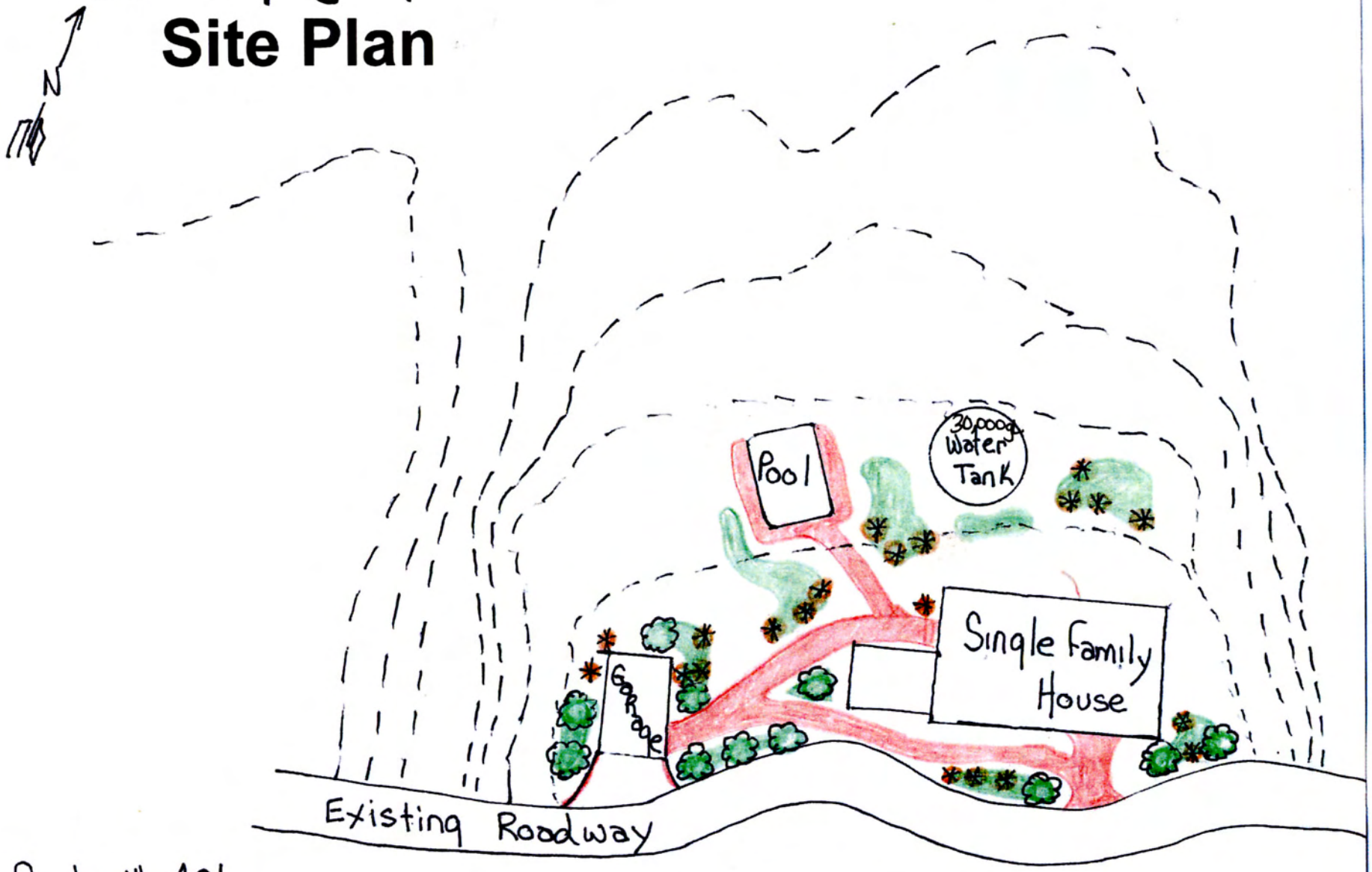
See M2 for proposed driveway improvements location.

Approx 300' Driveway 10' wide

Scale: 1"=½

pd

Landscaping Improvement
Site Plan



Scale 1"=40'

planted areas

path ways

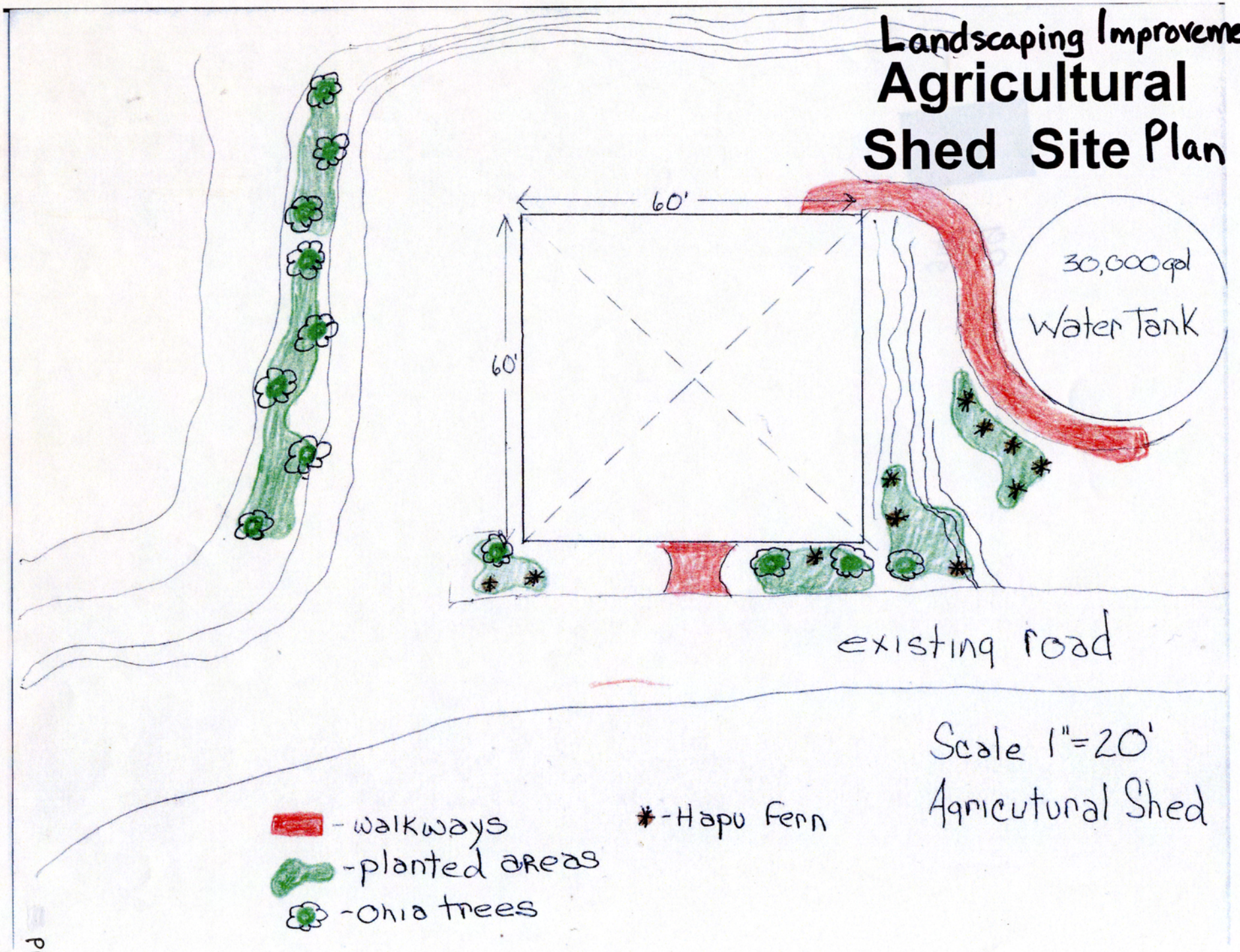
Ohia trees (11 total)

Hapu ferns (21 total)

Assorted ground cover to include:
Approx 2000 sqft

P10

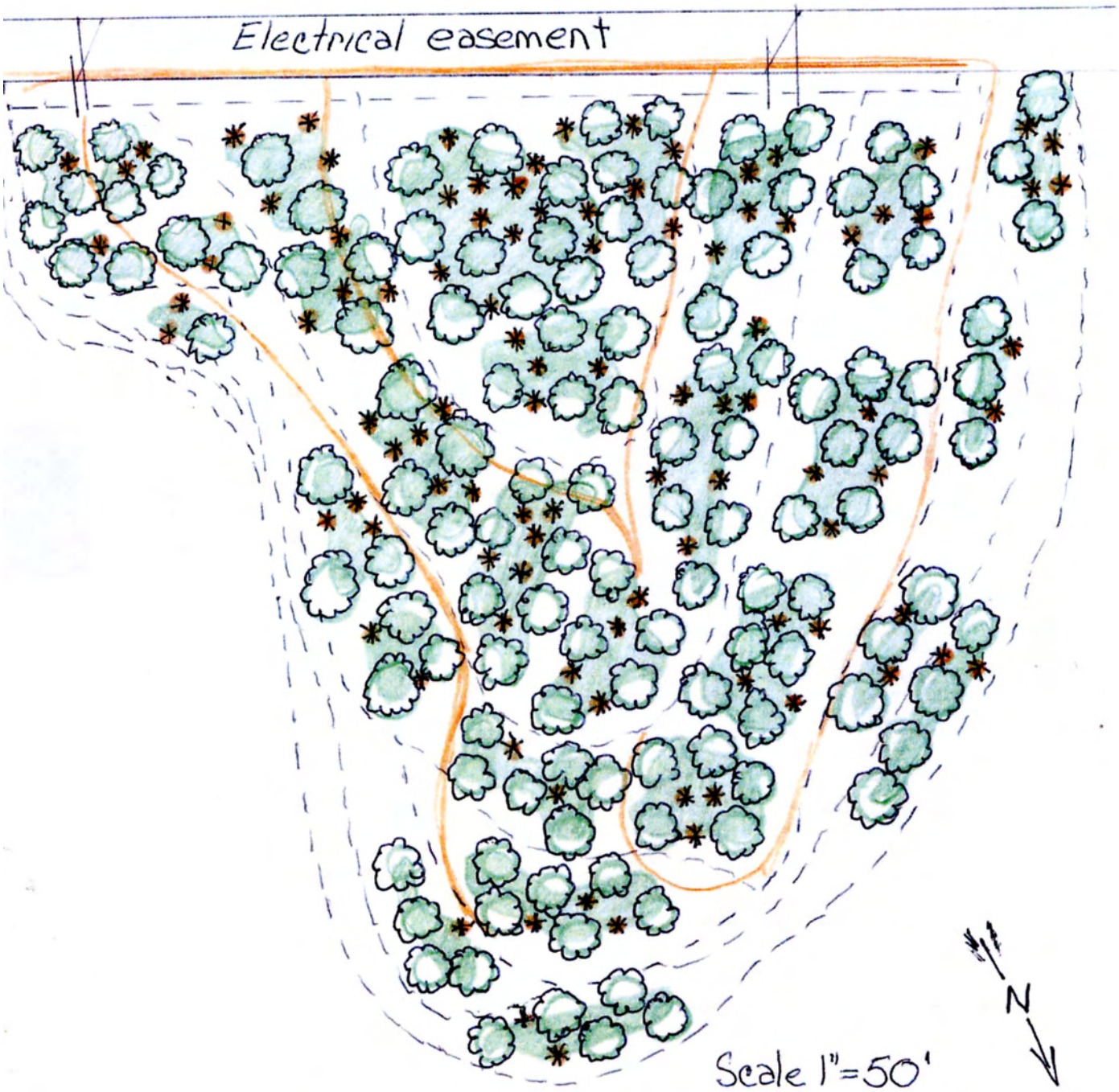
Landscaping Improvement
Agricultural Shed Site Plan



Scale 1"=20'
Agricutural Shed

P11

Forest Plan



Topographic Map
3acre Native forest

planted areas
water lines
upper storied trees (Olia, Koa)
Lower story trees (hapu fern, Lama)

tab
4

Front gate at begining of access easement *(from/to Hana Hwy)*

property boundary *(shown in red)* - access easment beyond

Front gate *(inside property boundary)*

Existing tent catchment structure

Tent interior

Existing catchment system - off of tent roofs

Four exisiting 2,000 gallon water storage tanks

Proposed house site *(facing north)*

Proposed house site *(facing south)*

Proposed house site *(facing west)*

Proposed house site *(facing east)*

Proposed three acre re-forestation area *(in distance just beyond power lines)*

Section of proposed three acre re-forestation area *(overgrown with non-native species)*

Proposed site of agricultural shed replacing exisiting tents *(below)*
and extending into adjacent level field *(above)*

Existing driveway *(access to proposed house site)*

Proposed area for two shade cloth houses

Existing electric infrastucture *(via MECO easment)*

Areas of proposed existing driveway improvements *(well over 20% grade)*

Existing container

tab
5

Management Plan – Kaliae (TMK: 1-2-01:04)

1. General Description

We are proposing the development of approximately four acres of fee simple property located in the General Conservation Subzone. Three acres of the project will be dedicated to the planting of a native tree forest. The remaining one acre will consist of a 90' x 90' agricultural shed, two 20' x 60' shade cloth houses for native plant propagation, a single family dwelling of 3468 sq. ft, a garage of 768 sq. ft., two 30,000 gallon water tanks, and a 700 sq. ft. swimming pool.

According to HARS 13-5-14(2), property in the General Conservation Subzone is suitable for "farming, flower gardening, operation of nurseries or orchards, and grazing; including facilities accessory to those uses..."

2. Existing Conditions on Parcel

-- The property is owned by David Niehaus, his wife Dr. Deborah Mathias, and Neil Strumingher.

-- We have carefully assessed the resources of the property. We have completed an archaeological study by Theresa Dohnam and a Flora & Fauna study by Robert Hobdy. *(see attachments)* .

-- With respect to threatened or endangered species, there are none on the proposed four acre project area.

-- We do not perceive any material constraints on the proposed project area as it is located well above any tsunami or flood plain issues. (*see topographical map and location map attached*)

-- The property has been used for cattle grazing for at least the past 80 years.

-- Regarding access to the property, see easement map attached.

-- There have been two CDUAs submitted by prior owners. CDUA MA 2632 was rejected while CDUA MA 2671 was **approved** subject to 25 terms and conditions.

-- We are including a soils report for this property performed by Ranae Ganske-Cerizo in 2002. *See attachment Soil Report*

3. Proposed Land Uses on the Parcel

We are seeking approval for a three-acre reforestation project, construction of a single family dwelling, and accessory structures. *See the location map and site plan attached.*

The proposed uses are clearly consistent with the guidelines of the State Land Use Conservation District, General Subzone. Specifically, HARS 13-5-14(2) states "Lands suitable for farming, flower gardening, operation of nurseries or orchards, grazing; including facilities accessory to those uses..."

The proposed project areas have until now been used for cattle grazing.

We hope to begin the project on January 1, 2007. At this time, we will install all water lines, valves, and filters to feed the three acre native forest and the shade cloth propagation houses. Within the

first three months, all seeds for the upper story trees will be germinated. There will be approximately 2,000 upper story tree starts. The seeds for the under-story trees will be germinated in mid-2007. There will be two 20' X 60' shade cloth houses – one for upper-story propagation and one for under story plants. During the second year of the project (2008), the ground will be prepared for the trees. The existing grass mat will be removed in the three – acre native forest. (*See attached map*). Sections approximately 100' X 100' will be exposed (i.e. the grass will be removed as the area will be planted with native trees and mulch will be applied to the exposed area.) Once this area is planted and stabilized, another section of approximately the same size will again be uncovered, cleared of grass and planted with native trees.

Never will the entire three acres of soil be exposed at one time, only in increments of approximately 100' X 100'.

Holes will be dug approximately four feet deep by 18 inched in diameter. Organic fertilizers will be used to enrich the soils of the planting areas. They will then be covered with mulch in preparation for upper story tree planting at the beginning of 2009. In that year, we will plant all the trees including ohia, koa, lama and hapu fern – as shown in *the plan attached.*

As the shade cloth houses become available, native ground covers will be started in order to be ready for end of the year planting.

The entire project is estimated to take three years to complete. Following completion, weekly maintenance is expected to consist of weeding, pruning, and occasionally fertilizing. All of the plants chosen are projected to thrive in the area and are expected to need little or no maintenance.

Locations of all existing and proposed land uses are identified on the *attached site plan and maps.*

In regards to our landscaping projects we have no plan to use any invasive species. We plan to use only native Hawaiian plants and trees. Our plans do not involve harvesting or selling any plants or trees.

We have found nothing of historical significance in the proposed project areas. See the attached archeological study completed by Theresa Donham. The property has been used for cattle grazing and was bulldozed many times in the past.

4. Reporting Schedule

See the project description above for details of time duration of management plan and planting schedule.

Upon approval of this management plan, an annual report will be submitted as required by the DNLR. The report will detail the annual progress of the project and will be sent to Sam Lemo at the Office of Conservation and Costal Land management. (P.O. Box 621, Honolulu, 96809)

Please inform us of any additional information or data required. We will reply promptly.

tab
6

Melissa Kirkendall
DLNR, State Historic Preservation Division
130 Mahalani,
Wailuku, Hawaii 96793

Dear Ms. Kirkendall,
My husband and I recently purchased 63 acres of conservation land; TMK 2-1-2-01-04 at Keanae Maui. This property has been used for grazing cattle since before statehood. The property has been graded and grubbed intermittently since 1963. We are planning on building a single family dwelling and propagating Native Hawaiaan trees. My husband has owned Native Hawaiian Tree Source for ten years.,

A past CDUA, MA-2671 was submitted in August 1993. A field inspection was done by Thersa Donham on July 20,1993.

At present we have no knowledge of any archaeologic sites or rare native plants on the parcel other than the King's Trail. We have already consulted with Ms. Nohara from Na Ale Hale Trails. We plan on building our home mauka to the King's Trail. All of our structures and planting will be mauka to the King's Trail. I have enclosed a site map of our tentative plans for your review.

We are inviting you for an onsite inspection at your convenience. We ask for your assistance in the CDUA. We understand that some type of archaeologic survey and inventory will be needed . Your guidance will be much appreciated. Thank you .

Sincerely,

Dr. Deborah Mathias
1630 Piiholo Road
Makawao, Maui, Hawaii
96768
808-572-6180

Maui Na Ala Hele
Trails & Access Program

June 13, 2005

Deborah Mathias M.D. and David Niehaus
1630 Piiholo Road
Makawao, Hawaii 96768

Dear Doctor Mathias and Mr. Niehaus,

RE: Site Visit, TMK 2-1-2-01:004, Kaliae, Maui

Thank you for the opportunity to re-visit the parcel of land recently purchased by your family. As you know, I visited the parcel when the Weaver's owned it and walked both sections of the trail leading into the gulches from your property. The trails leading into Kopiliula and Wailuaiki are both in remarkable condition. Unfortunately the connecting trail across the ridge top was destroyed several years ago and the route is largely undeterminable. By looking at old maps and on-the-ground evidence, it is fairly obvious the trail was well below 500 feet elevation and probably stayed below 400 feet elevation everywhere except at the top of the Kopiliula Gulch where it may have gotten as high as 450 feet elevation. Current GPS equipment would be able to determine the elevation +/- 40 feet, depending on the accuracy of the equipment.

If you have any further questions, please call me at (808) 873-3508.

Torrie Nohara

Torrie Nohara
Trails and Access Specialist

Maui Division of Forestry & Wildlife - Dept. of Land & Natural Resources – 54 S. High Street, #101, Wailuku, Hawaii 96793
Phone: (808) 873-3508 Fax: (808) 873-3505

Natural Resource Conservation Services
USDA
210 Imi Kala Ste 209
Wailuku, Maui
Hawaii 96793

Dear Sir,
Our family is planning on building a single family dwelling at Kaliae, Maui TMK 2-1-2-01-04. This 63 acre property is zoned Consevation General Subzone. We are in the process of preparing a Draft Environmental Assessment and CDUA in accordance with the requirements of Chapter 343 HRS, Chapter 200, Subchapter5 We would appreciate your department's review and comments on the proposed Project.
These comments will be submitted to the DLNR and the Office of Environmental Quality Control for publication and review.

Thankyou
Sincerely

David Niehaus and Deborah Mathias
1630 Piiholo Road
Makawao, Maui
Hawaii
96768
808-572-6180

NRCS Natural Resources Conservation Service

USDA United States Department of Agriculture

Our People...Our Islands...In Harmony

USDA KEALAKEKUA
SERVICE CENTER
81-948 Waena `Oihana Lp
CKC Bldg 9 Suite 101
Kealakekua, HI 96750
Phone: 808-322-2484
FAX: 808-322-3735

September 26, 2003

TO: Ranae Ganske
Maui County Resource Conservationist
Wailuku Service Center

FROM: Carol Kawachi
Cultural Resources Specialist

SUBJECT: L & L Weaver
Kaliae, Ko`olau, Hana, Maui
TMK: 1-2-01:04

Thank you for the opportunity to review this project for cultural resources. This review will be based on limited literature and map search.

Ranae Ganske took Carol Kawachi out to the site for a field check on Monday, 7 July 2003. The client walked us around the property, from below the previously cleared areas to the edge of the cliff, pointing out the cliff trails.

The subject parcel had previously been bulldozed. There are dirt mounds and roads evident of such activity. No surface remains of cultural resources were observed.

The proposed conservation practices will have no effect on historic properties.

If you have any questions, please contact Carol Kawachi at (808) 322-2484 x105 or carol.kawachi@hi.usda.gov.

CULTURAL RESOURCES REVIEW
Kaliae *Ahupua`a*, Ko`olau, Hana, Maui
TMK: 1-2-01:04

The 63 acre (25.5ha) project parcel is located in Kaliae *Ahupua`a*, Hana District, on the northeastern end of Maui island. Wailuaiki Bay is at the northwestern edge with Papiha Point and Makoloaka Island at the very northern tip of the project parcel.

The roughly triangular shaped parcel extends from the top of the cliff up to nearly the 1400 feet (427m) elevation contour. The parcel is bounded by steep cliffs on all sides. A Forest Reserve line defines the western boundary of the subject parcel.

Deleted: 800 foot (244m

The cliff overlooks Wailua Bay to the northwest. The cliff is quite high and steep. A wide level area on the northwest side of Wailua Bay was probably the preferred area for habitation. The cliff would have been a good area to "spot" for fishes, etc., out in the ocean.

Annual rainfall is 90 – 160 inches (2286 – 4064mm). Handy described this side of Maui as "the wettest coastal region in all the islands" (1972:498).

The soil is described as silty clay on 3 to 25 percent slopes.

The land was part of Grant 1164. Grants were "deeds issued by the Hawaiian government, . . . for various purposes "(Lucas 1995:21).

Formatted: Font color: Red

The tax map shows an old road crossing the parcel west to east approximately 38 – 263 feet (11.5 – 80m) from the coast. The road has long been overgrown and abandoned. According to the client, he believes this to be part of the old "King's Trail." The client says he uses the trail on both the east and west side of his parcel to go up and down the cliff face.

Deleted: The land is zoned State Conservation Land. What does this mean for the landowner? Are there restrictions? Landowner is required to meet all State regulations in regards to permits ect on any type land development. Note this does not have to be in your report.¶
¶

According to the State Historic Preservation Division web site, no previous archaeological surveys have been done in the area.

The current practice is Twelve Critical Area plantings. The proposed practices are:

1. brush management,
2. contour orchard and fruit area,
3. tree shrub establishment.
4. erosion control
5. conservation cover: perennial peanut, grasses continue to plant in designated areas. Note: This really doesn't have to be documented in your report because it is documented on the plan.

6) Critical Area {Planting

Ranae, could you combine the above two paragraphs into one, please. The information was gathered from two separate messages you had sent me (dated 4/04/03 & no date on the other). ???

Approximately 53 acres (21.4ha) will be left in pasture which is vegetated with a common windward pasture grass that produces a very dense mat. There is no livestock currently on the property although it was formerly in pasture. The uppermost 10 acres (4ha) has been bulldozed where the residence and farm structures have been constructed. Perennial peanut has been planted as ground cover.

The Area of Potential Effect (APE) for the above practices will be 53 acres between the 200 and 1400' elevation contours.

The *ahupua`a* name Kaliae or Kaliai (Sterlling 1998: 108) was not found in Place Names of Hawaii (1981). The *ahupua`a* per se may not have played a major role in Maui's history but its proximity to Wailua and Hana, which did, would have included Kaliae, if only peripherally. Hana was a "region famous in legend and history, . . . supported chiefly by fields of mulched (dry) taro cultivation and sweet potato, the small steep stream-valley called Wailua being almost the only area of wet taro nearabout" (Handy & Handy 1972:272).

Several small streams or gulches were seen on our visit. However, it is not likely that wet taro was cultivated here.

Drainage ditches: please show these on your conservation map. Ranae, you mentioned they were "undersized, . . . showed signs of excessive velocities and capacity will decrease when vegetation is established." (This is clarified on our conservation plan to the best of our knowledge which includes an engineering design in folder.)

According to the map (Dorrance 2000:60) and information in Sugar Islands (2000), the subject area appears not to have been cultivated in sugar.

There is very little information on Kaliae, suggesting it was not an outstanding area for cultivation or habitation, fishing or otherwise.

The subject parcel has been bulldozed in the recent past by previous landowners. There are dirt mounds and roads evident of such activity.

The proposed practices will have no effect on historic properties. No surface cultural features were observed.

REFERENCES

Dorrance, William H. and Francis S. Morgan
2000 Sugar Islands. Mutual Publishing. Honolulu, Hawaii.

Handy, E.S. Craighill and Elizabeth Green Handy
1972 Native Planters in Old Hawaii. B.P. Bishop Museum Bulletin 233. Bishop Museum Press. Honolulu, Hawaii.

Lucas, Paul F. Nahoa
1995 A Dictionary of Hawaiian Legal Land-Terms. Native Hawaiian Legal Corporation. University of Hawai`i Press. Honolulu, Hawaii.

Pukui, Mary Kawena, Samuel H. Elbert and Esther T. Mookini
1981 Place Names of Hawaii. Revised and enlarged Edition. University Press of Hawaii. Honolulu.

Sterling, Elspeth P.
1998 Sites of Maui. Bishop Museum Press. Honolulu, Hawaii.

July 24.2005
Mr. George Young Chief Regulatory Branch
CEPOH-EC-R
US Army Corps of Engineers
Bldg 230
Fort Schafter
Hawaii 96858-5440

Re: TMK 2-1-2-01-04
We are in the process of submitting an Environmental Assessment and CDUA for a single family dwelling, accessory improvements and agriculture structures (two shade cloth houses, equipment and storage shed) for propagating and growing Native Hawaiian Trees on our property at Kaliae ,Maui. This Triangular parcel is bordered on two sides by state forest and by shoreline rocky cliffs on the ocean side. There are no wetlands on the property. We are writing to ask if a Department of Army Permit is required. I would appreciate any other information that you might have on this property.I have enclosed a map and a description of the project. Thank you for your anticipated assistance.

Sincerely,

Deborah Mathias
1630 Piiholo Road
Makawao,Maui 96768
808-572-6180

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

REPLY TO
ATTENTION OF

August 22, 2005

Regulatory Branch

Deborah Mathias
1630 Piiholo Road
Makawao, Hawaii 96768

Subject: Determination of Corps jurisdiction for a proposed single-family residence and agricultural structures at 1-5470 Hana Highway, Kaliae, Maui, Hawaii (TMK: (2) 1-2-01:04).

Dear Ms. Mathias: **File No. POH-2005-420**

This office has reviewed the information you submitted by letter dated July 24, 2005 requesting information on Department of the Army (DA) permitting requirements for the proposed activities. The information was reviewed pursuant to Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act (RHA). Section 404 of the CWA requires that a Department of the Army (DA) permit be obtained prior to the placement or discharge of dredged and/or fill material into waters of the U.S., including wetlands (33 U.S.C. 1344). Section 10 of the RHA requires that a DA permit be obtained for certain structures or work in or affecting navigable waters of the United States (33 U.S.C. 403).

Based on your brief description of work, and reference to the United States Geological Survey (USGS) topographic quadrangle and the U.S. Fish and Wildlife Service's National Wetland Inventory (NWI) map for the project area, it does not appear that the proposed work would involve the discharge of dredged or fill material into waters of the United States; however, additional information provided in your draft Environmental Assessment (EA) should include a formal survey of wetlands for the property.

You describe the shoreline as formed by rocky cliffs along the Pacific Ocean, which forms the property's northern boundary. The ocean is subject to regulation under both Section 10 of the RHA and Section 404 of the CWA. Provided no future work is proposed below (waterward) of the Mean Higher High Water (MHHW) mark on the shoreline, no DA permit will be required. You are strongly encouraged to contact this office for a determination of DA jurisdiction if any such work is proposed.

This letter does not relieve you of responsibility to obtain all applicable Federal, state or local permits. Please note that a National Pollutant Discharge Elimination System (NPDES) permit pursuant to Section 402 of the CWA, Chapter 342D of the Hawaii Revised Statutes, and Chapter 11-55 of the Hawaii Administrative Rules, may be required (NPDES typically required if the land disturbance is one (1) acre or more). You should contact the State Department of Health, Clean Water Branch at (808) 586-4309 for requirements under the NPDES statutes.

Please provide a copy of the draft EA to this office for a final determination of DA jurisdiction regarding the proposed construction on the subject parcel.

For more information on our regulatory program, please visit our web site at http://www.poh.usace.army.mil/regulatory.asp. If you need further assistance, please contact Ms. Connie Ramsey by phone at 808-438-2039, by facsimile at 808-438-4060, or by electronic mail at Connie.L.Ramsey@usace.army.mil. Please refer to above file number for future inquiries regarding this project. Thank you for your cooperation with our regulatory program.

Sincerely,

George P. Young, P.E.
Chief, Regulatory Branch

Copy furnished:
Ed Chen, Clean Water Branch, Department of Health, P.O. Box 3378, Honolulu, HI 96801
Director, Department of Planning, County of Maui, 200 South High Street, Wailuku, HI 96793
John Nakagawa, Office of Planning, Coastal Zone Management, P.O. Box 2359, Honolulu, HI 96804

July 25,2005
Ms.Shultz
US Fish and Wildlife
Ecological Sevices
300 Ala Moana Blvd.
Room 3-122
Po 50088
Honolulu,Hawaii,96850

Dear Ms. Shulz
Re TMK 2-1-2-01-04
We are in the process of submitting an Environmental Assessment and CDUA for a single family dwelling, accessory structures and agriculture structures (two shade cloth houses and a equipment/ storage shed that is used for water catchment.)on our property that is located at Kaliae,Maui. This parcel is zoned Conservation, General Subzone. This parcel is bordered on two sides by State Forest and by shoreline ocean cliffs. The parcel is bordered on the Hana side by Kopiliula Stream and on the Keanae side by Wailuaiki Stream. We are writing to ask for your departments advise and recommendations prior to our submittal of the CDUA.
Thankyou for your anticipated response.

Sincerely.

Deborah Mathias
1630 Piiholo Road
Makawao.Maui
Hawaii.96768
808-572-6180

NOTE FROM U.S. FISH & WILDLIFE SERVICE

U.S. FISH & WILDLIFE SERVICE

DEPARTMENT OF THE INTERIOR

FACSIMILE TRANSMITTAL SHEET

TO: Dr. Deborah Mathias	FROM: Christa Russell
FAX: 808/572-1722	DATE: 8/19/05
NUMBER OF PAGES, INCLUDING COVER: 2	

NOTES/COMMENTS:

Dr. Mathias:

According to our endangered & threatened species data, there is designated critical habitat for the endangered Mariscus pennatiformis (no common name), a type of sedge, along the coastal edge of TMK (2) 1-2-001:004. There is designated critical habitat for the endangered Ischaemum byrone (Hilo Ischaemum), a type of grass, adjacent to the above TMK.

300 ALA MOANA BLVD., ROOM 3-122
P.O. BOX 50088 • HONOLULU, HI 96850
PHONE: (808) 792-9400 • FAX: (808) 792-9581

tab

7

SOIL QUALITY CHECKLIST

Prepared for: Business Name: Weaver

Client Name: Weaver ☐ Owner ☐ Operator

Farm #: 3165 31650 Field #:'s 1, 2, 3, 4

Prepared by: Name / Title: Ranae Ganske-Cerizo Date: 9/19/02

I. PURPOSE OF CHECKLIST

May be used to assess soil quality properties. Recommendations which may be made to the client for improving the soil property are provided, if required. Instructions to planners for use of the results is also included. Complete a separate checklist for each field, if different.

The checklist is the second half of Soils Technical Note - No. 4. The first half describes the soil quality properties.

II. SOIL TO BE ASSESSED

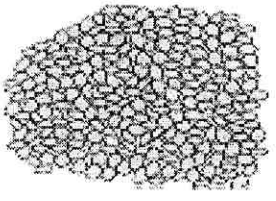
Map Unit Symbol and Name: KBID –Kailua Silty Clay

III. SURFACE LAYER ASSESSMENT

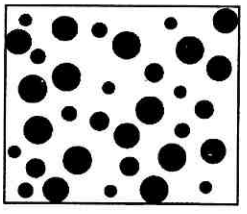
A. Structure - *Check soil structure type present (you may use the illustrations below to help determine type):*

- ☐ Medium granular or larger
- x☐ Fine or medium subangular blocky
- ☐ Coarse blocky *
- ☐ Massive (solid mass, no structure) *
- ☐ Single grain or sand size aggregate*

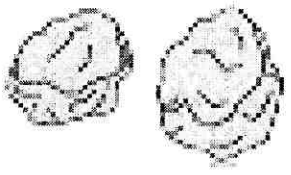
* Recommendation: Maximize organic matter inputs and minimize traffic and tillage, especially when soil too moist.

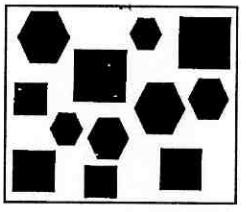


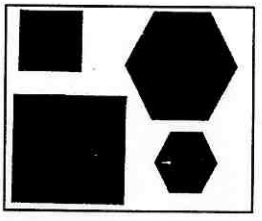
Granular



Medium: 2 to 5 mm







Subangular Blocky Fine: 5 to 10 mm Medium: 10 to 20 mm

B. Gravel and Cobble - *Estimate the percent gravel and cobble on (in) the surface layer, and record below:*

2% % gravel and cobble *

* Planner: Use with RUSLE C factor or USLE K factor &/or if AWC or USLE K adjustment factor is needed, call a soil scientist. (AWC in FOCS may be based on very different gravel %s).

C. pH - *Measure the pH level of the plow layer, and record below:*

6.5 pH *

* Recommendation: If less than 6.0, get a soil test for liming requirement, N, P, K, Ca, & Mg, and treat accordingly.

D. Biological Indicators - *Observe earthworms and roots, and answer the following:*

Are earthworms present?

☐ Yes

x☐ No *

Are there more than approximately 20 roots per 1 dm^2 (100 cm^2 or roughly size of palm of hand)?

x☐ Yes

☐ No *

* Recommendation: Reason may be compaction, lack of organic matter, or toxic chemical presence. Note pH, structure, and chemical use. Make recommendations to client, as appropriate (in section V. Summary).

E. Organic Matter Status - *Observe organic matter status, and check appropriate type below:*

☐ Folist, <6" thick *

☐ Mineral soil, reddish color & no color change to redder in subsurface. *

x☐ Mineral soil, darker with redder clods present. *

☐ Mineral soil, plow layer darker than subsurface.

*Recommendation: Emphasize returning all residues to the soil. Planting a cover crop would is also beneficial.

IV. SUBSURFACE LAYER ASSESSMENT

A. Depth to Bedrock, Cemented Layer or Clinker Layer with no soil in voids (for T factor determinations) **-** *Call a soil scientist to obtain T factor (if not named soil in FOTG) and record below:*

> 40 inches inches - depth to bedrock, cemented layer or clinker layer

B. Tillage Pan - *Determine if a tillage pan is present by observing if there is a massive layer below plow layer with few roots and visible pores. Also the soil is usually firm or very firm when moist, and evidence of roots running horizontally on top of pan. Record result of determination below:*

x☐Yes *

☐ No

* Recommendation: Chisel or subsoil. Do not till when too moist.

Due to the slope it is very important to follow NRCS specifications in all practices to avoid erosive conditions/

C. Soil Texture, Soil Depth and Coarse Fragment Content - *Does the soil texture, soil depth and coarse fragment content agree with the named soil as mapped?*

☑ Yes * * Planner: Use FOCS data for the named soil.

☐ No ** **Planner: Check with a soil scientist to determine if other interpretations change and if data for another soil in FOCS can be substituted.

V. SUMMARY OF RECOMMENDATIONS (to the client)

☐ **Structure (coarse blocky, massive, or single grain)** - Maximize organic matter inputs and minimize traffic and tillage, especially when soil too moist.

☐ **pH (less than 6.0)** - Get a soil test for liming requirement, N, P, K, Ca, & Mg and apply accordingly.

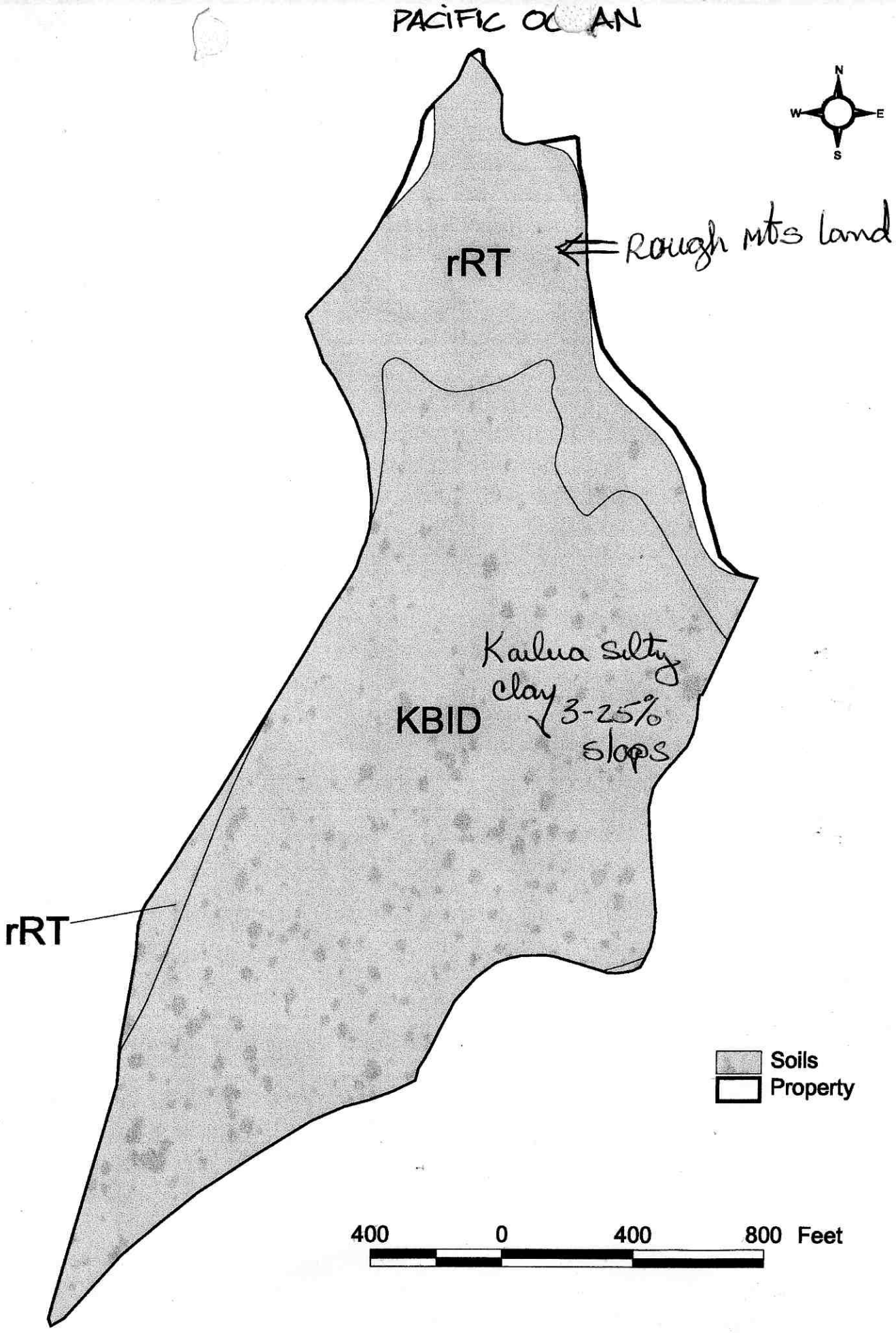
☐ **Biological Indicators (no earthworms and few roots)** - Recommendations are as follows: _____

_____

_____

☑ **Organic Matter Status** - Emphasize returning all residues to the soil. Planting a cover crop is also beneficial. Currently plant perenial peanut

☐ **Tillage Pan (present)** - Chisel or subsoil. Do not till when too moist. NA


PACIFIC OCEAN
N
W
E
S
rRT
Rough mts land
KBID
Kaluaa silty clay 3-25% slopes
rRT
Soils
Property
400
0
400
800 Feet

RECORDATION REQUESTED BY:

AFTER RECORDATION, RETURN TO:

THE ORIGINAL OF THE DOCUMENT RECORDED AS FOLLOWS:
STATE OF HAWAII
OFFICE OF
BUREAU OF CONVEYANCES
Received for record this 9
day of Nov A.D. 1956
at 4:19 o'clock P M. and
recorded in Liber 5408
on Pages 423

RETURN BY: MAIL ( ) PICKUP ( )

THIS INDENTURE made this 6th day of September, 1956, by and between WALTER BOTELHO, husband of Elizabeth T. Botelho, whose residence and post office addresses are, respectively, Omaopio, and Kula, Island and County of Maui, State of Hawaii, hereinafter called the "Grantor", and MAUI ELECTRIC COMPANY, LIMITED, a Hawaii corporation, whose principal place of business is 210 Kamehameha Avenue, Kahului, Island and County of Maui, State of Hawaii, and whose post office address is P. O. Box 597, Kahului, aforesaid, and HAWAIIAN TELEPHONE COMPANY, a Hawaii corporation, whose principal place of business and post office address is 1130 Alakea Street, Honolulu, City and County of Honolulu, State of Hawaii, hereinafter called the "Grantees",

W I T N E S S E T H :

That the Grantor, in consideration of the sum of ONE DOLLAR ($1.00) to him paid, the receipt whereof is hereby acknowledged, does hereby grant and convey unto the Grantees, their respective successors and assigns, a perpetual right and easement to build, construct, reconstruct, rebuild, repair and maintain and operate pole and wire lines and/or underground power lines, consisting of main trunk lines as well as all service lines emanating therefrom, and to use such poles, wires, guys, conduits and other appliances and equipment as may be necessary for the transmission of electricity to be used for light and power and/or communications and control circuits, including the right to trim and keep trimmed any trees in the way of said poles and wires and the right

of entry upon the property hereinafter described, for the construction, maintenance, repair and operation of said pole and wire lines and/or underground power lines, in efficient use and condition over, across, through and under that certain parcel of land, a portion of Grant 1164, situate at Kalias, Kekuapawela, Keelau, Island and County of Maui, containing an area of 63.0 acres, Tax Map Key 1-2-01-4.

Which perpetual right and easement, being sixty (60) feet wide, shall run over, across, through and under the said property according to and in accordance with the map prepared by Maui Electric Company, Limited, attached hereto and made a part hereof.

TO HAVE AND TO HOLD the same unto the Grantees, their respective successors and assigns, forever.

AND THE GRANTEES, each for itself and not for the other, do covenant and agree with the Grantor, his heirs, executors, administrators and assigns, forever:

(1) That they will use due care and diligence to keep the said lines and appurtenances installed by each of them in a good and safe condition and repair, and that they will exercise their respective rights hereunder in such manner as to occasion as little interference as reasonably necessary with the use of the said property by the owners and occupants thereof; and

(2) That they agree to indemnify said Grantor for any and all damage to the property caused by any failure of either or both of them to properly maintain or operate any of the said lines and appurtenances as provided in paragraph (1), above, and they agree to indemnify and defend said Grantor against all loss, liability, claims, suits and actions by whomsoever suffered or brought on account of any injury to person or property caused, or allegedly caused, by any failure on the part of either or both of them to observe any covenants contained in paragraph (1), above, and the Grantees agree among themselves, and on behalf of their respective successors and assigns, that each reserves any right to reimbursement or contribution, as against the other, provided

by law or any pertinent present or future agreement between them, for any liability imposed upon either or both of them as a result of such injuries.

IT IS HEREBY MUTUALLY UNDERSTOOD AND AGREED by and between the parties hereto, and on behalf of their respective heirs, executors, administrators, successors and assigns:

(a) That if at any time the property across which rights and easements are hereby granted, or any part thereof, be condemned or taken by any authority exercising the power of eminent domain, the Grantees shall have the right to claim and recover from such condemnor, but not from the Grantor, such compensation as may be payable for their respective poles, wires, guys, conduits and other appliances and equipment installed upon the said premises and property, or any part thereof, by virtue of this easement;

(b) That upon any termination of this indenture or any abandonment of the rights and easements hereby granted, the Grantees shall promptly surrender and yield up the easement area hereinabove described and remove their respective poles, wires, guys, conduits and other appliances and equipment therefrom, and prepare, execute and record, at their expense, such document or documents as may be required to release the said property from the servitude hereby granted.

And, for the consideration aforesaid, ELIZABETH T. BOTELHO, wife of the said Grantor, does hereby release and forever quitclaim unto the said Grantees all of her right, title and interest in and to the property and premises hereinabove described, whether by right of dower, under community property law, or otherwise.

IN WITNESS WHEREOF, the parties hereto have caused this instrument to be duly executed the day and year first above written.

Walter Botelho

Walter Botelho

Elizabeth T. Botelho

Grantors.

MAUI ELECTRIC COMPANY, LIMITED,

By _____
Its Executive Vice President.

By _____
Its Secretary-Treasurer.

Grantee.

HAWAIIAN TELEPHONE COMPANY,

HAWAIIAN TELEPHONE CO.
ENGINEERING DEPT.
CHECKED 10-1-66
APPROVED

By _____
Its VICE PRESIDENT

By _____
Its ASSISTANT SECRETARY

Grantee.

STATE OF HAWAII,)
) ss.
County of Maui.)

On this 6th day of September 1966, before me personally appeared WALTER BOTELHO and ELIZABETH T. BOTELHO, husband and wife, respectively, to me known to be the persons described in and who executed the foregoing instrument, and acknowledged to me that they executed the same as their free act and deed.

_____
Notary Public, Second Judicial
Circuit, State of Hawaii.

My commission expires June 30, 1969

STATE OF HAWAII,)
) ss.
County of Maui.)

On this 3rd day of October, 1966, before me appeared R. R. LYONS and C. C. MURDOCH, to me personally known, who, being by me duly sworn, did say that they are the Executive Vice-President and Secretary-Treasurer, respectively, of MAUI ELECTRIC COMPANY, LIMITED, a Hawaii corporation, that the seal affixed to the foregoing instrument is the corporate seal of said corporation, and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and the said R. R. LYONS and C. C. MURDOCH severally acknowledged said instrument to be the free act and deed of said corporation.

K C Cahn
Notary Public, Second Judicial Circuit, State of Hawaii.

My commission expires 8-20-68

STATE OF HAWAII,)
City and) ss.
County of Honolulu.)

On this 24th day of October, 1966, before me appeared W C Kea and Jane D Lowe, to me personally known, who, being by me duly sworn, did say that they are the Vice President and Assistant Secretary, respectively, of HAWAIIAN TELEPHONE COMPANY, a Hawaii corporation, that the seal affixed to the foregoing instrument is the corporate seal of said corporation, and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said W C Kea and Jane D Lowe severally acknowledged said instrument to be the free act and deed of said corporation.

Edone E Monsarrat
Notary Public, First Judicial Circuit, State of Hawaii.

My commission expires 7-15-67

-6-

KNOW ALL MEN BY THESE PRESENTS:

That in order to comply with Section 196-4 of the Revised Laws of Hawaii 1955, and to further secure and comply with the after-acquired property clause in that certain First Mortgage and Deed of Trust, as the same has been and may hereafter be amended, hereinafter referred to as the trust mortgage, executed on January 15, 1941, on file in the Office of the Assistant Registrar of the Land Court of the State of Hawaii as Document No. 56356, and recorded in the Bureau of Conveyances of the State of Hawaii in Liber 1613 at page 310, said trust mortgage having been amended by instruments dated, numbered and recorded as follows:

Dated	Land Court Document No.	Recorded
July 23, 1942	64278	Liber 1717, pp. 131-148
"	64274	" 1717, pp. 149-169
"	64311	" 1717, pp. 236-240
"	64312	" 1717, pp. 241-246
"	64313	" 1717, pp. 247-251
"	64314	" 1717, pp. 252-256
July 10, 1944	74022	" 1832, pp. 284-307
Aug. 14, 1948	103744	" 2160, pp. 412-495
Jan. 7, 1957	197087	" 3207, pp. 311-315
Sept. 27, 1962	297144	" 4377, pp. 1-24

HAWAIIAN TELEPHONE COMPANY, a Hawaii corporation, mortgagor in said trust mortgage, and [illegible] in the [illegible] to which this instrument is attached, does hereby grant, bargain, sell, convey, transfer, assign, mortgage, confirm, warrant, set over and deliver unto HAWAIIAN TRUST COMPANY, LIMITED, a Hawaii corporation having its principal office and place of business at 1010 Richards Street, Honolulu, State of Hawaii, the Trustee named in said trust mortgage, as such Trustee under said trust mortgage, as amended, and its successors in trust and assigns, all of its rights, title and interest in and to said [illegible] to which this instrument is attached.

TO HAVE AND TO HOLD the same, together with all rights, easements, privileges and appurtenances thereunto or to any part thereof belonging or appertaining, unto the said Trustee and its successors in trust and assigns;

IN TRUST, NEVERTHELESS, under the trusts and subject to the conditions and provisions, including the defeasance clause, set forth in the trust mortgage, as amended, and as the same may from time to time hereafter be amended.

IN WITNESS WHEREOF, said HAWAIIAN TELEPHONE COMPANY has caused these presents to be executed in its corporate name by its proper officers and its corporate seal to be hereunto affixed, all at Honolulu, City and County of Honolulu, State of Hawaii, the 24 day of October, 19[illegible].

HAWAIIAN TELEPHONE COMPANY

By [illegible]
Its VICE PRESIDENT

By [illegible]
Its ASSISTANT SECRETARY

STATE OF HAWAII)
City and County of Honolulu) ss

On this 24 day of October, 19[illegible], before me appeared [illegible] and [illegible] to me personally known, who being by me duly sworn, did say that they are the Vice President and Assistant Secretary respectively of Hawaiian Telephone Company, and that the seal affixed to the foregoing instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and the said [illegible] and [illegible] acknowledged said instrument to be the free act and deed of said corporation.

Notary Public, First Judicial Circuit,
State of Hawaii.

My commission expires [illegible]

KNOW ALL MEN BY THESE PRESENTS:

That in order to comply with Section 196-4, Revised Laws of Hawaii 1955, and to further secure and comply with the after-acquired property provisions of that certain Indenture of Mortgage and Deed of Trust dated March 1, 1948, to BISHOP TRUST COMPANY, LIMITED, a Hawaiian corporation, as Trustee, being recorded in the Hawaiian Registry of Conveyances in Book 2193, pages 227-306, as amended by First Supplemental Indenture dated as of April 1, 1953, recorded in said Registry in Book 2687, pages 354-376, and by Second Supplemental Indenture dated May 1, 1963, recorded in said Registry in Book 4514, at page 207, and Third Supplemental Indenture dated February 1, 1966, recorded in said Registry in Book S265, pages 279-306, all to said Bishop Trust Company, Limited, as Trustee.

MAUI ELECTRIC COMPANY, LIMITED, a Hawaiian corporation, mortgagor in said trust mortgage, and grantee in the grant to which this instrument is attached, does hereby grant, bargain, sell, convey, transfer, assign, mortgage, confirm, warrant, set over and deliver unto Bishop Trust Company, Limited, a Hawaiian corporation having its principal office and place of business at 141 South King Street, Honolulu, State of Hawaii, the Trustee named in said trust mortgage, as such Trustee under said trust mortgage, as amended, and its successors in trust and assigns, all of its right, title and interest in and to said grant to which this instrument is attached.

TO HAVE AND TO HOLD the same, together with all rights, easements, privileges and appurtenances thereunto or to any part thereof belonging or appertaining, unto the said Trustee and its successors in trust and assigns;

IN TRUST, NEVERTHELESS, under the trusts and subject to the conditions and provisions, including the defeasance clause, set forth in the trust mortgage, as amended.

IN WITNESS WHEREOF, Maui Electric Company, Limited has caused these presents to be duly executed this 3rd day of October, 1966.

MAUI ELECTRIC COMPANY, LIMITED

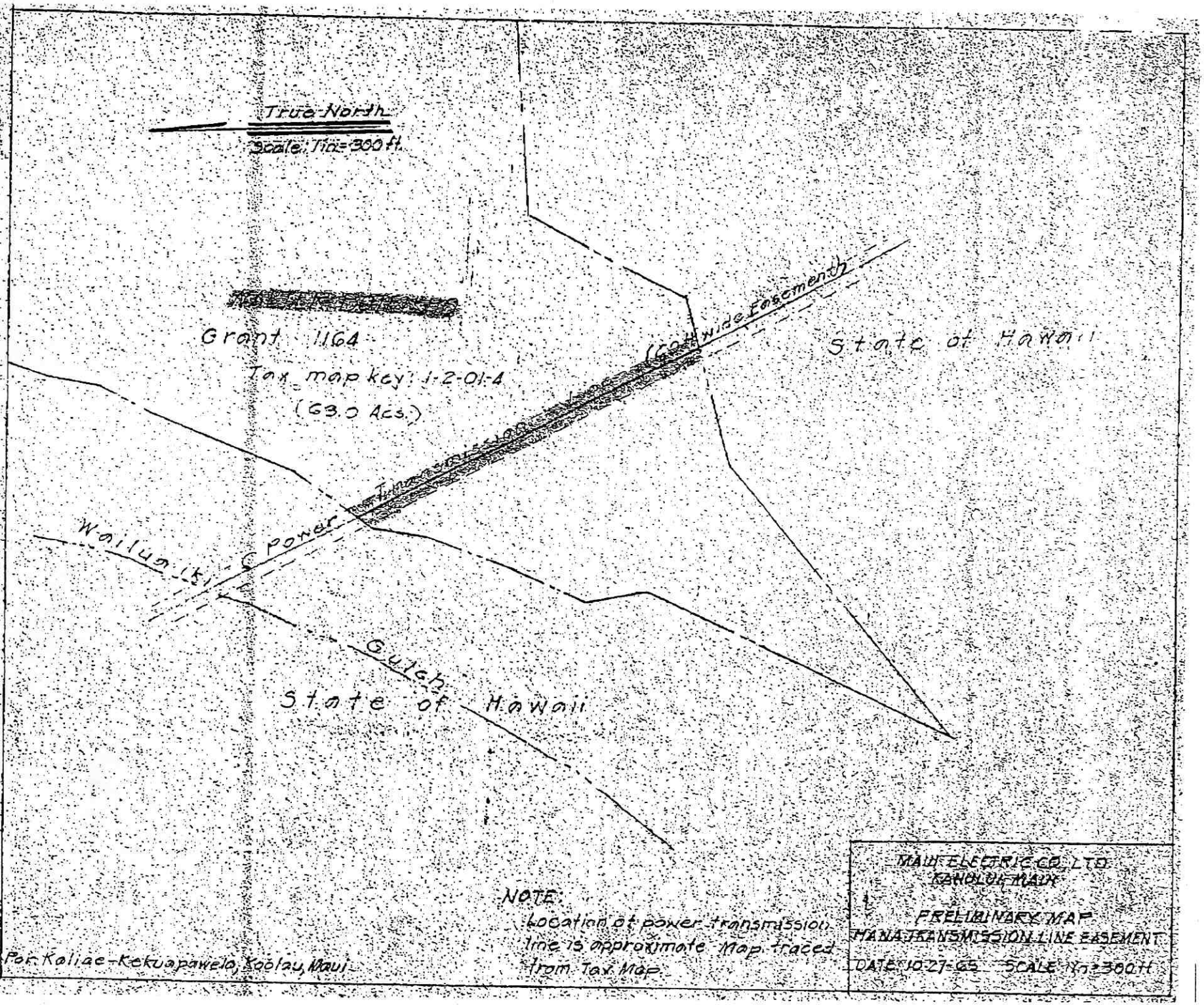
By _____
Its Executive Vice President

By _____
Its Secretary-Treasurer

State of Hawaii)
County of Maui) ss.

On this 3rd day of October, 1966, before me appeared R. R. LYONS and C. C. MURDOCH to me personally known, who, being by me duly sworn, did say that they are the Executive Vice President and Secretary-Treasurer, respectively, of MAUI ELECTRIC COMPANY, LIMITED, a Hawaiian corporation, and that the seal affixed to the foregoing instrument is the corporate seal of said corporation, and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said R. R. LYONS and C. C. MURDOCH severally acknowledged said instrument to be the free act and deed of such corporation.

_____
Notary Public, Second Judicial Circuit
State of Hawaii
My commission expires: 8-20-68

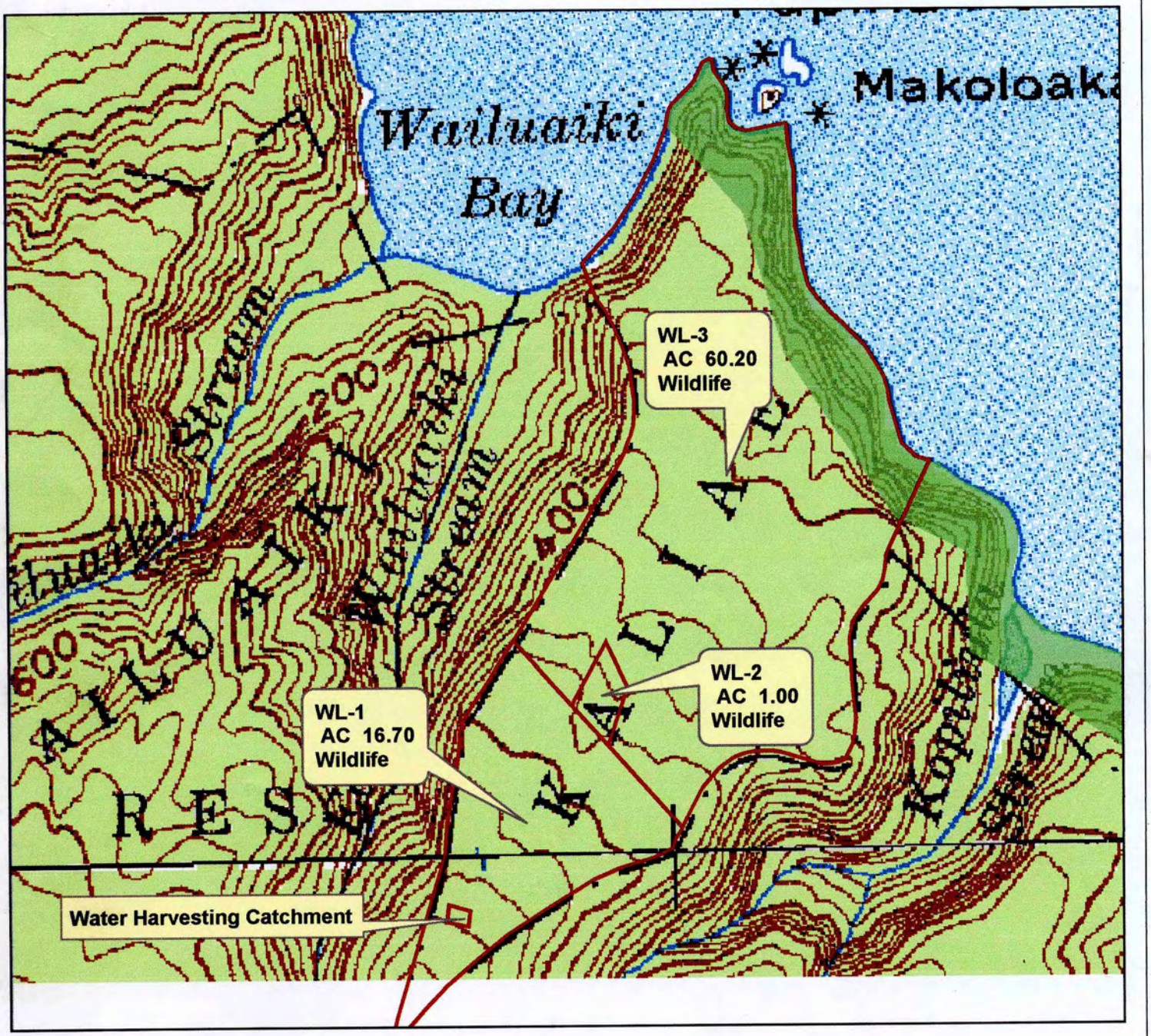

True North
Scale: 1in=300ft.
Grant 1164
Tax map key: 1-2-01-4
(63.0 Acs.)
150ft. wide easement
State of Hawaii
Transmission line
Wailuaiki power
Gulch
State of Hawaii
NOTE:
Location of power transmission line is approximate Map traced from Tax Map.
MAUI ELECTRIC CO. LTD.
KAHULUI, MAUI
PRELIMINARY MAP
HANA TRANSMISSION LINE EASEMENT
DATE 10-27-65 SCALE 1"=300ft
Por. Kaliae-Kekuapawela, Koolau, Maui

Conservation Plan Map

Date: 9/30/2005

Customer(s): DAVID P NIEHAUS
District: Hana Soil & Water Conservation District

Field Office: WAILUKU SERVICE CENTER
Agency: USDA
Assisted By: James J Ino



Legend

Weaver_L&L--------3165-Weaver

mau-indv-final-nad83-06jun2003

Image: o20156f2.tif

340 0 340 680 1,020 1,360 Feet

N

NRCS Natural Resources Conservation Service
WAILUKU SERVICE CENTER
210 IMI KALA ST STE 209
WAILUKU, HI 96793
(808)244-3100 ext. 107

Ranae Ganske-Cerizo
DC

Conservation Plan

DAVID P NIEHAUS
1630 PIIHOLO RD
MAKAWAO, HI 96768

Wildlife

Tract: 991

Conservation Cover

Perennial vegetation cover to be maintained on land.

Field	Planned Amount	Month	Year	Applied Amount	Date
WL-1	16.7 ac	11	2005		
WL-2	3 ac	11	2005		
WL-3	60.2 ac	11	2005		
Total:	79.9 ac				

Contour Orchard and Other Fruit Area

Plant native trees on the contour to allow cultural operations to follow the lands contour to reduce erosion and runoff.

Field	Planned Amount	Month	Year	Applied Amount	Date
WL-2	3 ac	11	2005		
Total:	3 ac				

Mulching

Apply a protective covering of residue around the base of the trees six inches thick to retain moisture, promote nutrients and minimize erosion.

Field	Planned Amount	Month	Year	Applied Amount	Date
WL-2	3 ac	11	2005		
Total:	3 ac				

Tree/Shrub Establishment

Planting will be implemented in ten feet circles. These plantings will contain upper story trees (ie) Koa and Ohia and lower story trees and shrubs (ie) lama, kawila etc.

Field	Planned Amount	Month	Year	Applied Amount	Date
WL-2	3 ac	11	2005		
Total:	3 ac				

Water Harvesting Catchment

Install a facility to collect and store precipitation.

Field	Planned Amount	Month	Year	Applied Amount	Date
WL-1	1 no	11	2005		
Total:	1 no				

CERTIFICATION OF PARTICIPANTS

David P Niehaus Sept 30, 05

DAVID P NIEHAUS Date

CERTIFICATION OF:

DC

Renae Garske-Cerizo 9/29/05

Renae Garske-Cerizo Date

NONDISCRIMINATION STATEMENT

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

ACORD CERTIFICATE OF LIABILITY INSURANCE

OP ID MC MATHI-2 | DATE (MM/DD/YYYY) 09/29/05

PRODUCER

Finance Insurance, Ltd. - Maui
140 Hoohana St., Suite 201
Kahului HI 96732
Phone: 808-244-3552 Fax: 808-244-3472

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.

INSURED

Debra Mathias, David Niehaus &
Neil Strummingher
1630 Piiholo Road
Makawao HI 96768

INSURERS AFFORDING COVERAGE		NAIC #
INSURER A:	Nautilus Insurance Company	
INSURER B:	**IN LIEU OF CERTIFICATE	
INSURER C:	ISSUED 09/22/05***	
INSURER D:		
INSURER E:		

COPY

COVERAGES

THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. AGGREGATE LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	ADD'L INSRD	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	LIMITS	
A	X	GENERAL LIABILITY [X] COMMERCIAL GENERAL LIABILITY [ ] CLAIMS MADE [X] OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: [ ] POLICY [ ] PRO-JECT [ ] LOC	NC474373	09/16/05	09/16/06	EACH OCCURRENCE DAMAGE TO RENTED PREMISES (Ea occurence) MED EXP (Any one person) PERSONAL & ADV INJURY GENERAL AGGREGATE PRODUCTS - COMP/OP AGG	$ 1000000 $ 100000 $ 5000 $ 1000000 $ 2000000 $ included
		AUTOMOBILE LIABILITY [ ] ANY AUTO [ ] ALL OWNED AUTOS [ ] SCHEDULED AUTOS [ ] HIRED AUTOS [ ] NON-OWNED AUTOS	This insurance contract is issued by an insurer which is not licensed by the State of Hawaii and is not subject to its regulation or examination. If the insurer is found insolvent, claims under this contract are not covered by any guaranty fund of the State of Hawaii			COMBINED SINGLE LIMIT (Ea accident) BODILY INJURY (Per person) BODILY INJURY (Per accident) PROPERTY DAMAGE (Per accident)	$ $ $ $
		GARAGE LIABILITY [ ] ANY AUTO	TRIAD INSURANCE AGENCY, INC. (Surplus Line Broker, License #107876) 420 Waiakamilo Rd., Suite 205, Honolulu, HI 96817			AUTO ONLY - EA ACCIDENT OTHER THAN AUTO ONLY: EA ACC AGG	$ $ $
		EXCESS/UMBRELLA LIABILITY [ ] OCCUR [ ] CLAIMS MADE [ ] DEDUCTIBLE [ ] RETENTION $				EACH OCCURRENCE AGGREGATE	$ $ $ $ $
		WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? If yes, describe under SPECIAL PROVISIONS below				WC STATU-TORY LIMITS [ ] OTH-ER E.L. EACH ACCIDENT E.L. DISEASE - EA EMPLOYEE E.L. DISEASE - POLICY LIMIT	 $ $ $
		OTHER					

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES / EXCLUSIONS ADDED BY ENDORSEMENT / SPECIAL PROVISIONS

Location: Grant of Easement LOD S-28147 at Tax Map Key (2) 1-2-001:por 003

State of Hawaii, DLNR is named as an additional insured, but only to the extent set forth in the policy provisions.

CERTIFICATE HOLDER

ZZZZZZZ

State of Hawaii, DLNR
Land Division
54 S. High St., Room 101
Wailuku HI 96793

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING INSURER WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO DO SO SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE INSURER, ITS AGENTS OR REPRESENTATIVES.

AUTHORIZED REPRESENTATIVE Carolyn J. Galdeira

Project: Kaliae
Interview with Michael Boteilho (MB) and David Niehaus (DN)
Place: Kula, Maui
Date: November 2, 2005

DN: Mr. Boteilho thank you very much for talking with me about Kaliae – the 63 acres you once owned. Where and when were you born?

MB: I was born in Kula, Maui in 1951, and I still reside here.

DN: Mr. Boteilho, can you tell us what you know and remember about Kaliae?

MB: My Dad, Walter Boteilho, purchased the 63 acres known as Kaliae in 1959 from an old man named Alfred Alu. Mr. Alu was a Keanae resident who used the property for cattle grazing. When my father first purchased the property, we could only access it by walking or horseback. There were no motor vehicles able to drive to the property from the Hana Highway. My father and I also used the property for cattle grazing. My father had two other pieces of property he used for the same purpose. There was a 120acre piece in Nahiku and another 55 acre piece in Hana.

DN: What was the purpose of the cattle raising?

MB: It was one of the main supports for our family. We sold the meat to local markets and occasionally donated a cow to the Hana Church.

DN: When and how did you get the road cleared from the Hana Highway to the property entrance?

MB: In 1963, the State of Hawaii cleared and grubbed the forest between the Hana Highway and the property entrance. They planted basically three types of eucalyptus to replace the guavas and Christmas berries. During this time, we hired the same bulldozer to clear the road down to the present front gate.

DN: Do you know of any archaeological ruins on the property?

MB: No. None at all.

DN: To your knowledge, was the property ever used for gathering areas or religious sites?

MB: The property was never used during our time of ownership or anytime that I know of for any such things. As I said before, we had to go from horseback from the Hana Road and the Hana Road wasn't built until 1925.

DN: How did you water your cattle?

MB: We drove the cattle down the two trails… one on the left to the Wailuaiki stream and the one on the right side of the property to the Kopiliula stream. The cattle drank directly from the streams. We had no water pipes or lines.

DN: Was the 63 acres ever bulldozed prior to 1963?

MB: No, I don't think Mr. Alu ever ran a bulldozer on the property. My dad and I did. We bulldozed some roads to get in and plant the grasses, etc.

DN: Did you own the property when Mr. Weaver bought it in 2002?

MB: I sold a portion of the property to Mr. Fred Levy in 1992. The next year he proceeded to clear the property to the extent that, beside the old Mango trees, there was not a blade of grass left on the 63 acres. You should understand that grubbing and clearing of the property was an ongoing practice to operate a ranch. This was to clear the guava, lantana, and inkberries in order to permit grazing by the livestock.

DN: Have you ever seen anyone on the 63 acres besides your crew?

MB: The only people I have ever seen on the property were pot growers, who, I think, came up the trail from the Keanae side.

DN: Do you know what the property was used for prior to ranching?

MB: I saw no signs of anything but cattle ranching.

DN: Mr. Boteilho, thank you very much for your time and this extremely valuable information. You must know more of Kaliae's recent history than anyone else.

I participated in an interview with David Niehaus on November 2, 2005 in Kula, Maui. I understand this information I have provided to Mr. Niehaus shall be submitted as part of a Cultural Impact Assessment Report for a development project in Kaliae, Maui (TMK: 1-2-001-04). I have read the transcript from the interview and the information is true and accurate to the best of my knowledge.

Michael J Boteilho Date: 11/17/05
Michael Boteilho

Purpose: Cultural Impact Study for Kaliae
Participants: Deborah Mathias (DM) and Mrs. Helen Nakanelua (HN)
Date: 25 November, 2005

Mrs. Nakanelua was advised that we were planning to build a home and to plant native Hawaiian trees at Kaliae. She was also advised that we were interested in any history and information on Kaliae and Keanae and Wailua area. Mrs. Nakanelua was informed that we would request her signature on a transcript of the interview.

Mrs. Nakanelua had made it clear to us prior to the interview that she was limited in time because she was preparing for the fumigators and had much work to do…

Mrs. Nakanelua's home is directly below St. Gabriel's Catholic Church in Wailua. It is located on two acres of property. Her yard is full of ti leaves, orchids, fruit trees, and palms.

Mrs. Nakanelua invited us into her living room for the interview with much Aloha. Her living room was full of photos, from floor to ceiling, of her children, grandchildren and extended family.

Mrs. Nakanelua talked with immense enthusiasm. She used her hands, and at times even her feet, to express herself. She spoke perfect English and was extremely articulate. Her eyes twinkled the whole time we visited with her.

DM: Mrs. Nakanelua can you tell us about yourself?

HN: I was born in 1911 in Honolulu. My father was Chinese, my mother was from Keanae, Hawaiian Chinese. My father was a cook on a boat. I didn't like my father. He only came home to make my mother pregnant. He did not value girls. The Chinese men, they don't value girls. I was sent to live with my grandparents on Maui, at Keanae when I was very young. My grandmother was pure Hawaiian. My grandfather got 11 acres at the time of the Great Mahele through a Royal Patent. He gave two of his daughters this land, but one daughter died with no heirs so that land went back to my grandmother and grandfather. I grew up on the 11 acres. Later, the state needed some of the land for the Hana Highway, so they paid us for it, and we had 8 acres left. My grandparents raised me.

DM: Where did you go to school?

MN: I didn't start school until was eight years old. I started at Keanae School. Mrs. Ching was my teacher. When I was nine or ten, I was sent Moanalua Seminary on Baldwin Avenue. I boarded there.

DM: How did you get to school?

HN: We went by horseback.. Patsy Mink's parents, the Tokanagas, had a taxi. We would go by horse and then they would pick us up in the taxi and take us to school. I didn't like it at Moanalua Seminary. I told my grandmother that if I had to go back there, I would run away. So I came back to Keanae after only one year. In 1923, I went to Honolulu for school. I graduated from Kalihi Waena's eighth grade in 1927. The doctor found a spot on my lung, and I had to take a semester off school. I graduated in 1932 from McKinley High School. I wanted to continue school, but my grandfather was going to China, so I came back to Keanae to care for my grandmother. I had gotten married in 1932. I was only to come to Keanae for six months, while my grandfather was in China. My husband, who was pure Hawaiian, was working for Territorial Surveyors Department, at the time. Hawaii was still a territory. One day, about two months after returning to Maui, my grandmother told me in Hawaiian that my husband had come home to Keanae. I was mad that my husband had quit his job in Honolulu. I told him that he had to find a job, but there were no jobs in 1932 in Keanae. Then the government started FERA – men could get five days work a month.. In 1935, WPA came in, and that gave my husband ten days of work a month and gradually up to 15 days a month. Sometime after, my husband got a job with the county, and he became a foreman in charge of road maintenance for the Keanae and Wailua areas.

DM: What did your grandparents who raised you do for work?

HN: My grandparents were very hard workers. My grandfather would say, "You no hana hana, you no kau kau." My grandparents raised taro. My grandmother had land, so they grew taro.

DM: What kind of taro?

HN: We grew wet-land taro. Wet-land taro is easier to care for than dry-land taro. Dry-land taro has to be weeded all the time….it is very hard to care for..

DM: Did you sell the taro?

HN: When I was very young, taro was raised for the Hawaiians only. We would exchange taro with the mountain people for pig and opae and o'opu.

DM: What are o'opu?

HN: They are small talapia-like fish.

DM: So you never sold the taro?

HN: The poi shops came later. When the poi shops came, we sold our taro. We only got $1.50 for 100 pounds. It was very hard work to raise 100 pounds of taro. We sold our poi to Honolulu Poi Shop through an agent. His name was Joseph Young.

DM: Do you still eat poi?

HN: I have to have poi. If I don't have poi, I don't feel right. Sometimes now, when I don't have poi, I buy instant mashed potatoes and put brown gravy on it.. I eat mashed potatoes, but my staple is poi. If I eat rice, I have to take it with soup…it gives me heartburn. I cannot live without poi. Now poi costs $16 for four pounds. O'oka's has the cheapest.

DM: Did your family fish or get food in other ways?

HN: We would go to the beach and rivers and get opihi and opae. We got fish from friends. We would help them with their nets, and they would give us fish. My father would sell things at our house, like dried fish, Hawaiian salt, and squid. He would put up a white flag to let people know he had things for sale. I was the sales girl.

DM: Did you make the poi?

HN: It is hard to make poi. Before we had electricity, we would clean and cook the taro and pound it. We put it in a crock. Our crock pot held ten pounds. Poi is my staple.. I like to eat it every day.

DM: How did you get around back then? And when did the Hana Highway come here?

HN: We went by horseback or foot. There was a trail to Hana. It started above the Keanae School. It was flat up there then. There weren't the trees.

DM: How long did it take to get to Hana?

HN: I think it took two or three hours on horseback.

DM: When did the Hana Highway come in?

HN: The highway was built by prisoners in the early 1920s. There was a prison camp where the YMCA is now. I was afraid of the prisoners. The prisoners built much of the Hana Highway.

DM: What religion are you?

HN: I am Catholic. I go to Sain Gabriel's Church. The small St. Gabriel's Church was built in 1860. It was made from coral from the beach. They used o'hia wood instead of nails. They used them as pegs, ohia pegs. In 1936, the church was too small for the community. (The community was much bigger then, 1000 people) So they built a bigger church. There used to be a thousand people living here. Now there are only 200 and we use the smaller church again. The church in Keanae is protestant. Some times the protestants and Catholics disagree out here.

DM: Is there a priest that lives out here?

HN: There used to be. But later, the priest came from St. Rita's in Haiku. We went to church every Sunday.

DM: What language did you speak when you were young.?

HN: My grandmother spoke Hawaiian. Granpa spoke pidgeon. I learned English at school. When I was older, I studied Mandarin and tried it on my grandpa but he never understood the dialect. I speak Hawaiian and English now. I can speak pidgeon if I want, but I don't think you would understand me.

DM: Are there different Hawaiian dialects?

HN: If I go to other islands, I can understand the Hawaiians but they need to talk slowly.

DM: How many children did you have?

HN: I had six children. I struggled. I worked in the taro fields. I said these six children are not going to be dumb. I woke up every day at 4am and went to work in the taro patch at 6am. I put my younger children on my back while I worked. Later, my oldest daughter would watch the children on the side of the taro patch. I told myself that I had one purpose in life, and that was to raise my children and educate them. You know the Haoles didn't want us to speak Hawaiian or dance the hula or practice Hawaiian culture, but as the younger generation became educated, that is what helped revive the Hawaiian culture. When the children went to college, they studied Hawaiian history and learned what really happened to the Hawaiians. My husband was not strict with the children. He was easy going.. My children say it was good that I was so strict.

DM: How did you get your home?

HN: This land was Hawaiian homelands. But now the land is fee simple.. We have two acres. We got this property in the 1930s and built our house then.

DM: Do the Hawaiians worry about the Haoles coming here?

HN: Yes. We do not want Haoles controlling us. We stick together and my land will be passed to my Hawaiian offspring.

DM: Are most people Hawaiian out here?

HN: They are mostly Hawaiian or Hawaiian Chinese. The Chinese men came to work on the plantations. When their contracts were up, they married Hawaiian women. The Hawaiian women had the land for taro after the Great Mahele.

DM: Do you know anything about Kaliae? The property beween here and Nahiku?

HN: I never went to Kaliae.

DM: Did you go on the King's Highway to the beaches or streams on either side of Kaliae?

HN: When I was younger … probably not for 50 years. We would go to the beaches and streams and get opae.

DM: Did you know a Mr. Alu?

HN: Mr. Alu lived in the big house below my house. He died about twenty years ago. His wife died four years ago. He raised cattle out there in Kaliae. He also had a poi shop he leased from Mr. Anthony Tam. He made poi and delivered the poi to areas on Maui.

DM: Did he live out in Kaliae?

HN: No. He lived just below my house.

DM: When did he start raising cattle out there?

HN: In the 1920s I think.

DM: Was taro ever raised at Kaliae?

HN: I don't think so.

DM: Was there cattle out there before Mr. Alu?

HN: I don't know.

DM: Do you know any Hawaiian stories about Kaliae or Keanae?

HN: My grandmother would tell us stories, but she always would say paha, which meant maybe. I don't tell these stories because they are "maye so"

DM: Do you feel any Hawaiian spirits out here?

HN: I don't think about spirits. If you think about spirits, they come all the time.

DM: Is there more aloha here now or before?

HN: There was more aloha before. It is not like before.

DM: Do you know of any heiaus out here?

HN: There is one at Keanae school. I first saw it only two years ago.. I went with my grandson. My grandson is the fire captain at the airport. I am going to give my share of the eight acre property to him.

DM: What were the fun times out here/?

HN: The fun times were the lu'aus. They were put on for special occasions. I never drank or smoked at them.

DM: What do you do with most of your days now?

HN: I get up at 4am. I work in the yard all day. Even if it is raining, I am working. I read the whole Star Bulletin. My husband died at age 87 years. I have been a widow for fourteen years. Sometimes I wake up at night and I'm talking to him saying "daddy, I am in so much pain" and then I remember he is dead. Most of my friends are dead. People think I am crazy because I work so hard. I take the MEO bus to town once a week to shop and go to the doctor. I am 94 years old. I want to live alone now. Nobody lives with me. Nobody tells me what to do. I have arthritis and osteoperosis and my ankles swell. .. but I still do what I can. The Chinese are hard workers. My grandparents taught me to work hard. I still work every day. I just do what I can.

DM: Do you think that we will be accepted by the community if we live out here.

HN: If you are friendly and respect us and our ways, we will accept you.

I participated in an interview with Deborah Mathias on November 25, 2005 in Wailua, Maui. I understand this information I have provided to Dr. Mathias shall be submitted as part of a Cultural Impact Assessment Report for a development project in Kaliae, Maui (TMK: 1-2-001-04). I have read the transcript from the interview and the information is true and accurate to the best of my knowledge.

Helen A. Nakanelua Date: 12-9-05

Helen Nakanelua

Deborah Mathias MD Date: 11-29-05

Deborah Mathias

Project: Kaliae
Interview with Harlow Todaro
Loactaion: Nahiku, Maui – Mr. Todaro's home, 1525 Nahiku road
Present: Harlow Todaro (HT) & David Niehaus (DN)
Date: October 31, 2005

DN: Thank you for speaking with me Mr. Todaro. Since your rooftop here in Nahiku is the only structure visible from the 63 acres in Kaliae, I feel honored to "pick your brain" about the Kaliae property. Mr. Todaro, where and when were you born?

HT: I was born in Philadelphia on April 4th, 1944.

DN: When did you move to Hawaii?

HT: I moved to Maui in early 1970 .. yes 1970. In 1971, I moved to Nahiku, Maui and took a job for a few years as the cafeteria manager at the Hana school. I have worked construction on Maui for the past 25 years and have lived in Nahiku since 1971.

DN: Did you live in this house in 1971?

HT: No! no , no I bought this property in 1976.

DN: Did you raise your family here?

HT: Yes, I brought my kids up right here, under this roof. I have lived in this house for some 28 years now.

DN: How far are we from Kaliae?

HT: My guess is that Kaliae is some mile or two along the coast here.

DN: Have you ever been to Kaliae?

HT: Yes. I've walked all over these parts, and more than once found myself on that beautiful ridge.

DN: What is your impression of the place .. this Kaliae?

HT: It's difficult not to love it, the views are beautiful and so private.

DN: What do you know of the history?

HT: Since I've lived here in Nahiku, there's been two or three owners of Kaliae. Back in the early 70s it was a cattle ranch and most of the ridge was bulldozed for pasture land.

DN: Have you known of any archaeological remains there on the property?

HT: The story I've always heard is, that there was, of course, the King's Highway, … but that it was bulldozed off the ridge completely back in the late 1960s. Even the native trees are gone … not much of anything left, just the pasture grasses, guava and inkberry.

DN: Do you know any stories of Kaliae?

HT: I did hear that King Kamehameha, on his first try at conquering Maui landed his war canoes on Wailuaiki beach, marched to Hana, but was defeated. He retreated to Wailuaiki, boarded his canoes, and returned to the Big Island.

DN: Considering you are the closest neighbor to the Kaliae property, I must ask you, do you object to my wife and I building a single-family home, an agricultural shed, and the planting of 3 acres of native Hawaiian trees?

HT: Quite to the contrary, you would be a perfect neighbor in that you are interested in reforesting and are planning only a single-family house and agricultural shed.

DN: What do you think is the region's most important cultural asset?

HT: It's the people. Unequivocally, it's the people. Their honesty, compassion, and respect for one another makes this the greatest place to live.. And of course, the weather doesn't hurt either.

DN: Mr. Todaro, I would like to thank you very much for this interview. You have been most helpful.

I participated in an interview with David Niehaus on October 31, 2005 in Nahiku, Maui. I understand this information I have provided to Mr. Niehaus shall be submitted as part of a Cultural Impact Assessment Report for a development project in Kaliae, Maui (TMK: 1-2-001-04). I have read the transcript from the interview and the information is true and accurate to the best of my knowledge.

Harlow K. Todaro Date:

Harlow Todaro

Purpose: Cultural Impact Study for Kaliae
Participants: Froyam Edel (FE) and Bruce Stoner (BS)
Date: 12 November, 2005

FE: Ok. I'm sitting here with Bruce Stoner on the 12th of November.. early Sunday morning… and good morning Bruce.

BS: Good morning.

FE: Bruce I have a few simple questions that my clients, David Niehaus, Deborah Mathias, and Neil Strumingher have asked me to discuss with you for a cultural impact study related to Kaliae, a nearby 63 acre property, that they recently purchased. They are proposing to build one single-family dwelling on the property and will be including this information with their CDUA. So they've asked me to ask you some questions … ok?

BS: Ok.

FE: Where do you currently reside and for how long have you lived in the Hana community?

BS: I have lived in Nahiku since 1970. I guess that makes it about 35 years. I live about halfway down Nahiku road, that's 1mi. from the highway and about 1mi. from the bottom.

FE: What are your recollections of the property at Kaliae, the 63 acre parcel, located below the highway around the 22 mi. marker?

BS: I've seen it on the tax map. I always thought it was a great piece of property. That's about it.

FE: What, if any, significance to the community has Kaliae historically held?

BS: None that I know of…but I wouldn't know. Currently there is just nobody there…it's just jungle. It used to be in cattle as I understand it, but I don't know if it has cattle now?

FE: What cultural or historical significance does Kaliae have?

BS: I have absolutely no idea. None that I know of.

FE: Do you or members of the community access the property at Kaliae? If so, for what purpose?

BS: I don't personally. If anybody else does, it might be to hunt ferrel pigs…I just don't know.

FE: David, Deborah and Neil are seeking permission to build a single family house, out of view from the coast and more than 2000 feet from the coastline, and also to reforest three acres with native Hawaiian plants and trees more than 1500 feet from the shoreline. Do you foresee any impact to the community from this project? If so, what impact?

BS: The only impact I can see would be paranoia from some elements of the community because everyone fears subdivision… but if they carry out the plans as stated, there should be no impact at all.

FE: That's it, we're done. And they couldn't subdivide because it's in the conservation zone. Thanks again for your time, Bruce.

Date: 11/19/05

Bruce Stoner

Date: 11-19-05

Froyam Edel

References

- 1981 – Pukui, Mary Kauona, Samuel H. Elbert, and Esther Mookini. Place Names of Hawaii. Honolulu, University of Hawaii Press.

- 1972 – Handy, E.S. Craighill and Handy Elizabeth. Native Planters in Old Hawaii. BP Bishop Museum Bulletin 233. Bishop Museum Press, Honolulu, HI.

- 1994 – Hana Community Plan.

- 2000 – Dorrance, William H. and Francis S. Morgan. Sugar Islands.

- 1992 Kirch and Salhrins, Vol. 1:5, 119.

- 1997 QE QC Hawaii State Office of Environmental Quality Control. "Guidelines for Assessing Cultural Impacts." Adopted by the Environmental Council Nov. 1997.

- 1916 Maui's Heiaus and Heiau Sites Revised Hawaiian Almanac and Annual for 1917, Honolulu.

- 1998 Sterling, Elizabeth. Sites of Maui. Bishop Museum Press. Honolulu, HI.

(DRAFT)

ARCHAEOLOGICAL ASSESSMENT OF
TWO PROPOSED USE AREAS WITHIN TMK 1-2-01: 04, KALIAE, HANA (KOʻOLAU) DISTRICT, MAUI

Prepared for

Mr. David Niehaus
1630 Piʻiholo Road
Makawao, HI 96768

Theresa K. Donham
Akahele Archaeology
30 Laumaewa Loop
Kīhei, Maui

November 2005

ABSTRACT

An archaeological survey was conducted August 24, 2005 for two proposed use areas within TMK 1-2-01: 04 comprising a total of *c.* 3.2 acres. Historic background research indicates that no Land Commission Awards are present within the property, which was a private Land Grant within the State of Hawai'i Ko'olau Forest Reserve. Recent land uses include extensive grubbing and grading that occurred in 1993. No evidence of historic properties was located during the survey, and no areas with potential for subsurface deposits were identified during subsurface testing. No further archaeological work is recommended at this time.

CONTENTS

FIGURES

TABLES

1. Project Description

This report presents the findings of an archaeological assessment of two proposed use areas comprising approximately 3.2 acres, located within TMK parcel 1-2-01: 04, Kaliae, Maui *(Figures 1 and 2)*. The survey was conducted at the request of the property owners' representative, Mr. David Niehaus and Dr. Debra Mathias, pursuant to the requirements for a Conservation District Use Application (CDUA). An archaeological inventory survey of the specified use areas was requested by the State Historic Preservation Division (SHPD) as part of the Environmental Assessment (EA) submitted with permit application documents (personal communication, Dr. Melissa Kirkendall, Maui SHPD Archaeologist).

Fieldwork to satisfy the requirements of an inventory survey was conducted at the property August 24, 2005. No evidence of historic sites was identified, and subsurface testing indicated that subsurface deposits are not likely to be present within the areas surveyed. Therefore, pursuant to Hawaii Administrative Rule §13-284-5(A), an archaeological assessment report has been prepared in *lieu* of an inventory survey report.

The proposed use areas examined include a *c.* 3.0-acre native plant nursery and a *c.* 3,500 square foot dwelling construction site. A 200 foot section of existing roadway that is proposed for improvement was also examined.

2. Scope of Work

The scope of work for this project is based on requirements for archaeological inventory surveys as stipulated in the 2002 Draft Hawaii Administrative Rule (HAR) Chapter 13, Subchapter 13. The following tasks were completed:

1. Conduct systematic pedestrian survey of the project area to identify potentially significant historic properties, in conformance with HAR §13-276-4.
2. Photograph, map and describe all identified sites, and if appropriate, conduct subsurface testing to determine age and function of identified features, and their potential for containing intact cultural deposits (no sites were identified),
3. Prepare a report in conformance with HAR §13-13-276-5, sections (a) and (c), as stipulated in §13-286-5 (A), which states that "Results of the survey shall be reported either through a archaeological assessment, if no sites were found, or an archaeological inventory survey report which meets the minimum standards set forth in chapter 13-276. An archaeological assessment shall include the information on the property and the survey methodology as set forth in sections 13-276 (5) (a) and (c)". This information includes identification of the survey area, owners of the parcel, description of the environment, and description of field methods used to locate historic properties.
4. Background research on previous archaeological work in the project area and *ahupua'a*, prehistoric and early historic land use, and Land Commission Awards in the project area are not required for archaeological assessment reports. This information is, however, relevant to the negative survey findings, and is included to the extent that is deemed appropriate.

Figure 1. *Portions of the Keanae and Koolau 7.5 Minute U.S.G.S. Quadrangles Showing Project Areas (in orange)*

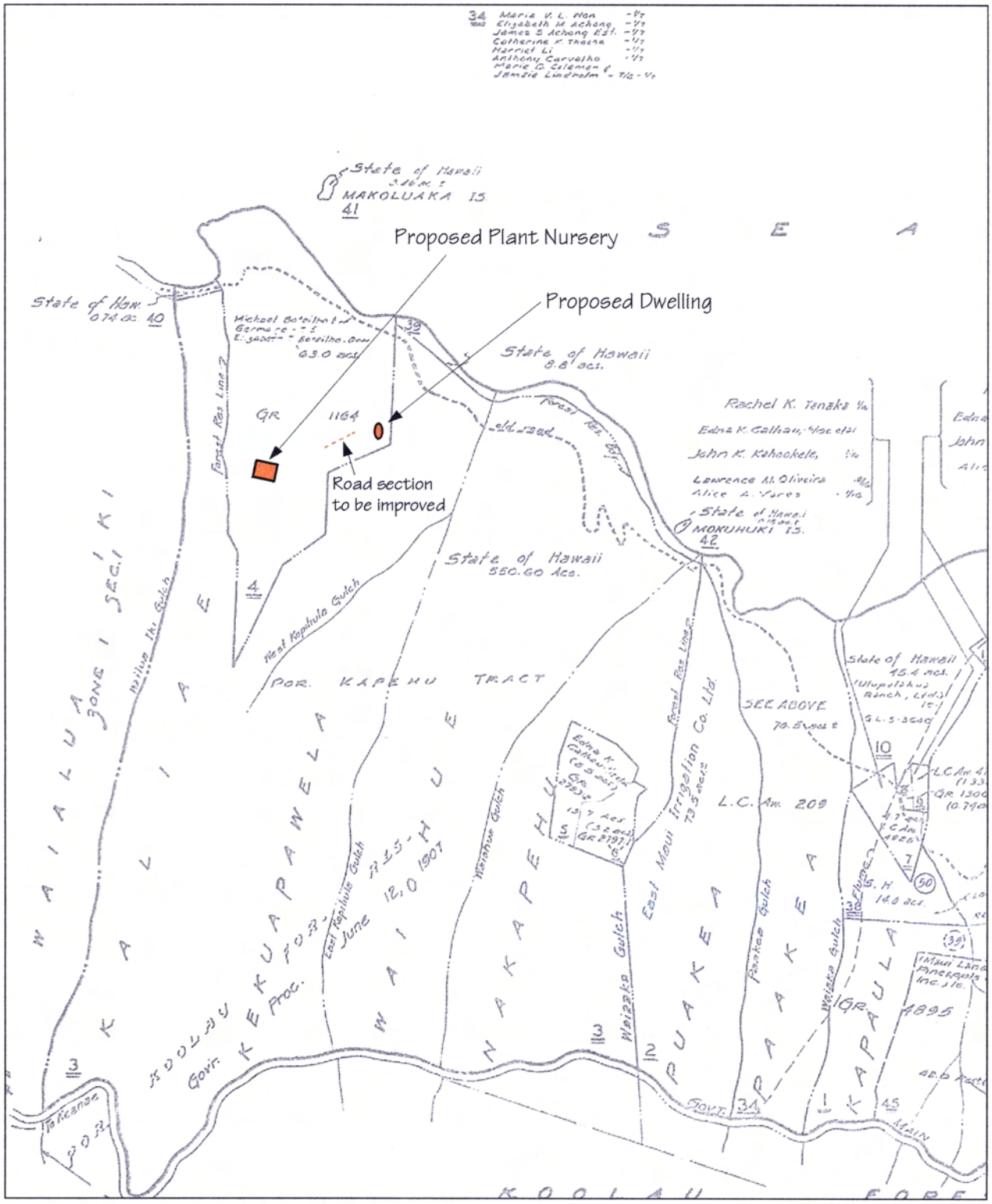


Figure 2. *A portion of Tax Plat 1-2-01 showing location of proposed use areas*

3. Local Environment

The proposed use areas are situated on a gently sloping upland ridge formation between East Wailuaiki Stream and Kopiliula Stream. The proposed plant nursery is a relatively flat area at an approximate elevation of 500 feet AMSL, and the proposed dwelling site is situated along the crest and north-facing slope of a narrow ridge, at an approximate elevation of 400 ft AMSL. The dwelling site overlooks vertical cliffs and a waterfall along Kopiliula Stream.

Soil in the area is Kailua silty clay, which occurs on upland slopes ranging from 3 to 25% (Foote et al. 1972:122). This soil is used primarily for wildlife habitat, woodlands and pasture. It consists of a surface layer of silty clay roughly 9 inches thick over dark brown to dark reddish brown silty clay subsoil (Foote et al. 1972:53). The underlying bedrock is relatively soft and weathered Kula volcanic series igneous bedrock. Papiha Point and the coastal area of Kaliae represent the southernmost extent of the Pleistocene era Kula flows along the north coast of East Maui. Exposed outcrops of the older Honomanu series flows are found in the steep banks of the stream gulches along the coast (Macdonald et al. 1986:383). More recent Hana flows are found to the east, beginning at or near Waiehu Bay.

Rainfall in coastal Kaliae averages 150 inches per year, with the highest monthly averages in January through March (Armstrong 1983: 63). Current vegetation in and around the project areas include various non-native grasses, lantana, *aweoweo*, inkberry, Christmasberry, and secondary growth guava. Areas closer to the ocean include small groves of mature mango and scattered *kukui* trees. Predominant vegetation in the proposed plant nursery area is thick non-native grasses and inkberry *(Figure 3)*; the dwelling site is predominantly lantana with sparse grasses *(Figure 4)*.

Both proposed use areas are within portions of the overall property that were grubbed and partially graded in 1993 by the previous owner. The current proposed dwelling site was inspected by the author at that time and was found to be in a graded state, with the access road newly graded (Agnes Griffin Memorandum to Roger Evans, October 28, 1993; Appendix).

Figure 3. *Proposed plant nursery area, looking uphill (south) toward the power line easement.*

Figure 4. *Proposed dwelling site, ridge crest area; remainder of site is along slope, to left side of photo. View to north.*

4. Previous Archaeological Work

Project Area

There are no records of archaeological surveys within the project areas or the overall property prior to this study. Two inspections were conducted of the property by the author, as staff archaeologist for SHPD. The first inspection occurred July 20, 1993, in response to reports from area residents that grubbing and vegetation burning was occurring within the Conservation District. Both of the current proposed use areas were within the area examined during the 1993 inspection. As indicated in the Memo to Roger Evans (Appendix), "Extensive tree grubbing and some grading" occurred over most of the property prior to the inspection. No evidence of intact historic properties were identified during the inspection. The entire property was not examined during the inspection, and it was determined that historic properties could be intact at the seaward end of the property, outside the current use areas.

A second inspection of the property occurred February 9, 1995, in response to a request for an access easement corridor subdivision. The easement corridor ran from Hana Highway north through State Forest Reserve land, to the southern end of TMK parcel 04. The inspection found that the road had already been constructed, and that no evidence of disturbed or intact historic properties were found along its route (Don Hibbard letter to Glen Ueno, February 15, 1995 (Appendix).

Historic site location data available from the SHPD indicates that there are no recorded pre-contact Hawaiian sites within or near the project areas. The nearest known historic era site is the old Government Road, which passes through the *makai* portion of the overall property (discussed below).

Project Vicinity

The Keʻanae-Wailuanui area to the west of Kaliae contains a number of traditional *heiau* sites, most of which were first recorded by Winslow Walker in 1929. Walker identified seven *heiau* sites in Keʻanae (Sites 82-88) and eight *heiau* sites in Wailunaui (Sites 90-97). He recorded no *heiau* in Kaliae, or in the area between Wailuanui and Nahiku, where three *heiau* (Sites 98-100) were recorded (Walker 1931). All of the *heiau* sites recorded by Walker in Keʻanae, Wailuanui and Nahiku were at or near the coast, well below the 1,000 ft elevation.

Subsequent surveys in the Keʻanae-Wailuanui area identified several *loʻi kalo* complexes, a few habitation sites, and various types of agricultural features (Group 70 International et al. 1995). Subsurface agricultural deposits were also discovered at Keʻanae Park during a construction project to improve the sewerage system at the park restroom (Frederisksen and Fredericksen 2004). Charcoal collected from this deposit was dated at AD 1410-1530 or AD 1560-1630 (Fredericksen and Fredericksen 2004:5).

Two archaeological inspections have been conducted in stream valleys to the east and west of Kaliae. An inspection of upper Wailuaiki Stream valley between *c.* 1200 and 2400 feet elevation failed to locate archaeological sites (Kennedy 1986). An inspection of portions of upper Makapipi and Kuhiwa Stream valleys at elevations of approximately 1200 to 1600 feet also failed to locate archaeological sites (Fredericksen and Fredericksen 1978). It was noted in the

report on the latter inspection that evidence of *lo'i kalo* was observed *makai* of the subject survey area, closer to the ocean. The specific location of these features was not documented in the 1978 report. More recently, an inspection was conducted by the author at Pua'a Ka'a State Wayside Park, in connection with monitoring plan preparation No evidence of historic properties was found within the park area (Donham 2005).

5. *Traditional and Early Historic Setting*

Information regarding important traditional Hawaiian places or events is obtainable from oral histories and legends that were recorded by various scholars since the time of western contact. Oral histories for the Ko'olau District have been compiled in a recent cultural landscape study of Ke'anae and Wailuanui (Group 70 International et al. 1995). This information indicates that significant historic events occurred at Ke'anae and Wailuanui, which were also the areas of more concentrated populations. No specific references to Kaliae, or the adjacent places of Waiohue and Puakea could be located in the cultural landscape study or in primary sources for oral histories, such as Beckwith (1970), Fornander (1996) and Kamakau (1992).

The place name Kaliae is not listed in Pukui et al's. (1974) place name reference. The name is possibly a variant of *kalia,* which refers to a native tree that was used for house construction and cordage (Pukui and Elbert 1986:123).

The proposed use areas are within a private land grant (Grant 1164) that is located within the Ko'olau Forest Reserve, which was established by the Territorial Government June 18, 1907. The State-owned parcel surrounding Grant 1164 is referred to as the Kapehu Tract and consists of 550 acres between Hana Highway and the top of the ocean cliffs; it includes portions of Nakapehu, Waiohue, Kekuapawela, and Kaliae Ahupua'a; it is bounded on the west by Wailua Iki Gulch and on the east by Waia'aka Gulch. Three land grants were issued within this area of the forest reserve; one encompasses 63 acres at the shoreline in Kaliae (Grant 1164); the other two comprise a total of 13.7 acres and are located midway between Hana Highway and the coast in Nakapehu (Grants 2793:2 and 2797:1).

No Land Commission Awards are listed for the *Ahupua'a* of Kaliae in the Indices of Awards (Territory of Hawai'i 1929) or in the Waihona.com data base. Of the 132 awards listed in the Indices for the Ko'olau District, nearly half (60) are located in Wailua; 24% (32) are located in Ke'anae, and 11% (14) are located in Honomanu. The remaining 26 awards are distributed among the *ahupua'a* of Honolulu (5), Makapipi (5), Kapaula (3), Keaa (2), Kolea (1), Kuikai (1), Loiloa (1), Makaiwa (1), Moloa (1) Pakea (1), Pauualu (1), Punaluu (2), Ulaino (1), and Waiahole (1). With the exception of two *ahupua'a* awards, the majority of the *kuleana* in the Ko'olau District are small plots that are concentrated in the large stream valleys that contained extensive *lo'i kalo;* very few *kuleana* were located on upland ridge areas.

The Old Government Road that passes through Grant 1164 appears to be a portion of the first northern Hana Belt Road, which was completed from Hana to near Keanae by 1915. According to a State DOT report, "This road, however, did not link up with the Kailua extension, but instead dead-ended in the Koolau Forest Reserve" (Hawaii Heritage Center 1990: 5). It is quite possible that the Old Government Road follows along or near the route of the pre-contact era

The current Hana Highway route through Keliae was constructed between 1922 and 1925, and reflects a desire to access the many ditches that were in place through the Ko'olau District at that time (Hawaii Heritage Center 1990: 6). The New Government Road to Hana in this area follows or is close to the pre-existing Ko'olau Ditch Trail.

During the early twentieth century, villages were located at Keanae/Wailua and at Nahiku. Between 1899 and 1915 three rubber companies established 25,000 acres of plantations in the Nahiku region, between the elevations of 300 and 1200 feet (Frederisksen 1998: 9). It is not known whether these plantations extended as far west as Kaliae.

6. *Expected Findings*

Archival research indicates that there has been an insufficient number of archaeological studies in and around the project area to provide a clear indication of the types and frequencies of expected sites. Historic land use, as indicated in the Land Commission records, suggests that the elevation range and the absence of running water would not have been an ideal location for *lo'i kalo*; on the other hand, when systematic surveys are conducted, the tendency is to find evidence of use (often agricultural) that was not documented in historic records. Many of the minor windward stream valleys on Maui were used for gardens and taro production, although in a less intensive manner than the larger stream valleys.

The project areas are not within valley or gulch area settings; thus, there is little likelihood that irrigated taro patches were present in the affected area. However, given the amount of rainfall in this area, it is possible that remnants of some form of non-irrigated agricultural use could be present. These might consist of dry laid stone terraces along the slope, or buried agricultural soil layers. The extent of modern land grubbing and grading has, however, decreased the likelihood of finding intact surface or subsurface features.

7. *Field Survey Methods*

The location and extent of the two proposed use areas and road improvement segment was identified in the field with the assistance of the property owner, Mr. David Niehaus. Mr. Neihaus also provided area location maps prepared by a project designer *(Figure 5).* Both areas were intensively surveyed by walking closely spaced parallel transects oriented *mauka-makai.* Due to the small size of the two use areas, and the poor surface visibility, the surface coverage was quite thorough.

Following the walk-through surveys, subsurface testing in the form of shovel tests was conducted at both areas. A total of 10 shovel tests 0.50 meter in diameter were excavated in the proposed nursery area and three tests were excavated along the crest area at the proposed dwelling site. At the nursery area, shovel tests were set along a 25 meter grid pattern, with the southernmost row of four tests located parallel to and 10 meters north from the MECO power line easement. The second row of four tests was located 25 meters northeast (50 degrees Az) from the first row, and a third row of two tests was located 25 meters northeast from the two westernmost test lines. Due to topographic constraints, as reflected in the shape of the use area *(Figure 5),* there was not sufficient space to complete the last two tests in the third row.

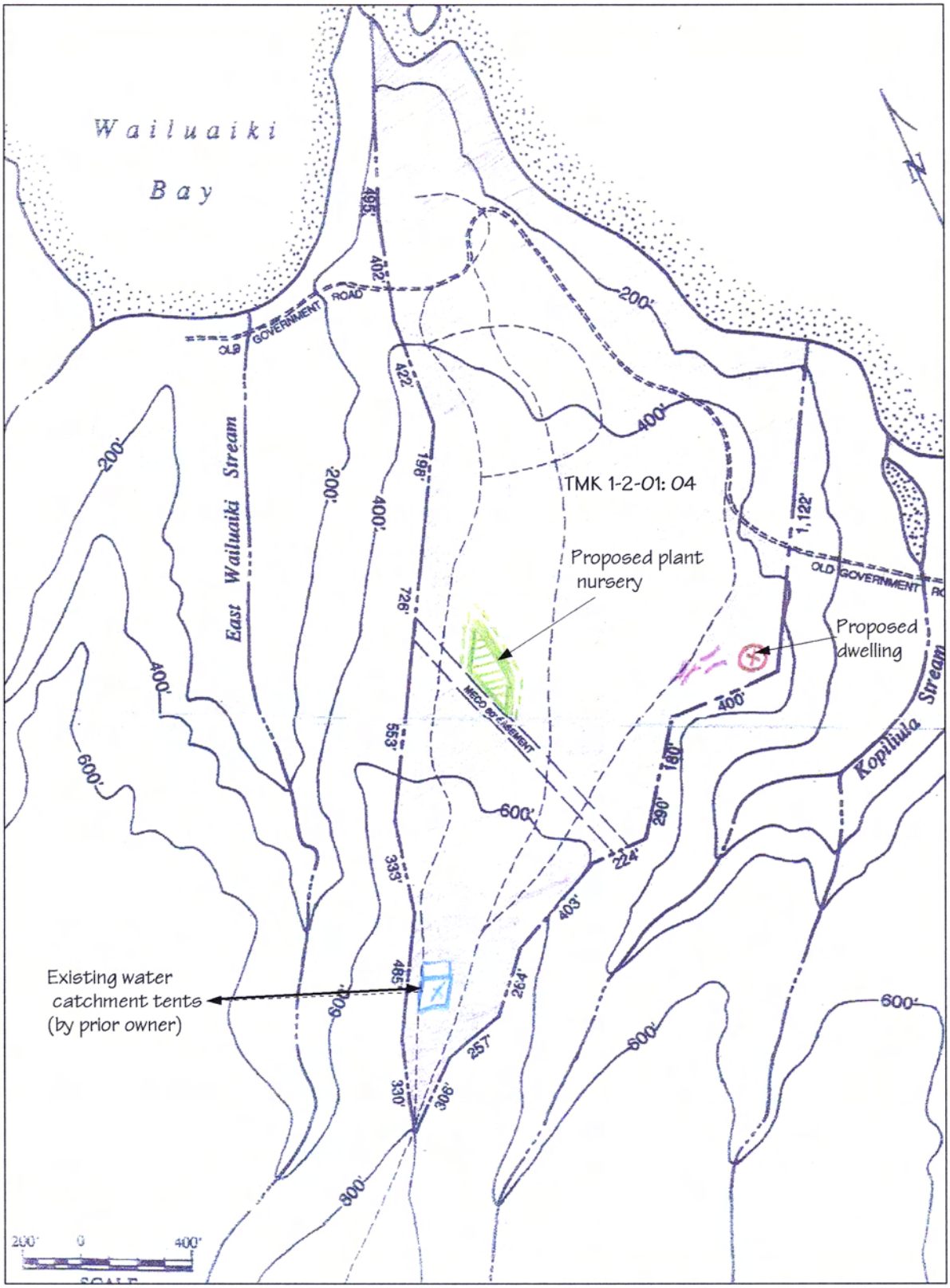


Figure 5. *Parcel 04 map showing existing field roads, existing structures, and proposed use areas (map prepared by Interisland Design Group, Inc., Honolulu)*

The three shovel tests conducted at the dwelling site were in a single line, oriented with the major axis of the ridge crest. All tests were excavated to the deepest extent possible, which averaged between 0.50 and 0.70 meters. Soil removed from the shovel tests was screened through 1/4 inch mesh in order to locate possible midden or artifact remains, or indications of past use, such as charcoal or unmodified portable remains. The stratigraphic profiles of each shovel test was recorded in tabular format, and soil samples of various layers and lenses were collected for comparative analysis in the laboratory. No additional materials were identified or collected during the subsurface testing.

8. Findings

No evidence of historic properties was found during the surface or subsurface surveys within the two use areas. Shovel testing indicates that Kailua series silty clay is present, with a poorly developed stratigraphy, in both areas. Prior grading and grubbing has removed evidence of a distinctive surface soil layer, and most profiles showed a relatively uniform soil with subtle color and texture changes relative to depth (Table 1). Pieces of soft, decomposing Kula bedrock were seen in the western tests at the nursery area and at the proposed dwelling construction site. Soil was considerably shallower in this latter area, which was previously graded flat by a former owner.

Location	Test No.	Depth	Description
Plant nursery	1	.50 m	Dark yellowish brown (10YR3/6) scl; moderate, medium, subangular peds; slightly hard, firm, slightly plastic; grass roots common to –.25 m; no layer boundary
	2	.50 m	Same as ST-1
	3	.45 m	Same as ST-1; weathered basalt pebbles scattered throughout
	4	.50 m	Dark brown (7.5YR3/2) scl; strong, medium, subangular peds; hard, very firm, slightly plastic; grass roots to –.25 m; pieces of decomposing bedrock common below –.30 m; no layer boundary
	5	.45 m	Same as ST-4
	6	.50 m	Same as ST-4
	7	.55 m	Dark brown (7.5YR3/2) scl; strong, medium, subangular peds; slightly hard, firm, slightly plastic; grass roots to –.25 m; no layer boundary
	8	.50 m	Dark brown (7.5YR3/2) scl; strong, medium, subangular peds; slightly hard, firm, slightly plastic; grass roots to –.25 m; pieces of decomposing bedrock common below –.30 m; no layer boundary
	9	.50 m	Same as ST-8
	10	.50 m	Same as ST-8
Dwelling	11	.25 m	Dark brown (10YR3/4) scl; moderate, fine, subangular peds; slightly hard, friable, slightly sticky, nonplastic; boundary diffuse with bedrock
	12	.40 m	Same as ST-11
	13	.35 m	Same as ST-11

Table 1. *Summary of Shovel Tests*

9. Recommendations

The archaeological field work and archival review found no indication that the proposed activities at TMK 1-2-01: 04 will impact historic properties. No further archaeological work is recommended within the two proposed use areas at this time.

Information obtained during a cultural impact assessment or during interviews with long-time residents of the area may conflict with this finding; if that is the case, additional research or interviews will be needed to clarify the discrepancies. It is suspected that if hisotric perpoerties were once present in the proposed use areas, they have been destroyed by prior land use, particularly the extensive grubbing and grading that occurred here in 1993.

The finding that no historic properties will be affected applies only to the two subject use areas, comprising 3.2 acres, and the short section of field road slated for improvement. This finding does not apply to the entire 63-acre property, or to other smaller units within the parcel. If additional use area are identified in the future, it is likely that additional archaeological field survey work will be warranted.

10, References

Armstrong, R. Warwick

1983 *Atlas of Hawai'i*, Second Edition. University of Hawai'i Press, Honolulu.

Beckwith, Martha

1970 *Hawaiian Mythology*. University of Hawai'i Press, Honolulu.

Donham, Theresa K.

2005 *Archaeological Monitoring Plan for Restroom Improvements at Pua'a Ka'a State Wayside Park, Nakapehu Ahupua'a, Hana [Ko'olau] District, Maui.* Prepared for Engineering Solutions, Inc., Honolulu. Akahele Archaeology, Kīhei.

Foote, Donald E., Elmer L. Hill, Sakuichi Nakamura, and Floyd Stevens

1972 *Soil Survey of the Islands of Kaua'i, O'ahu, Maui, Moloka'i and Lana'i, State of Hawai'i* USDA Soil Conservation Service and University of Hawai'i Agricultural Experiment Station. U.S. Government Printing Office, Washington D.C.

Fredericksen, Eric and Demaris Fredericksen

1998 *Archaeological Inventory Survey on a 26.967-Acre Parcel, Located in Makapipi Ahupua'a, Ko'olau Moku, Hana Distirct, Maui Island.* Xamanek Researches, Pukalani.

2004 *Archaeological Monitoring Report for the Ke'anae Park Restroom Improvement Project, Ke'anae Ahupua'a, Hana District, Maui Island.* Xamanek Researches, Pukalani.

Fredericksen, Walter and Demaris Fredericksen

1978 Letter report: Archaeological Survey in a Conservation District in Upper Nahiku, eastern Maui, Hawaii. Xamanek Researches, Pukalani.

Fornander, Abraham

1996 *Ancient History of the Hawaiian People to the Times of Kamehameha I.* Originally published as Volume II of An Account of the Polynesian Race; Its Origin and Migrations (1918). Mutual Publishing, Australia.

Group 70 International, Inc., Davianna McGregor and Cultural Surveys Hawaii, Inc.

1995 *Kalo Kanu O Ka'āina: A Cultural Landscape Study of Ke'anae and Wailuanui, Island of Maui.* Prepared for the County of Maui Planning Department and the Maui County Cultural Resources Commission.

Hawaii Heritage Center
1990 *Historic Bridge Inventory and Evaluation, Islands of Maui and Molokai.* Prepared for the Hawaii Department of Transportation Highways Division in cooperation with the Federal Highway Administration.

Macdonald, Gordon A., Agatin T. Abbott, and Frank L. Peterson
1986 *Volcanoes in the Sea: The Geology of Hawaii* (second edition). University of Hawai'i Press, Honolulu.

Kamakau, S.M.
1992 (1961) *Ruling Chiefs of Hawaii.* Kamehameha School Press, Honolulu.

Kennedy, Joseph
1986 Letter to Nancy McCord RE a biref inspection of land associated with the East and West Wailuaiki Hydroelectric Project near Ke'anae, Maui. Archaeological Consultants of Hawaii, Haleiwa.

Pukui, Mary K. and Samuel H. Elbert
1986 *Hawaiian Dictionary* (revised and enlarged edition). University of Hawai'i Press, Honolulu.

Pukui, Mary K., Samuel H. Elbert and Esther T, Mookini
1989 *Place Names of Hawaii,* Revised and expanded edition. University of Hawai'i Press, Honolulu.

Walker, Winslow M.
1931 Archaeology of Maui. Unpublished Ms on file, Bernice P. Bishop Museum.

11. Appendix

SHPD correspondence regarding past land alterations at TMK 1-2-01: 04:

- Memo to Roger Evans, October 28, 1993
- Letter to Glen Ueno, August 3, 1994
- Letter to Glen Ueno, February 15, 1995

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

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

October 28, 1993

MEMORANDUM

LOG NO: 9739
DOC NO: 9310AG40

TO: Roger C. Evans, Administrator
Office of Conservation and Environmental Affairs

FROM: Don Hibbard, Administrator

SUBJECT: **Historic Preservation Review of CDUA MA-2671 -- Private Residential Ranch (Fred Levy)**
Kaliae, Hana, Maui
TMK: 1-2-1: 4

The applicant proposes to construct a single family residence and several accessory structures. According to this application, this property was used for cattle grazing for many years.

In response to the applicant's consulting architect's request, a field inspection of this property was conducted by Theresa Donham, our staff archaeologist on Maui, on July 20, 1993. Extensive tree grubbing and some grading have occurred over most of the property. The inspection was hindered by rubble piles of trees and boulders. In addition, the entire parcel was not examined due to its large size. The architect did not have a map showing the location of the proposed structures, so we are uncertain whether the areas examined are indeed the proposed construction sites.

The tax map shows an "old road" through this property. The August 11, 1993 letter from Mr. Mike Baker of Na Ala Hele (attached to the EA as Appendix A) indicates that this old road was undoubtedly part of the Piilani trail. Ms. Donham was unable to identify any remains of this site on the level plateau since this area has been grubbed to the edge of the cliff. A cut on the bank along the western edge of the property was noted, but it was not verified whether this was the trail or a drainage cut.

Although no evidence of historic sites was observed and extensive grubbing has occurred, we believe that a systematic archaeological inventory survey of the entire property is necessary to determine if significant historic sites are present. Our staff's inspection

was very limited, and we have received verbal reports that paved sections of the trail were observed on this property. Also, Mr. Baker reported to our staff that a possible platform was seen during his August 8, 1993 inspection.

Therefore, we recommend that the following condition be attached to this permit, if approved:

Prior to the approval of the construction plans, an archaeological inventory survey shall be conducted to identify all significant historic sites, including any remains of the King's Trail. A copy of the final report shall be submitted to the State Historic Preservation Division (SHPD) for review and comments. If significant historic sites are identified, an acceptable mitigation plan shall be submitted to SHPD for approval prior to implementation.

We have also received verbal reports from adjacent residents of grubbing and burning on the property since our field inspection. If these activities are indeed taking place, we are concerned about their adverse effect on historic sites that may be present. We recommend that these activities cease until the archaeological survey is completed.

AG:jen

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

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

August 3, 1994

Mr. Glen Ueno
Department of Public Works
Division of Land Use and Codes Administration
250 South High Street
Wailuku, Hawaii 96793

LOG NO: 12333
DOC NO: 9407KD23

Dear Mr. Ueno:

SUBJECT: **County of Maui, Historic Preservation Review of the Boteilho Subdivision (LUCA File No. 1.186)**
Kaliae, Hana District, Island of Maui
TMK: 1-2-1: 3

Thank you for the opportunity to review and comment on the preliminary plat for the Boteilho Subdivision. The purpose of the subdivision is to designate an access easement across State land, from Hana Highway to TMK 1-2-01: 4. Width of the easement is shown on the preliminary plat as 12-15 feet. The easement generally follows an existing roadway route, however, deviations from the route occur at six to seven locations along the easement.

The proposed subdivision is within the Ko'olau Forest Reserve, and is zoned Conservation. No known historic sites are present within this parcel, however, no archaeological survey or field inspection of the parcel or easement area has been conducted.

We request that final approval of the subdivision be deferred until State Historic Preservation Division staff has had an opportunity to conduct a field inspection of the easement corridor. If historic sites are present within or near the proposed easement, an inventory survey will be requested by our office, in order to document the sites, determine potential impacts, and recommend appropriate treatment.

Further comments will be forwarded to your office as soon as the inspection is completed.

Please contact Ms. Theresa K. Donham at 243-5169 if you have any questions.

Sincerely,

DON HIBBARD, Administrator
State Historic Preservation Division

KD:jen

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

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

February 15, 1995

Mr. Glen Ueno
Department of Public Works
Division of Land Use and Codes Administration
250 South High Street
Wailuku, Hawaii 96793

LOG NO: 13910 ✓
DOC NO: 9502KD12

Dear Mr. Ueno:

SUBJECT: **County of Maui, Historic Preservation Review of the Boteilho Subdivision (LUCA File No. 1.186)**
Kaliae, Hana District, Island of Maui
TMK: 1-2-1: 3

This letter is a follow-up of our previous comments regarding the Boteilho Subdivision in Kaliae. In our initial review of this subdivision, we requested that final approval be deferred until a field inspection of the easement and adjacent areas was conducted.

A field inspection of the easement corridor by Historic Preservation Division staff archaeologist Theresa Donham occurred on February 9, 1995. The inspection occurred after road improvements (grading and filling with crushed lava rock) were completed. Both sides of the roadway corridor were examined, and no evidence of historic sites was identified.

During the inspection, it was noted that construction activities associated with the road extended beyond the limits of the easement, as defined on the preliminary plat map. Areas of grading and crushed rock filling were observed on both sides of the road, beyond the easement boundary. The largest area of fill is approximately 16 x 11.8 m in area, along the north side of the road.

Based on the after-the-fact inspection of the subdivision easement, it appears the work that remained within the limits of the preexisting roadway had no effect on historic sites. We cannot comment on the possible effects that grading and filling outside the old roadway had, since the areas are now covered with rock fill. No evidence of disturbed sites was observed along the edges of the graded and filled areas.

Please contact Ms. Theresa K. Donham at 243-5169 if you have any questions.

Sincerely,

DON HIBBARD, Administrator
Historic Preservation Division

BIOLOGICAL RESOURCES SURVEY

for the

KALIAE PROJECT

KALIAE, KO'OLAU, MAUI

by

ROBERT W. HOBDY
ENVIRONMENTAL CONSULTANT
Kokomo, Maui
May 2006

Prepared for: David Niehaus and Deborah Mathias

S76

BIOLOGICAL RESOURCES SURVEY
KALIAE PROJECT
KO'OLAU, MAUI

INTRODUCTION

This report has been prepared as an inventory and assessment of the flora and fauna resources on approximately 6 acres of land (TMK 1-2-01:04 por.) on windward East Maui in fulfillment of requirements of the planning process. The property is on a broad ridgetop in Kaliae, Ko'olau, Maui about 1 mile east of Wailua Village. The subject area lies within a 63 acre parcel which is bounded by Kopiliula Gulch on the east, by East Wailuaiki Gulch on the West and the Pacific Ocean on the north.

SITE DESCRIPTION

The project area includes three discrete pieces, two about an acre in size each and the other about three acres in size, and including an about 1,000 foot by 16 foot wide corridor connecting these areas . The project area lies on a gently sloping plateau that is part of a larger parcel which is primarily pasture land, densely matted with grasses and scattered shrubs. Two shallow gullies pass through this plateau. Both of which are densely vegetated with brush and trees. Annual rainfall averages between 150 inches and 180 inches which is fairly evenly dispersed throughout the year (Armstrong, 1983). Soils are all of the Kailua Silty Clay (KBID) which is a strongly acid, dark brown silty clay that has developed from volcanic ash (Foote et al, 1972). All of the surrounding land adjacent to these areas has similar topography and vegetation. One part of the property has a level area with temporary tent structures that is surrounded by ornamental plants and trees that were planted by the former owners.

BIOLOGICAL HISTORY

The project area including the surrounding 63 acres of plateau land was purchased about 50 years ago and converted from lowland wet forest into a cattle pasture. The former vegetation is not accurately known but probably consisted of kukui (*Aleurites moluccana*), hala (*Pandanus tectorius*), ōhi'a 'ai (*Syzygium malaccense*), 'ohi'a (*Metrosideros polymorpha*), kī (*Cordyline fruticosa*), common guava (*Psidium guajava*) and a variety of ferns and other Polynesian introduced plants.

Since its conversion to pasture the flatter lands have been cleared by tractor about five times in order to control tree and weed growth. This has resulted in vegetation typical of wet pastures, dominated by non-native grasses and shrubs.

SURVEY OBJECTIVES

This report summarizes the findings of a flora and fauna survey of this Kaliae property conducted in April, 2006.
The objectives of the survey were to:

1. Document what plant, bird and mammal species occur on the property or may likely occur in the existing habitat.
2. Document the status and abundance of each species.
3. Determine the presence or likely occurrence of any native flora and fauna, particularly any that are Federally listed as Threatened or Endangered. If such occur, identify what features of the habitat may be essential for these species.
4. Determine if the project area contains any special habitats which if lost or altered might result in a significant negative impact on the flora and fauna in this part of the island.
5. Note which aspects of the proposed development pose significant concerns for plants or for wildlife and recommend measures that would mitigate or avoid these problems.

BOTANICAL SURVEY REPORT

SURVEY METHODS

A walk-through botanical survey was conducted on the various parts of project so as to cover all parts of it. Areas most likely to harbor native or rare plants such as shady gully bottoms were more intensively examined. Notes were made on plant species, distribution and abundance as well as terrain and substrate.

DESCRIPTION OF THE VEGETATION

The majority of the project area is a wet pasture that is dominated by a densely matted, rhizomatous grass (Panicum sp.) that covers the area to a depth of 3 to 4 feet, and can even climb up into shrubs and small trees to a height of 10 feet. Common within this grassland are the scattered shrubs common guava and inkberry (*Ardisia elliptica*). Also common matted in with the grass is three-flowered beggarweed (*Desmodium triflorum*). The portion of the subject area around where the temporary tent structures are located was extensively landscaped by the former owners. Nearly 50 species of ornamental shrubs and trees that appear on the plant inventory were found here.

A total of 115 plant species were recorded during the survey. Of these 5 species were endemic to Hawaii: ni'ani'au (*Nephrolepis exaltata* subsp. hawaiiensis,), koa (*Acacia koa*), 'ōhi'a (*Metrosideros polymorpha*) and two 'akias (*Wikstroemia oahuensis*) and (*Wikstroemia uva-ursi*). The ni'ani'au, 'ōhi'a and the first 'akia were naturally

occurring on the property while the koa and the second 'akia had been planted by the previous owners.

Six species were indigenous to Hawaii as well as other countries; uluhe (*Dicranopteris linearis*), pala'ā (*Sphenomeris chinensis*), neke (*Cyclosorus interruptus*), (*Cyperus polystachyos*) no common name, (*Fimbristylis dichotoma*) no common name and hala (*Pandanus tectorius*).

Five species were of Polynesian origin; kalo (*Colocasia esculenta*), niu (*Cocos nucifera*), kō (*Saccharum officinarum*), hau (*Talipariti tiliaceum*) and milo (*Thespesia populnea*). All of these had been planted by the previous owners.

The remaining 99 species were ornamental plants or common pasture weeds.

DISCUSSION AND RECOMMENDATIONS

The project area consists of a highly altered environment dominated by introduced pasture grasses, ornamental plants and weeds. Interspersed within these were 5 endemic Hawaiian species and 6 indigenous species. All of these are rare on this property but are otherwise of common occurrence throughout Hawaii. *Wikstroemia uva-ursi* is rare in the wild but is now widely used as an ornamental shrub in landscaping, which is how it was used here by the previous owners.

No Federally Endangered or Threatened species were found in the project area nor were any plants that are candidates for such status observed. No special habitats or ecosystems were observed either.

Of interest ecologically are two types of native habitat that occur on the perimeter of the 63 acre parcel in which the subject area is embedded. These are in the deep gulches on either side of the property and on the coastal sea cliffs. The two gulches, Kopili'ula on the east and East Wailuaiki on the West, are each about 400 feet deep and very steep sided. They contain good amounts of native lowland wet forest that is relatively intact despite the presence of numerous non-native weeds. The native species include extensive patches of uluhe fern mixed with 'ōhi'a, hala, 'akia, hapu'u (Cibotium chamissoi), 'ie'ie (*Freycinetia arborea*), lama (*Diospyros sandwicensis*) and pāpalakepau (*Pisonia umbellifera*). There are also numerous Polynesian plants including kukui, 'ōhi'a 'ai, ki, 'ohe, (*Schizostachyum glaucum*), mai'a (*Musa acuminata x balbisiana*) and awapuhi (*Zingiber zerumbet*). While no Endangered species are known to occur here, this type of native forest is becoming less common and is worthy of protection. These gulches are both in the Ko'olau Forest Reserve and are zoned in the Conservation District each of which provides certain government protections and oversights.

The coastal sea cliffs, which are part of the 63 acre parcel, are specialized halophytic habitat. These cliffs, ranging in height from 200 feet to 400 feet, are extremely steep. The upper portions are densely vegetated with hala, inkberry, Christmas berry (*Schinus terbinthifolius*) and kī. The lower portions are sheer and nearly devoid of large plants. The species found here include naupaka kahakai (*Scaevola taccada*) and a few small, true halophytes that grow on small ledges in the surf spray zone.

While no Endangered Species (USFWS, 1999) have been recorded from the cliffs on this property, the sea cliffs do possess habitat similar to nearby areas on windward East Maui where such protected species such as Hilo ischaemum (*Ischaemum byrone*), (*Cyperus pennatiformis*) no common name, and makou (*Peucedanum sandwicense*) have been found. While much too steep for any kind of use, these cliffs should be protected from offsite disturbances from above such as the pushing over of vegetation debris or the generation of increased runoff in the form of water and soil.

The proposed land uses on the subject area, if carefully done, should not impact either the gulch habitats or the sea cliffs. The proposed sites and access roads are on knolls well away from the gullies within the property and not along any drainage that flows into the gulches. They are also nearly ½ mile upslope of the sea cliffs.

Because the vegetation on the subject property is dominated by non-native plants, because the subject property is well removed from any special habitats, and because there are no Endangered or Threatened species within the project area, there is little of botanical concern and the proposed land uses are not expected to have a significant negative impact on the botanical resources in this part of Maui.

Three of the native plants that occur on the property as well as in the surrounding gulches are particularly attractive and would work well in the landscape design. These are recommended for use should the project be approved:

'ōhi'a – The trees that naturally occur here have a nice compact form and large deep-red flowers.

'akia – The form that grows here along windswept gulch rims has a compact, gnarled form and large, bright-green leaves.

Hala – These are the signature trees of wet windward sea cliffs and have a distinctive and dramatic appearance.

S80

PLANT SPECIES LIST

Following is a checklist of all those vascular plant species inventoried during the field studies. Plant families are arranged alphabetically within each of four groups: Ferns, Gymnosperms,Monocots and Dicots. Taxonomy and nomenclature of the Ferns are in accordance with Palmer (2003). The Gymnosperms, Monocots and Dicots are in accordance with Wagner et al. (1999) and Staples and Herbst (2005).

For each species, the following information is provided:

1. Scientific name with author citation
2. Common English or Hawaiian name.
3. Bio-geographical status. The following symbols are used:
   endemic = native only to the Hawaiian Islands; not naturally occurring anywhere else in the world.
   indigenous = native to the Hawaiian Islands and also to one or more other geographic area(s).
   Polynesian = those plants brought to the islands by the Hawaiians during their migrations.
   non-native = all those plants brought to the islands intentionally or accidentally after western contact.
4. Abundance of each species within the project area:
   abundant = forming a major part of the vegetation within the project area.
   common = widely scattered throughout the area or locally abundant within a portion of it.
   uncommon = scattered sparsely throughout the area or occurring in a few small patches.
   rare = only a few isolated individuals within the project area.

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
FERNS			
ATHYRIACEAE (Lady Fern Family)			
Diplazium esculentum (Retz.) Sw.	paca	non-native	rare
GLEICHENIACEAE (False Staghorn Fern Family)			
Dicranopteris linearis (Burm.f.) Underw.	uluhe	indigenous	rare
LINDSAEACEAE (Lindsaea Fern Family)			
Sphenomeris chinensis (L.) Maxon	pala'a	indigenous	rare
NEPHROLEPIDACEAE (Sword Fern Family)			
Nephrolepis exaltata (L.) Schott subsp.hawaiiensisW.H.Wagner	ni'ani'au	endemic	rare
Nephrolepis multiflora (Roxb.) F.M.Jarret&C.V.Morton	----------	non-native	uncommon
PTERIDACEAE (Brake Fern Family)			
Pityrogramma austroamericana Domin	gold fern	non-native	uncommon
Pteris vittata L.	ladder brake fern	non-native	rare
POLYPODIACEAE (Polypody Fern Family)			
Phlebodium aureum (L.) J.Sm.	rabbit's-foot fern	non-native	rare
Phymatosorus grossus (Langsdon&Fisch.) Brownlie	laua'e	non-native	uncommon
THELYPTERIDACEAE (Marsh Fern Family)			
Christella parasitica (L.) H. Lev.	----------	non-native	uncommon
Cyclosorus interruptus (Willd.) H. Ito	neke	indigenous	rare
GYMNOSPERMS			
AURAUCARIACEAE (Araucaria Family)			
Araucaria columnaris (G. Forst.) J.D. Hooker	Cook pine	non-native	uncommon
MONOCOTS			
AGAVACEAE (Agave Family)			
Furcraea foetida (L.) Haywood	Mauritius hemp	non-native	rare

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
Nolina recurvata (Lemaire) W. Hemsley	beaucarnea	non-native	rare
ARACEAE (Aroid Family)			
Colocasia esculenta (L.) Schott	kalo	Polynesian	rare
Monstera deliciosa Liebmann	monstera	non-native	rare
Xanthosoma robustum Schott	'ape	non-native	rare
ARECACEAE (Palm Family)			
Caryota mitis Loureiro	wine palm	non-native	rare
Chamaedorea elegans Martius	parlor palm	non-native	rare
Cocos nucifera L.	niu	Polynesian	uncommon
Dypsis decaryi (Jumelle) Beentje & J. Dransfield	triangle palm	non-native	rare
Dypsis lutescens (H. Wendl.) Beentje & J. Dransfield	golden-fruited palm	non-native	rare
Livistona chinensis (N. Jacq.) Martius	Chinese fan palm	non-native	rare
Phoenix roebelenii O'brien	dwarf date palm	non-native	rare
Rhapis excelsa (Thunb.) Rehder	bamboo palm	non-native	rare
Veitchia sp	----------	non-native	rare
Wodyetia bifurcata A.K. Irvine	foxtail palm	non-native	uncommon
COMMELINACEAE (Spiderwort Family)			
Commelina diffusa N. L. Burm.	honohono	non-native	uncommon
CYPERACEAE (Sedge Family)			
Cyperus polystachyos Rottb.	----------	indigenous	rare
Fimbristylis dichotoma (L.) Vahl	----------	indigenous	rare
Kyllingia brevifolia Rottb.	kili 'o'opu	non-native	rare
HELICONIACEAE (Heliconia Family)			
Heliconia psittacorum L.f.	parrot heliconia	non-native	uncommon
MUSACEAE (Banana Family)			

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
Musa acuminata x balbisiana Colla	banana	non-native	uncommon
PANDANACEAE (Screwpine Family)			
Pandanus tectorius Z.	hala	indigenous	rare
POACEAE (Grass Family)			
Andropogon virginicus L.	broomsedge	non-native	uncommon
Axonopus compressus (Sw.) P. Beauv.	broad-leaved carpetgrass	non-native	uncommon
Cynodon dactylon (L.) Pers.	manienie	non-native	rare
Digitaria violascens Link	kukaepua'a	non-native	rare
Eleusine indica (L.) Gaertn.	wiregrass	non-native	rare
Eragrostis amabilis (L.) Wight & Arnott Steud.	Japanese lovegrass	non-native	rare
Panicum sp.	----------	non-native	abundant
Paspalum conjugatum Bergius	Hilo grass	non-native	uncommon
Paspalum scrobiculatum L.	ricegrass	non-native	uncommon
Paspalum Setaceum Michx.	----------	non-native	rare
Paspalum urvillei Steud.	Vasey grass	non-native	uncommon
Saccharum officinarum L.	ko, sugar cane	Polynesian	rare
Sacciolepis indica (L.) Chase	Glenwood grass	non-native	rare
Setaria parviflora (Poir.) Kerguelen	yellow foxtail	non-native	rare
STRELITZIACEAE (Bird-of-paradise Family)			
Strelitzia reginae Dryander	bird-of-paradise	non-native	rare
ZINGIBERACEAE (Ginger Family)			
Alpinia purpurata (Veillard) K. Schumann	red ginger	non-native	rare
Alpinia zerumbet (Persoon) B.L. Burtt & R.M. Smith	shell ginger	non-native	rare
DICOTS			
ANACARDIACEAE (Mango Family)			
Mangifera indica L.	mango	non-native	rare

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
Schinus terebinthifolius Raddi.	Christmas berry	non-native	rare
APIACEAE (Parsley Family)			
Centella asiatica (L.) Urb.	Asiatic pennywort	non-native	uncommon
ARALIACEAE (Ginseng Family)			
Polyscias guilfoylei (W.Bull) L.H. Bailey	panax	non-native	rare
ASTERACEAE (Sunflower Family)			
Ageratum conyzoides L.	maile hohono	non-native	rare
Bidens pilosa L.	Spanish needle	non-native	rare
Conyza bonariensis (L.) Cronq.	hairy horseweed	non-native	uncommon
Eclipta prostrata (L.) L.	false daisy	non-native	rare
Emilia fosbergii Nicolson	red pualele	non-native	rare
Pluchea carolinensis (Jacq.) G. Don	sourbush	non-native	uncommon
Youngia japonica (L.) DC.	Oriental hawksbeard	non-native	rare
BALSAMINACEAE (Touch-me-not Family)			
Impatiens walleriana J.D. Hook.	impatiens	non-native	rare
BIGNONIACEAE (Bignonia Family)			
Spathodea campanulata P.Beauv.	African tulip tree	non-native	uncommon
BOMBACACEAE (Bombax Family)			
Pachira aquatica Aublet	Guiana chestnut	non-native	rare
BORAGINACEAE (Borage Family)			
Symphytum officinale L.	comfrey	non-native	rare
CARICACEAE (Papaya Family)			
Carica papaya L.	papaya	non-native	rare
CARYOPHYLLACEAE (Pink Family)			
Drymaria cordata (L.) Willd. ex Roem. & Schult.	pilipili	non-native	uncommon
CUCURBITACEAE (Gourd Family)			

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
Cucurbita pepo L.	pumpkin	non-native	rare
EUPHORBIACEAE (Spurge Family)			
Manihot esculenta Crantz	manioc	non-native	rare
Phyllanthus tenellus Roxb.	----------	non-native	rare
FABACEAE (Pea Family)			
Acacia confusa Merr.	Formosa koa	non-native	rare
Acacia koa A. Gray	koa	endemic	rare
Acacia mearnsii De Wild.	black wattle	non-native	rare
Arachis glabrata Bentham	rhizoma peanut	non-native	rare
Cajanus cajan (L.) Huth	pigeon pea	non-native	rare
Chamaecrista nictitans L. Moench	partridge pea	non-native	rare
Desmodium incanum DC.	kaimi clover	non-native	uncommon
Desmodium intortum (Mill.) Urb.	----------	non-native	rare
Desmodium triflorum (L.) DC.	three flowered beggarweed	non-native	common
Glyricidia sepium (N. Jacq.) Steud.	madre de cocoa	non-native	uncommon
Leucaena leucocephala (Lam.) de Wit	koa haole	non-native	rare
Mimosa pudica L.	hila hila	non-native	rare
Neonotonia wightii Wight & Arnott	tineroo	non-native	rare
Samanea saman (Jacq.) Merr.	monkeypod	non-native	rare
LAMIACEAE (Mint Family)			
Solenostemon scutellarioides (L.) Codd	coleus	non-native	rare
LAURACEAE (Laurel Family)			
Persea americana P. Miller	avocado	non-native	rare
LYTHRACEAE (Crape Myrtle Family)			
Cuphea carthagenensis (Jacq.) Macbr.	tarweed	non-native	rare
MAGNOLIACEAE (Magnolia Family)			

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
Michelia champaca L.	mulang	non-native	rare
MALVACEAE (Mallow Family)			
Hibiscus acetosella Hiern	red-leaved hibiscus	non-native	rare
Talipariti tiliaceum (L.) Fryxell	hau	Polynesian	rare
Thespesia populnea (L.) Sol. ex Correa	milo	Polynesian	rare
MELASTOMATACEAE (Melastoma Family)			
Clidemia hirta (L.) D.Don	Koster's curse	non-native	uncommon
MYRSINACEAE (Myrsine Family)			
Ardisia elliptica Thunb.	inkberry	non-native	common
MYRTACEAE (Myrtle Family)			
Eucalyptus deglupta Blume	Mindanao gum	non-native	rare
Metrosideros polymorpha Gaud.	'ohi'a	endemic	rare
Psidium cattleianum Sabine	strawberry guava	non-native	rare
Psidium guajava L.	common guava	non-native	common
Syzygium cumini (L.) Skeels	Java plum	non-native	rare
NYCTAGINACEAE (Four-o'clock Family)			
Bougainvillea spectabilis Willd.	bougainvillea	non-native	rare
OLEACEAE (Olive Family)			
Noronhia emarginata (Lamarck) Poiret	Madagascar olive	non-native	rare
ONAGRACEAE (Evening Primrose Family)			
Ludwigia octovalvis (Jacq.) Raven	primrose willow	non-native	uncommon
PASSIFLORACEAE (Passion Flower Family)			
Passiflora edulis Sims	passion fruit	non-native	rare
POLYGALACEAE (Milkwort Family)			
Polygala paniculata L.	----------	non-native	uncommon
ROSACEAE (Rose Family)			

SCIENTIFIC NAME	COMMON NAME	STATUS	ABUNDANCE
Rubus rosifolius Sm.	thimbleberry	non-native	uncommon
SOLANACEAE (Nightshade Family)			
Brugmansia x candida Persoon	angel's trumpet	non-native	rare
Cestrum diurnum L.	night-blooming jasmine	non-native	rare
THYMELAEACEAE ('Akia Family)			
Wikstroemia oahuensis (A. Gray) Rock	'akia	endemic	rare
Wikstroemia uva-ursi A. Gray	'akia	endemic	rare
TILIACEAE (Linden Family)			
Triumfetta semitriloba Jacq.	Sacramento bur	non-native	rare
URTICACEAE (Nettle Family)			
Pilea microphylla (L.) Liebmann	artillery plant	non-native	rare
VERBENACEAE (Verbena Family)			
Lantana camara L.	lantana	non-native	uncommon
Stachytarpheta australis Moldenke	owi	non-native	uncommon
Stachytarpheta cayennensis (Rich.) Vahl	nettle-leaved vervain	non-native	uncommon
Tectona grandis L. f.	teak	non-native	rare

FAUNA SURVEY REPORT

SURVEY METHODS

A walk-through survey method was conducted in conjunction with the botanical survey. All parts of the project area were covered. Field observations were made with the aid of binoculars and by listening to vocalizations. Notes were made on species abundance, activities and location as well as observations of trails, tracks scat and signs of feeding. In addition an evening visit was made to the area to record crepuscular activities and vocalizations and to see if there was any evidence of occurrence of the Endangered Hawaiian hoary bat (*Lasiurus cinereus semotus*) in the area.

RESULTS

MAMMALS

Only two mammal species were observed during the course of the survey. Taxonomy and nomenclature follow Tomich (1986).

Mongoose *(Herpestes auropunctatus)* – One mongoose was seen running across a roadway. Mongoose have been observed here by others as well. They feed on rodents, insects and ground nesting birds.

Cattle (*Bos taurus*) – Extensive sign of one animal was seen in the lower part of the property. This animal is a last remnant of the former cattle operation that eluded capture when the owner removed his animals.

Also expected but not seen were rats (*Rattus rattus*) and mice (*Mus musculus*) that are widespread and feed on fruits, seeds and herbaceous vegetation. One also might expect to see an occasional feral cat (*Felis catus*) that would also feed on the rodents along with the mongoose. Feral pigs (*Sus scrofa*) might also occasionally visit the area from the upper forests although no sign was seen or has been reported.

A special effort was made to look for the Endangered Hawaiian hoary bat by conducting an evening survey of the area. When present bats can be easily identified as they forage for insects, their distinctive flight patterns clearly visible in the glow of twilight. No evidence of such activity was observed though visibility was excellent and plenty of flying insects were seen. This area does not represent ideal bat habitat and there have been no reports of bat sightings in the vicinity.

BIRDS

Birdlife was moderate but diversity was low, no doubt due to the lack of flowering and fruiting plants. Just five species of non-native birds were observed and only one of these was abundant. Taxonomy and nomenclature follow American Ornithologists' Union (2005).

Japanese white-eye (Zosterops japonica) – These small green birds were abundant on all parts of the property feeding in small flowers and on insects.

Common myna (*Acridotheres tristis*) – Several pairs of mynas were seen flying between trees on the property.

Hwamei (*Garrulax canorus*) – A few of these secretive birds were heard calling from trees and thick brush.

Northern cardinal (*Cardinalis cardinalis*) – A few of these bright red birds were seen and their loud calls could be heard from trees.

House finch (*Carpodacus mexicanus*) – Two pairs of these finches were seen flying between trees on the property.

A few other non-native birds could be expected on the property but this area does not currently represent suitable habitat for native forest birds due to the presence of lethal mosquito-borne bird diseases such as avian pox and avian malaria that are prevalent at low elevations. None were seen.

While scanning the sea cliffs below the project area a few black noddy terns (*Anous minutus melanogenys*) and one white-tailed tropicbird (*Phaethon lepturus dorotheae*) were seen. This property on the plateau does not represent habitat for these seabirds.

INSECTS

While insects in general were not tallied, one native Sphingid moth species, Blackburn's sphinx moth (*Manduca blackburni*), has been put on the Endangered Species list and this designation requires special focus (USFWS, 2000). Blackburn's sphinx moth occurs on Maui but is not known from this area. Its native host plants are native species of 'aiea (*Nothocestrum spp.*) and a non-native alternative host species is tree tobacco (*Nicotiana glauca*). None of these host species occur on or near this property and no Blackburn's sphinx moth or their larvae were observed.

DISCUSSION AND RECOMMENDATIONS

Fauna surveys are seldom comprehensive due to the short window of observation, the seasonal nature of animal activities and the unusually unpredictable nature of their daily movements. This survey could have yielded a greater diversity of non-native lowland birds had there not been such a lack of diversity of habitat and food supplies.

No Endangered or Threatened mammal, bird or insect species (USFWS, 1999) were observed on the property during the course of the survey. The non-native character of the habitat and the presence of biological threats makes it difficult for Hawaiian birds and other native fauna to survive or flourish in this area. As a result of the overall situation the proposed changes to land use are not expected to result in any significant negative impacts to native fauna in this part of Maui.

No recommendations with regard to native fauna are deemed necessary or appropriate.

ANIMAL SPECIES LIST

Following is a checklist of the animal species inventoried during the field work. Animal species are arranged in descending abundance within two groups: Mammals and Birds. For each species the following information is provided:

1. Common name
2. Scientific name
3. Bio-geographical status. The following symbols are used:
   - endemic = native only to Hawaii; not naturally occurring anywhere else in the world.
   - indigenous = native to the Hawaiian Islands and also to one or more other geographic area(s).
   - non-native = all those animals brought to Hawaii intentionally or accidentally after western contact.
   - migratory = spending a portion of the year in Hawaii and a portion elsewhere. In Hawaii the migratory birds are usually in the overwintering/non-breeding phase of their life cycle.
4. Abundance of each species within the project area:
   - abundant = many flocks or individuals seen throughout the area at all times of day.
   - common = a few flocks or well scattered individuals throughout the area.
   - uncommon = only one flock or several individuals seen within the project area.
   - rare = only one or two seen within the project area.

COMMON NAME	SCIENTIFIC NAME	STATUS	ABUNDANCE
MAMMALS			
Mongoose	*Herpestes auropunctatus*	non-native	uncommon
Cattle	*Bos taurus*	non-native	rare
BIRDS			
Japanese white-eye	*Zosterops japonica*	non-native	abundant
Common myna	*Acridotheres tristis*	non-native	common
Hwame, Melodius laughing thrush	*Garrulax canorus*	non-native	uncommon
Northern cardinal	*Cardinalis cardinalis*	non-native	uncommon
House finch	*Carpodacus mexicanus*	non-native	rare

Literature Cited

American Ornithologist's Union 1983. Check-list of North American Birds. 6th edition. American Ornithologist's Union. Washington D.C.

Armstrong, R. W. (ed.) 1983. Atlas of Hawaii. (2nd. ed.) University of Hawaii Press.

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

Palmer, D.D. 2003. Hawaii's Ferns and Fern Allies. University of Hawaii Press.

Staples, G.W. and D.R. Herbst, 2005. A Tropical Garden Flora – Plants Cultivated in the Hawaiian Islands and Other Tropical Places. University of Hawaii Press.

Tomich, P.Q. 1986. Mammals in Hawaii. Bishop Museum Press, Honolulu.

U.S. Fish and Wildlife Service. 1999. Endangered and threatened wildlife and Plants. 50 CFR 17.11 & 17.12

U.S. Fish and Wildlife Service. 2000. Endangered and threatened wildlife and plants: determination of endangered status for Blackburn's sphinx moth from Hawaii. Federal Register 65(21): 4770-4779.

Wagner, W. L., D.R. Herbst, and S. H. Sohmer. 1999. Manual of the flowering plants of Hawai'i. Univ. of Hawai'I Press and Bishop Museum Press. Honolulu.