

*Small Scale Agr Use at  
TK - 9-8-11:01*

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

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OFFICE OF ENVIRONMENTAL  
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August 9, 1996

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File No.: OA-2815

MEMORANDUM

TO: Gary Gill, Director  
Office of Environmental Quality Control

FROM: *Lauren Tanaka*  
Dean Uchida, Administrator  
Land Division

SUBJECT: Finding of No Significant Impact (FONSI) for a  
Proposed Project in the Conservation District  
entitled, "Aiea Agricultural Land Use", Aiea, Oahu;  
TMK: 9-8-11: 01

The Department of Land and Natural Resources has reviewed the comments received on the draft environmental assessment (DEA) during the public comment period which ended July 8, 1996. As the approving agency, we have determined that this project will have no substantial impact on the environment.

Please publish the attached final environmental assessment (FEA) in the August 23, 1996 bulletin. Also enclosed is a completed OEQC Bulletin Publication Form and four copies of the FEA.

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

Enclosures

102

**1996-08-23 - OA - FEA - SMALL SCALE AGRI. USE**  
**AT TMK 9-8-11:01** AUG 23 1996  
**FILE COPY**

PREPARED IN ACCORDANCE WITH CHAPTER 343, HAWAII REVISED STATUTES

FINAL ENVIRONMENTAL ASSESSMENT AND  
FINDING OF NO SIGNIFICANT IMPACT (FONSI)  
**SMALL SCALE AGRICULTURAL  
USE AT TMK: 9-8-11:01**  
KALAUAO, OAHU

AUGUST 1996

PREPARED FOR:  
LANI PROPERTIES  
50 South Beretania Street  
Kukui Plaza Mall, C-203  
Honolulu, Hawaii 96813

**R M T C**

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Final Environmental Assessment and  
Finding of No Significant Impact (FONSI)  
**SMALL SCALE AGRICULTURAL  
USE AT TMK: 9-8-11: 01**  
Kalauao, Oahu

August 1996

PREPARED FOR:  
LANI PROPERTIES  
50 South Beretania Street  
Kukui Plaza Mall, C-203  
Honolulu, Hawaii 96813

PREPARED BY:  
R. M. Towill Corporation  
420 Waiakamilo Road, Suite 411  
Honolulu, Hawaii 96817-4941

FINAL ENVIRONMENTAL ASSESSMENT  
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Hawaii Coastal Zone Management Program Assessment for Small-Scale Agricultural Use at TMK: 9-8-11:01, Kalauao, Oahu, August 8, 1996

Best Management Practices (BMPs) to be Exercised for Small-Scale Agricultural Use at TMK: 9-8-11:01, Kalauao, Oahu, August 8, 1996

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## PROJECT SUMMARY

Project: Small-Scale Agricultural Use at TMK: 9-8-11:01

Applicant: Mr. Warren Ho, President  
Lani Properties  
50 S. Beretania Street  
Kukui Plaza Mall C-203  
Honolulu, Hawaii 96813  
Phone: 521-0081 Fax: 533-3887

Approving Authority: Department of Land and Natural Resources,  
State of Hawaii

Tax Map Key: 9-8-11:01

Acreage: 119.387 acres (Approximately 4 acres to be developed)

Location: Kalauao, Aiea, Oahu

Agent: R. M. Towill Corporation  
420 Waiakamilo Road, Suite 411  
Honolulu, Hawaii 96817  
Phone: 842-1133 Fax: 842-1937  
Attention: Brian Takeda

Existing Land Use: Vacant,  
Undeveloped

Zoning: P-1 and P-2 by City and County of Honolulu.  
State Land Use: Conservation District, General Subzone and  
Urban District

## SECTION 1 INTRODUCTION

### 1.1 PROPOSED ACTION

Mr. Warren Ho, owner of the subject parcel and President, Lani Properties, is seeking a Conservation District Use Permit (CDUP) for farming and pasturage purposes on Tax Map Key (TMK): 9-8-11:01. The purpose is for small-scale farming and pasturage of approximately 10 horses or cows on an area of approximately 4 acres.

The proposed farming and pasturage activity will be for personal use and recreation following retirement. Although the sale of crops is not under current consideration, the owner has indicated that depending on productivity and demand for locally grown produce, that some crops could eventually be sold to the local market.

The proposed action is in the State Conservation District, General Subzone, and will require CDUP approval. This supporting Environmental Assessment is prepared in accordance with Hawaii Revised Statutes, Chapter 343, for the purpose of public disclosure and to assess the potential impacts of the proposed action.

### 1.2 DESCRIPTION OF PARCEL

The project site, TMK: 9-8-11:01, is a vacant and undeveloped narrow strip of land situated between Aiea Heights and Pearl Ridge, above the Pearl Country Club Golf Course (Figure 1). It extends about 1.5 miles from the H-1 Freeway up along the Kalauao Stream to the Ewa Forest Reserve line. Its upper end is adjacent to the Keaiwa Heiau State Recreational area.

Elevation ranges from about 70 feet at the lower end near the H-1 Freeway to about 800 feet at the upper end. Annual rainfall ranges from approximately 35 inches at the lower end and to about 50 inches at the upper end. About half of the property is very steep hillside with slopes of 60% to over 100%. The other half has slopes of 7% to 60%. Only a small portion of the property is usable, primarily the flatter areas along the bank of Kalauao Stream.

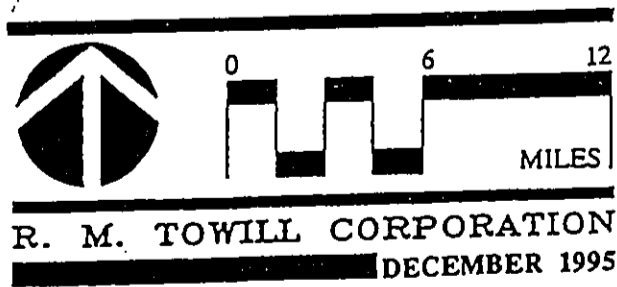
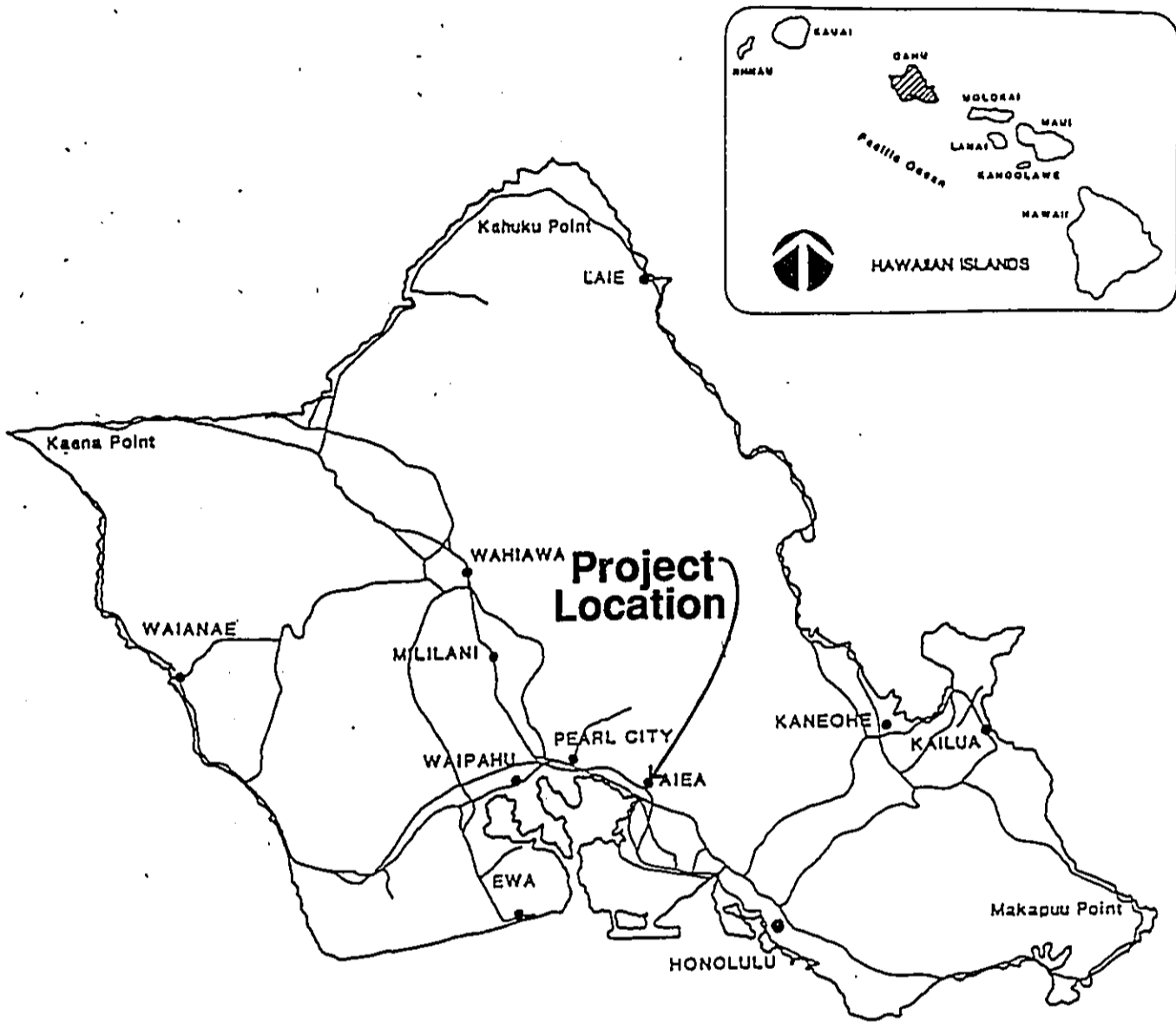


FIGURE 1  
LOCATION MAP  
Small Scale Agricultural Use  
Kalauao, Oahu



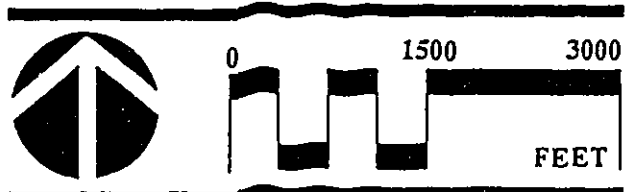
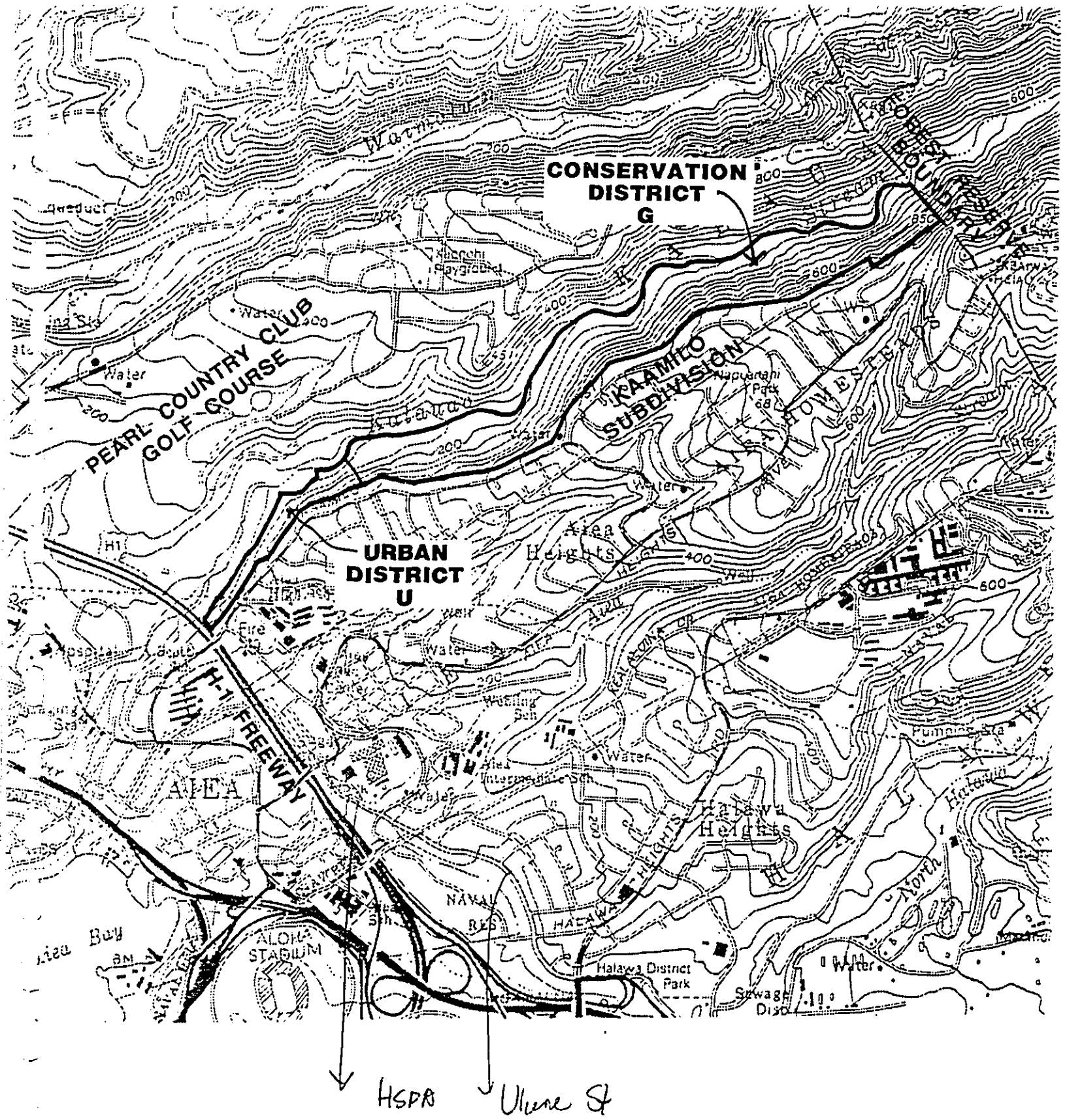
### 1.3 ACREAGE

The property contains 119.387 acres. An abutting property which will be used for access, TMK: 9-8-34:120, is also owned by Mr. Warren Ho, and contains 7,755 SF (residential lot at the intersection of Kaamilo Street and Lauhulu Street, street address: 98-980 Kaamilo Street).

### 1.4 STATE LAND USE DISTRICT AND ZONING

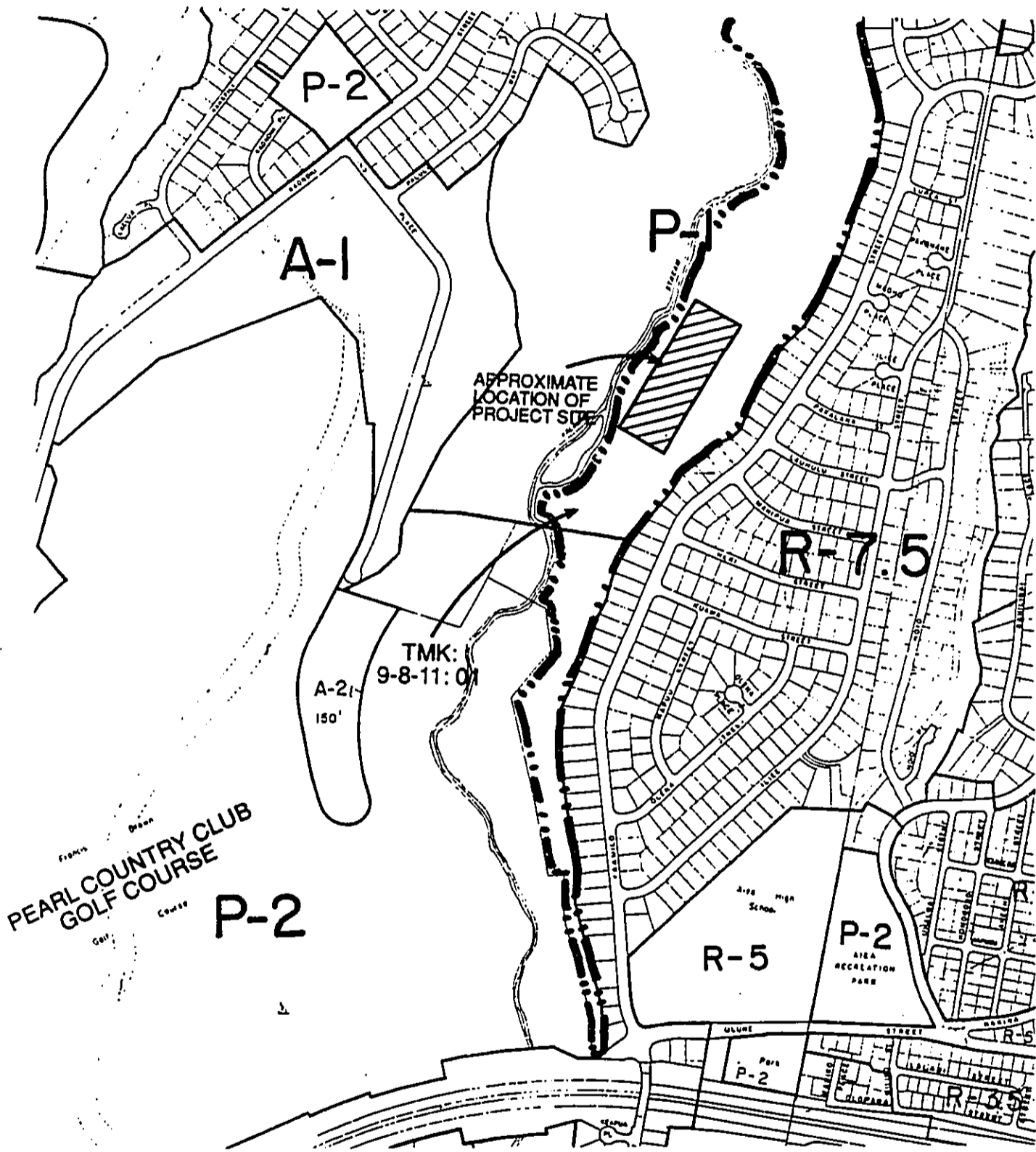
The property is in the State Conservation District, General Subzone, and Urban District. The majority of the property is comprised of Conservation District lands (upper portion) with urban designated lands for a portion at the lower end (Figure 2). The City and County of Honolulu zoning is P-1 and P-2 (Figure 2a). The portion of the property to be used for farming purposes is zoned P-1. According to the City and County of Honolulu, Land Use Ordinance, "Within the P-1 Restricted Preservation District, all uses, structures, and development standards shall be governed by the appropriate State agencies."

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FIGURE 2  
PROJECT SITE  
TMK: 9-8-11: 01  
Small Scale Agricultural Use  
Kalauao, Oahu



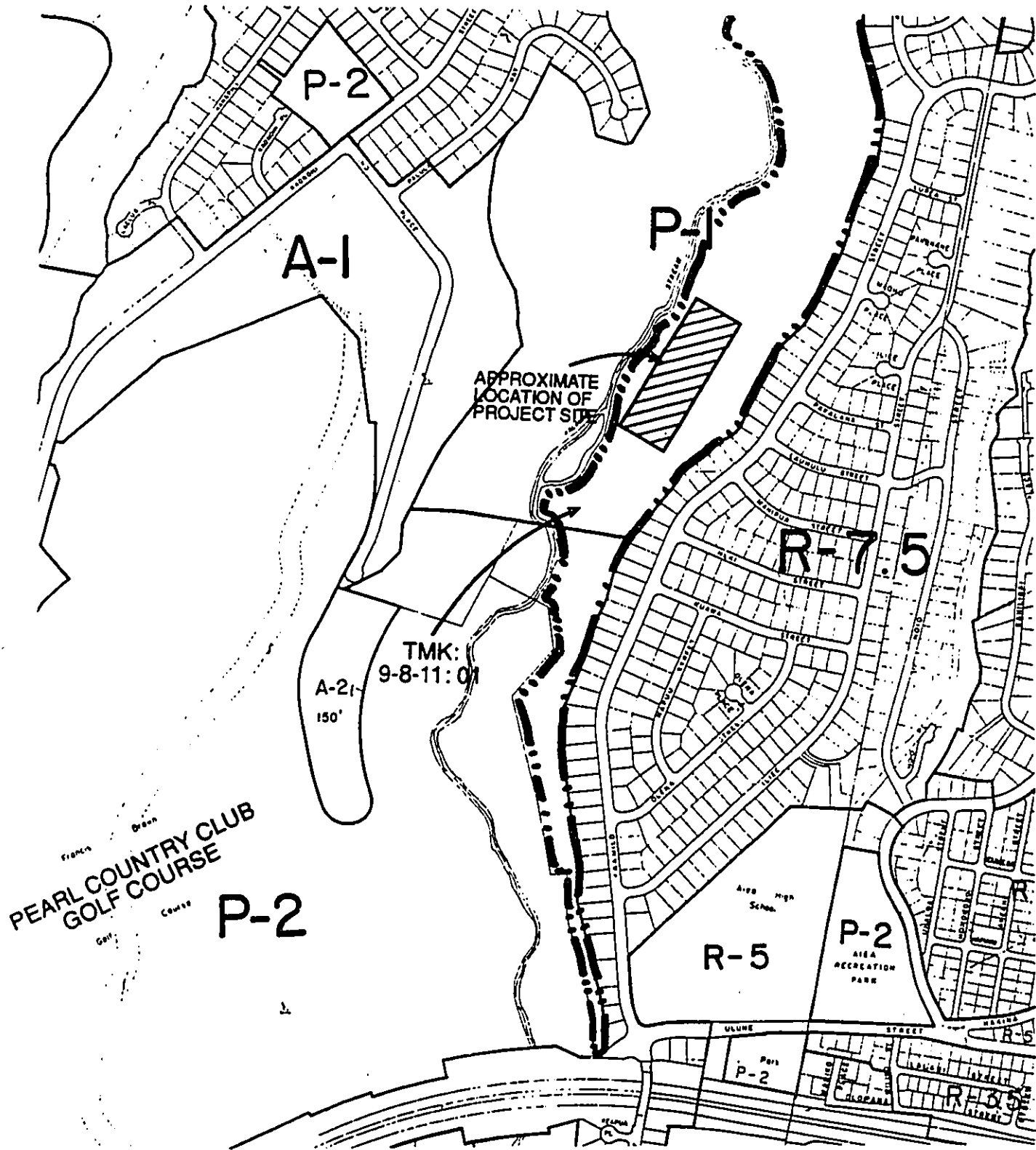
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**FIGURE 2a**  
**ZONING - City & County of Honolulu**  
**Small Scale Agricultural Use**  
**Kalauao, Oahu**

SOURCE: Zoning Map No. 6, Halawa-Pearl City,  
Department of Land Utilization,  
City and County of Honolulu



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**FIGURE 2a**  
**ZONING - City & County of Honolulu**  
**Small Scale Agricultural Use**  
**Kalauao, Oahu**

SOURCE: Zoning Map No. 6, Halawa-Pearl City,  
Department of Land Utilization,  
City and County of Honolulu

SECTION 2  
DESCRIPTION OF PROJECT

The proposed small-scale agricultural use of the land will involve farming of fruits and vegetables, cultivation of floral and ornamental plants, and pasturage of up to approximately 10 horses and/or cows.

Access to the site would be through TMK: 9-8-34: 120 (98-980 Kaamilo Street), a residential property (Figure 3 and Figure 4). A rough graded access road approximately 6 to 8 feet wide would begin at the edge of the residential property facing TMK: 9-8-11: 01, and continue to the proposed location of the agricultural site. Because portions of the ridge line are relatively steep, the rough graded and unpaved access road will be constructed by bulldozer or similar equipment. The road will be very rudimentary and is intended to be used only by the owner, or during temporary growing or harvesting periods when farm hands may be employed, for travel to and from the parcel. The design of the road will be according to Figures 5, 5a, and 5b. According to Figures 5, 5a, and 5b, two switchbacks will be used to reduce the grade to a manageable level that can be accessed by 4-wheel drive vehicles. Construction and detailed design of this road will be the responsibility of Mr. Ho.

An accessory shed would be erected for the purpose of storing farm tools, supplies, feed, and equipment. The shed would be used for storage only and would not be used for human habitation. The approximate dimensions of this shed will be 20 feet by 40 feet (Figure 6). Materials used for construction will probably be plywood or lumber.

The agricultural field will require approximately 2 acres. The proposed general location of this field is identified in Figure 6. The exact location of the agricultural lot and fenced enclosure will be finalized during actual site work but is expected to follow the concept site plan in Figure 6a.

The only site work necessary to prepare the agriculture field for planting will be tilling and plowing work to break up sod. Removal of large rocks and other debris may also be required. Farming uses would include planting of various crops such as fruits, vegetables, floral, and ornamental plants.

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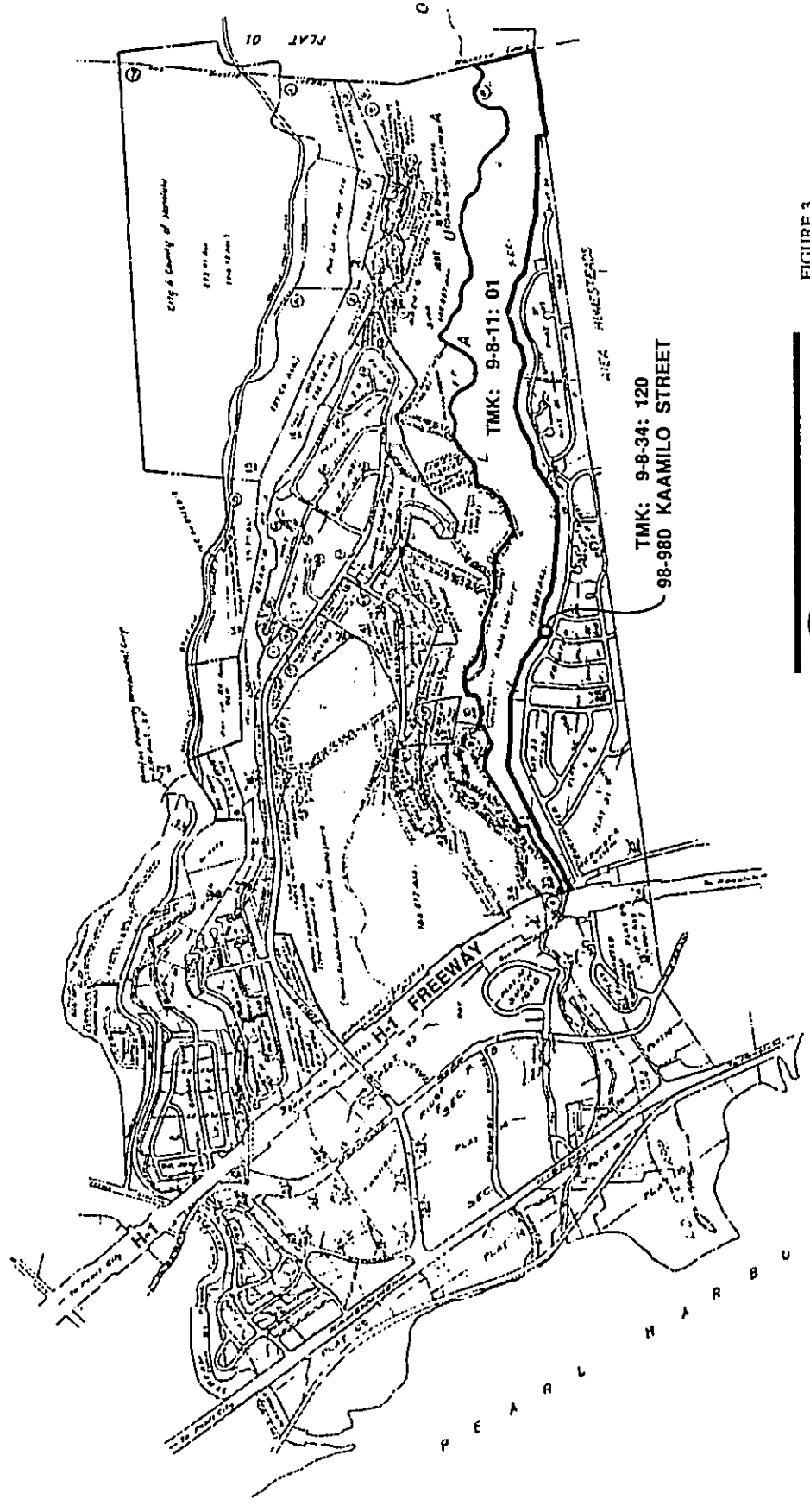


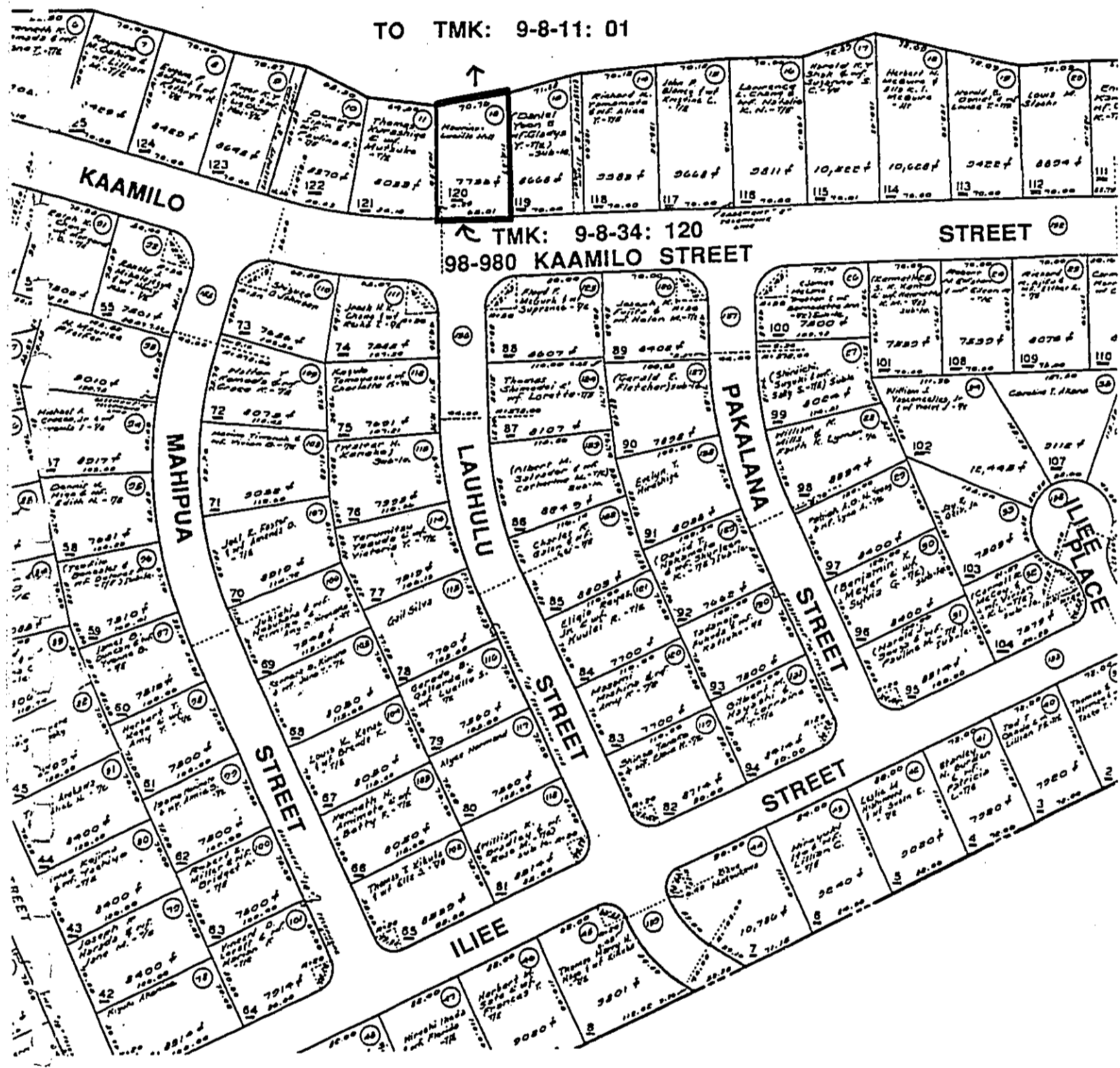
FIGURE 3  
 GENERAL LOCATION  
 TMKS: 9-8-11: 01 & 9-8-34: 120  
 Small Scale Agricultural Use  
 Kaluaao, Oahu



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FIGURE 4  
 TMK: 9-8-34: 120  
 Small Scale Agricultural Use  
 Kalauao, Oahu

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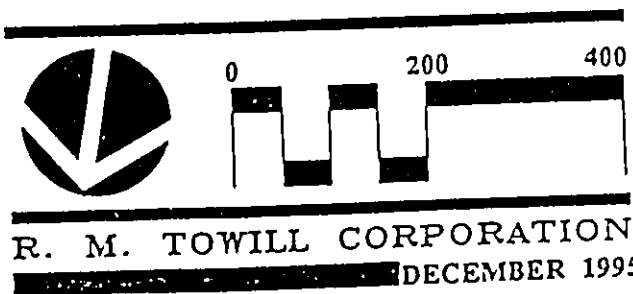
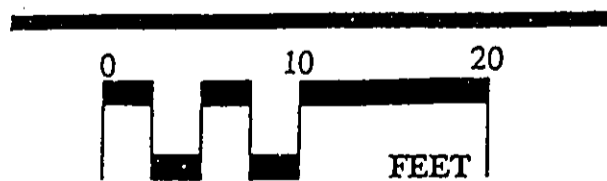
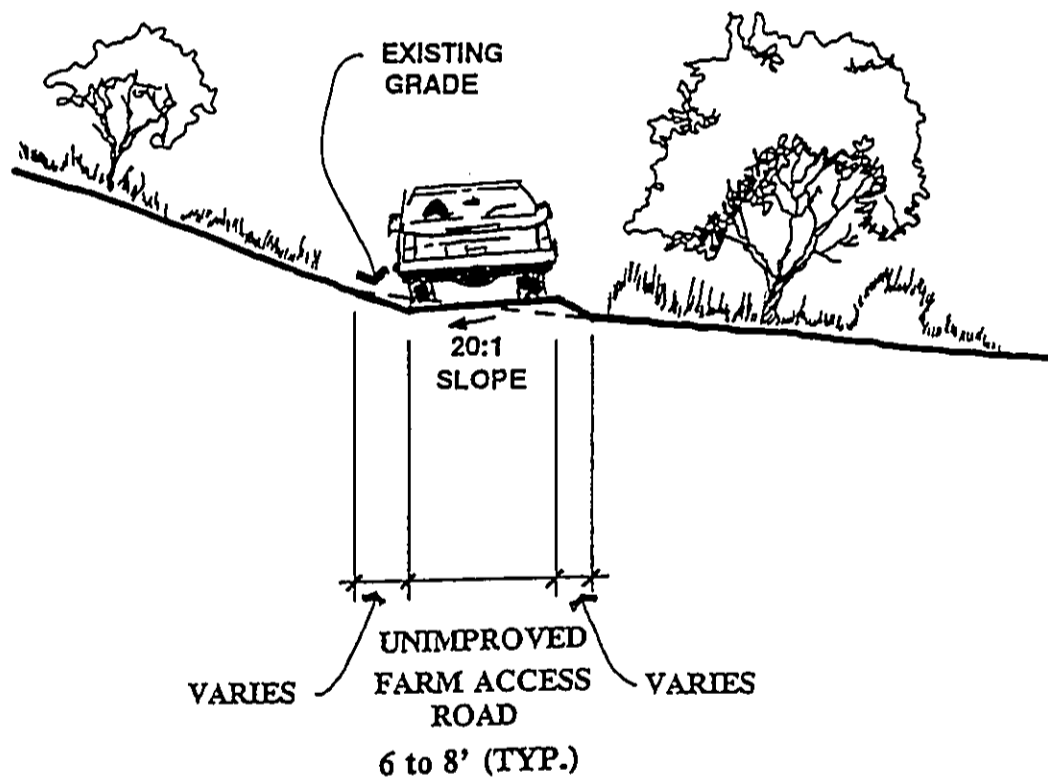


FIGURE 5  
ACCESS ROAD  
Small Scale Agricultural Use  
Kalauao, Oahu

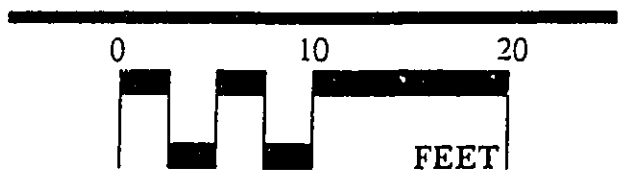
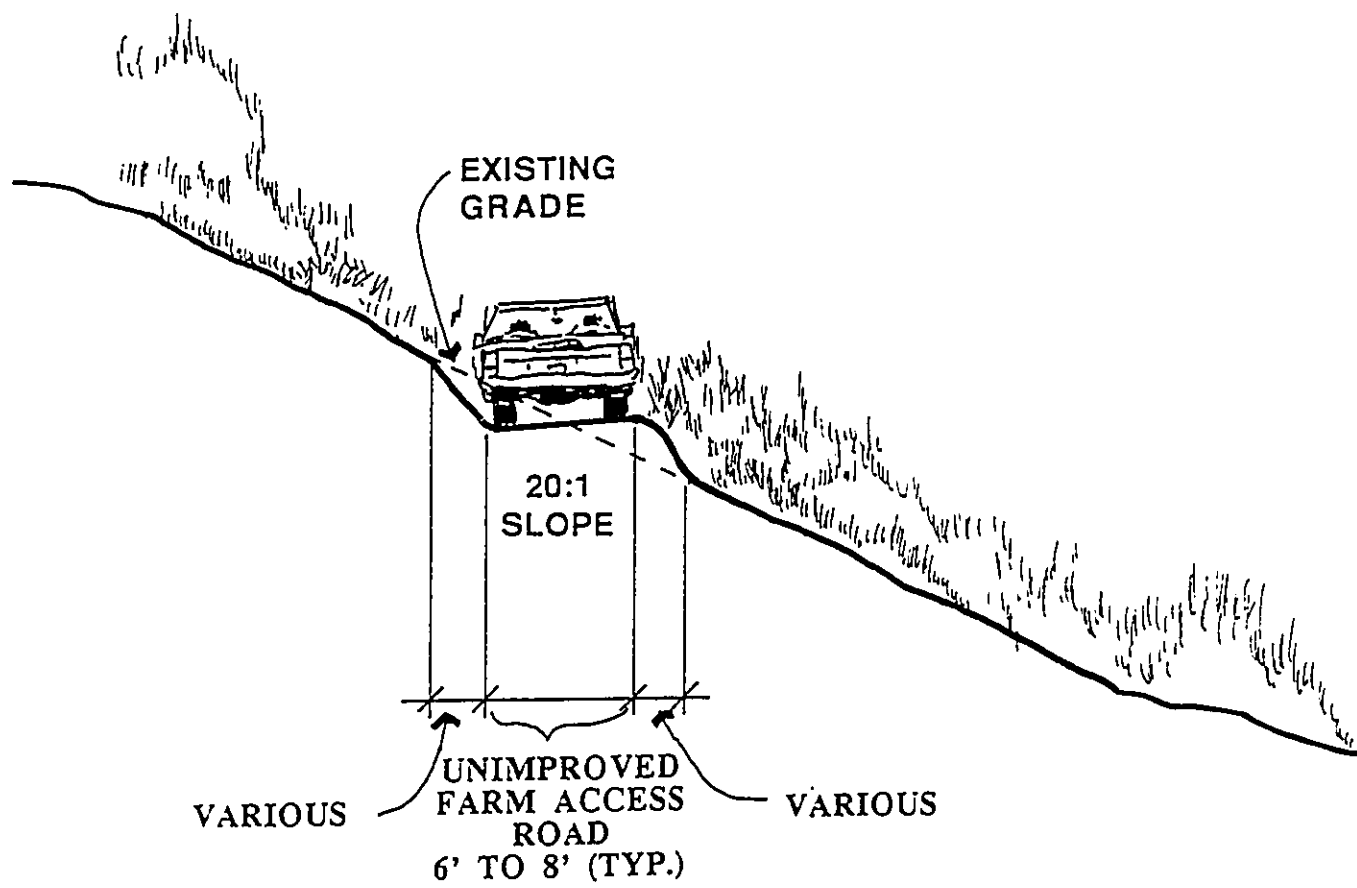
SOURCE:  
City & County of Honolulu  
Planning Department  
Oahu Orthophoto Contour Map  
Sheet 528-78





R. M. TOWILL CORPORATION  
April 1996

FIGURE 5a  
TYPICAL SECTION  
OF ACCESS ROAD  
Small Scale Agricultural Use  
Kalauao, Oahu



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FIGURE 5b  
TYPICAL SECTION  
OF ACCESS ROAD  
ALONG STEEP GRADE  
Small Scale Agricultural Use  
Kalauao, Oahu

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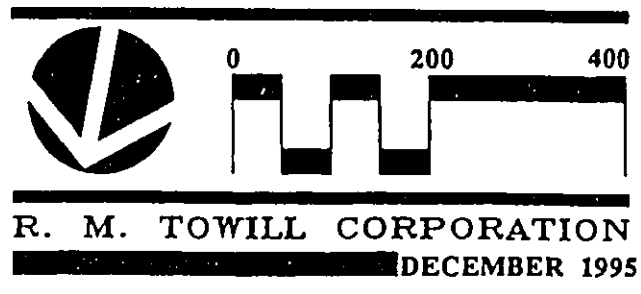
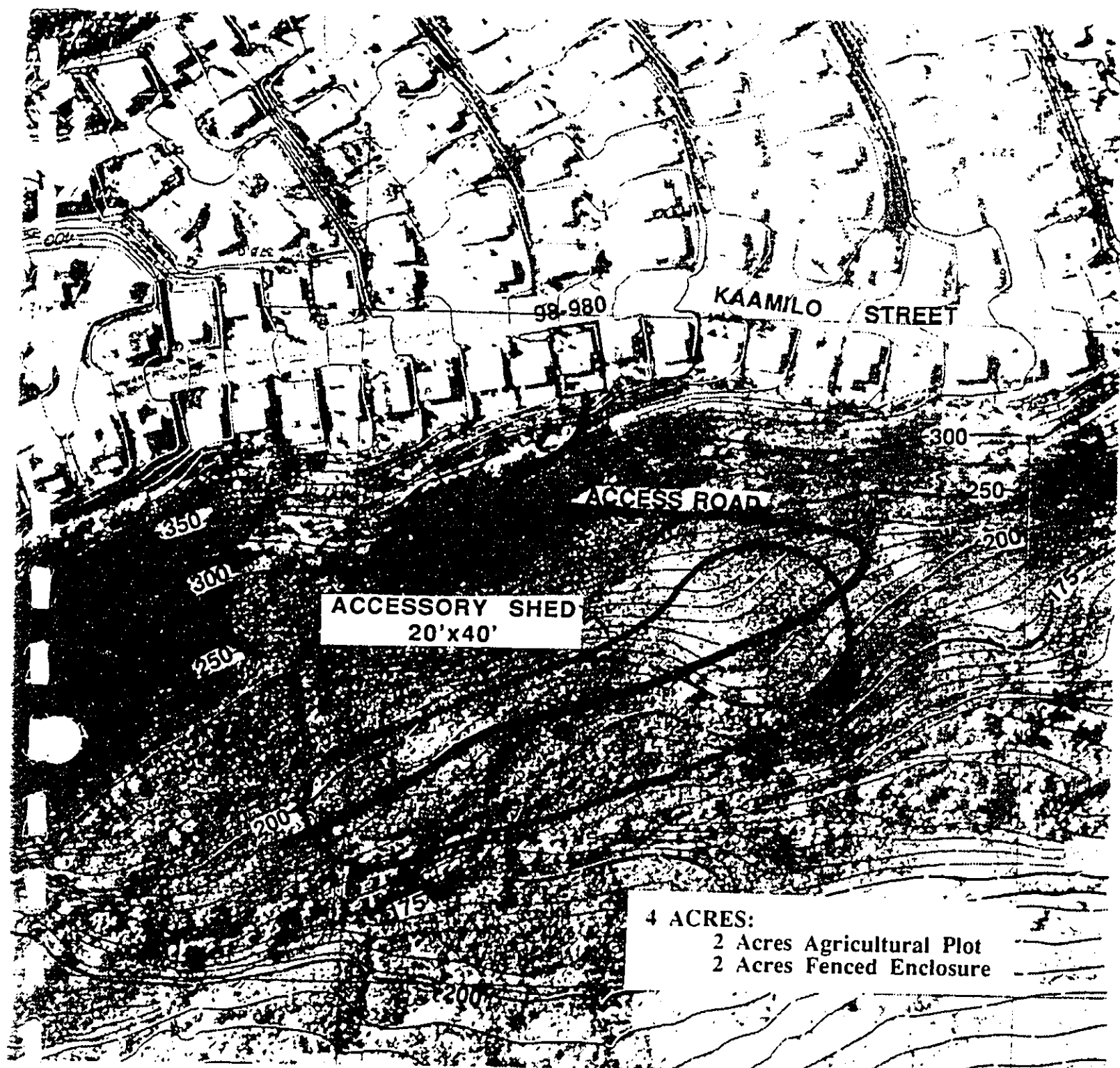
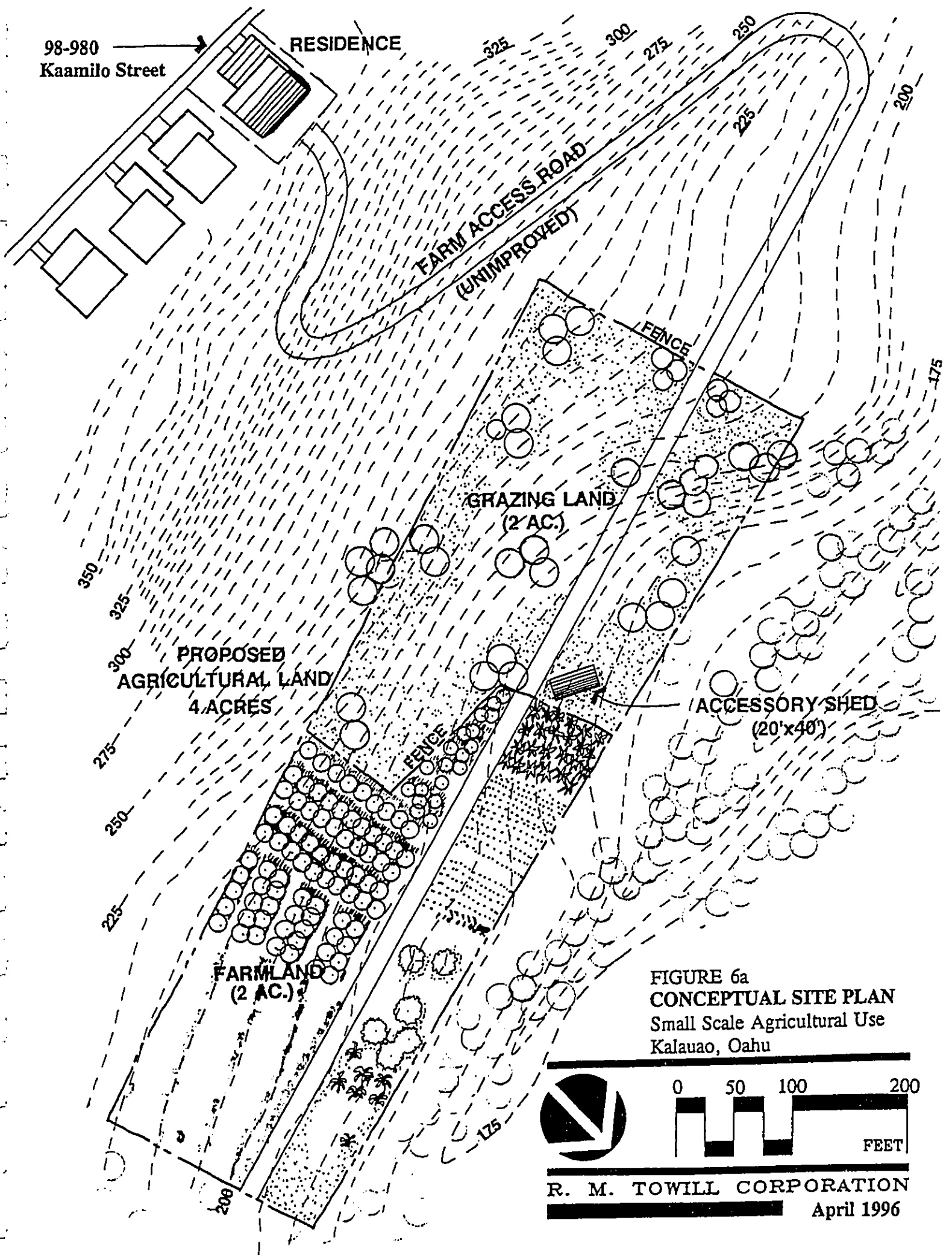


FIGURE 6  
PROJECT SITE  
Small Scale Agricultural Use  
Kalauao, Oahu

SOURCE:  
City & County of Honolulu  
Planning Department  
Oahu Orthophoto Contour Map  
Sheet 528-78



The intended purpose for farming and pasturage is for personal use and recreation following retirement. Although the commercial sale of crops is not under current consideration, the owner has indicated that depending on productivity and demand for locally grown produce, that some crops could eventually be sold to the local market. The diversity of crop types combined with the relatively small scale of use, however, is expected to preclude any large commercial usage.

Pasturage use of the site would also require approximately 2 acres of fenced enclosure for the purpose of holding up to 10 horses and/or cows. The horses and/or cows would be periodically allowed to range on other portions of TMK: 9-8-11:01, for grazing and exercise. The remainder of the time the livestock will be secured within the fenced enclosure.

SECTION 3  
DESCRIPTION OF AFFECTED ENVIRONMENT

3.1 PHYSICAL ENVIRONMENT

3.1.1 Topography, Geology, and Soils

Elevation of the site ranges from approximately 70 feet at the lower end near the H-1 Freeway to about 800 feet at the upper end. Annual rainfall ranges from about 35 inches at the lower end and to about 50 inches at the upper end. About half of the property is very steep hillside with slopes of 60% to over 100%. The other half has slopes of 7% to 60%. Only a small portion of the property is usable, primarily the flatter areas along the bank of the Kalauao Stream.

According to the August 1972, U.S. Department of Agriculture, Soil Conservation Service publication, "Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii," soil associations within the property consist of the Helemano-Wahiawa Association: Deep, nearly level to moderately sloping, well-drained soils that have a fine-textured subsoil; on uplands.

Soils within the project area primarily consist of Kaena very stony clay and rock land. Based on a site visit, various locations along the eastern and southeastern boundary of the property contain rocky soils interspersed with soils that appear capable of supporting agricultural uses. These soil types extend in pockets up to Kalauao Stream, which adjoins the subject property (Figure 7). The following describes the soil types found along the project site:

**KanE - Kaena very stony clay, 10 to 35 percent slopes**

This series consists of very deep, poorly drained soils on alluvial fans and talus slopes on Oahu and Kauai. The soil has a profile like that of Kaena stony clay, 6 to 12 percent slopes, except that there are many stones on the surface and in the profile. Runoff is medium to rapid, and the erosion hazard is moderate to severe. Workability is difficult because the soil is stony, steep and very sticky and very plastic. This soil is used for pasture and urban development.

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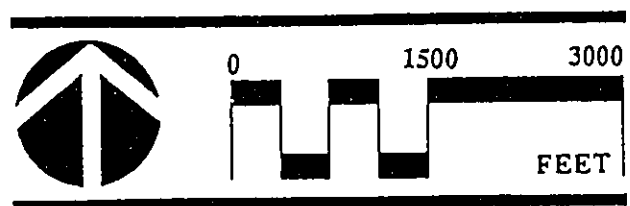


FIGURE 7  
SOILS MAP  
Small Scale Agricultural Use  
Kalauao, Oahu

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DECEMBER 1995

**rRK - Rock land**

Rock land is made up of areas where exposed rock covers 25 to 90 percent of the surface. It occurs on all five main Hawaiian islands. The rock outcrops and very shallow soils are the main characteristics. This land type is nearly level to very steep. Rock land is used for pasture, wildlife habitat, and water supply.

**LaC3 - Lahaina silty clay, 7 to 15 percent slopes, severely eroded**

Lahaina soils are well drained and occur on uplands. This soil is similar to the Manana soils in that it developed from weathered igneous rock. Most of the surface layer of LaC3, and part of the subsoil have been removed by erosion. Runoff is medium and the erosion hazard is severe. This soil is used for sugarcane and pineapple cultivation.

**MpD2 - Manana silty clay, 12 to 25 percent slopes, eroded**

This series consists of well drained soils on uplands. These soils are on sloping to steep terrain and is eroded, with a silty clay texture. In most areas nearly all of the original surface layer has been removed by erosion. This soil is used for sugarcane, pasture and homesites.

**MoB - Manana silty clay loam, 2 to 6 percent slopes**

This soil is on gently sloping uplands and developed in material weathered from basic igneous rock. This soil is used for sugarcane, pineapple, and pasture.

**MoD2 - Manana silty clay loam, 12 to 25 percent slopes, eroded**

This soil is similar to Manana silty clay loam, 6 to 12 percent slopes, except that it is moderately steep. The surface layer is 4 to 6 inches thick as a result of past erosion. This soil is used for sugarcane, pineapple, and pasture.

**3.1.2 Hydrology**

Kalauao Stream is located off of the project site along the eastern project boundary. During a recent site visit the stream bed was observed to be dry. It is anticipated that flows would tend to occur only during storms or periods of heavy rainfall when streamflows are conveyed south, toward waters of Pearl Harbor.

No impacts to Kalauao Stream are expected as the proposed project will not require development of water. If necessary, the owner intends to supplement natural rainfall



with water from his adjoining property at 98-980 Kaamilo Street. The water will be used for supplemental crop irrigation and watering of livestock.

### 3.1.3 Vegetation and Wildlife

The project site consists of undeveloped land adjacent to the Pearl County Club Golf Course to the west, a residential subdivision to the east, and the H-1 Freeway to the south. Within the vicinity and beyond the H-1 Freeway to the south are various residential and commercial establishments. Beyond the subject property to the north is the boundary of the State Forest Reserve. Because the project site is relatively enclosed and adjacent to urbanized areas, practically all of the remaining vegetation now consists of exotic, introduced species such as koa haole (*Leucaena leucocephala*), an exotic shrub found throughout much of the drier lowlands of Hawaii.

In addition to koa haole, are banyan (*Ficus*), java plum (*Eugenia cuminii*) and mango trees (*Mangifera indica*). Introduced weeds such as strawberry guava (*Psidium spp.*), Christmas berry (*Schinus terebinthifolius*), and California grass (*Brachiaria mutica*), are found along the edge of Kalauao Stream.

Most of the fauna observed are those associated with urbanized areas. Feral pigs (*Sus scrofa scrofa*) are known to inhabit the area and may be the offspring of escaped individuals from a pig farm which may have once located in the area. Because the site is also adjacent to urban commercial and residential land, it is likely there are feral dogs (*Canis familiaris*) and cats (*Felis catus*).

Introduced avifauna which have been spotted in the area include the Common Indian Mynah (*Acridotheres tristis*), House Sparrow (*Passer domesticus*), Red-Vented Bulbul (*Pycnonotus cafer*), Spotted or Lace-necked Dove (*Streptopelia chinensis*), Zebra Dove (*Geopelia striata*), Northern Cardinal (*Cardinalis cardinalis*), and Red-Crested Cardinal (*Paroaria coronata*).

### 3.1.4 Scenic and Visual Resources

The project site is surrounded by urban uses and is one of the only remaining large undeveloped parcels in the area. The proposed farming and pasturage uses will require clearing of a small area of approximately 2 to 4 acres out of a total +119 acres. The tilling, planting, and pasturage of horses or cows are therefore not expected to disturb

the existing scenery or visual resources of the area. The Pearl County Club Golf Course to the west and northwest contains regularly maintained greens and fairways in an open space setting. The Kaamilo residential community to the east is on a ridge above the subject site. Residents along the ridge line will continue to have views of a relatively undeveloped parcel, and the Pearl County Club Golf Course, beyond.

### 3.1.5 Historic Resources

An archaeological reconnaissance of the project site was conducted in March 1996 by Cultural Surveys Hawaii (Appendix). The purpose of the study was to determine the effect of proposed agricultural uses on the historic resources of the project site.

According to the reconnaissance the project site was historically associated with the Chieftess Kalamanu'ia who reigned in the 16th century. No foreign or domestic wars appear to have occurred during her reign. Archaeological sites associated with Chieftess Kalamanu'ia stood in Kalauao until recent times (Site 110 and fishponds of Kapaakea, Site 111 and others along Pearl Harbor, [see Appendix]). In more recent times the project area has been associated with commercial agriculture including pineapple cultivation and pasturage of cattle.

The site reconnaissance included archaeologists investigating the sloping land descending from 98-980 Kaamilo Street and the entire natural terrace area proposed for agricultural use. Archaeologists traversed the area parallel to Kalauao Stream in 3 separate sweeps, 20 meters apart. The level natural terrace area contained no archaeological sites and no evidence of subsurface cultural material. The sloping land area was carefully inspected for overhangs, caves and petroglyphs, and none were encountered.

Perpendicular to the slope at the 250 foot contour is a discontinuous stacked boulder wall which was traced for about 60 meters. The maximum height of the wall was approximately 1-meter. The wall serves as a retaining wall along the edge of the cliff and nowhere was it observed to be free standing. The wall is discontinuous and is only built up where the cliff is not steep and stops where the cliff is steep (Appendix - Figure 7 and Figure 8). According to Cultural Surveys Hawaii, the wall clearly functioned as a cattle wall to prevent cows from traversing the less steep parts of the cliff. The natural terraces along the stream could have been used for pasture following pineapple cultivation with this wall built to keep the cows confined to the gulch. It is also possible

that the wall served to keep the cows out of the gulch during the era of commercial cultivation in the gulch. The proposed project access path will not cross nor disturb this existing cattle wall.

Cultural Surveys Hawaii concluded that the portion of the project area proposed for agricultural use contained no archaeological sites and that therefore, no impact to archaeological sites would occur. The proposed access path will be designed to avoid the cattle wall and will similarly have no adverse impacts.

It is proposed that although impacts to archaeological resources are not expected that should any resources be uncovered during construction that work be temporarily halted while the State Department of Land and Natural Resources (DLNR), Historic Preservation Division, be notified to coordinate appropriate mitigative or protective measures.

### 3.2 SOCIOECONOMIC ENVIRONMENT

#### 3.2.1 Population

According to the 1990 U.S. Census, the population of Aiea is 32,323 (State of Hawaii Data Book, 1993-1994). This represents an approximate 7 percent increase from 1980, when the population was 30,084 (State of Hawaii Data Book, 1984). The proposed project will have little or no development impact on the area population. It is possible that during planting and harvesting periods that temporary laborers could be employed. Overall, however, the land will continue to remain relatively undeveloped and used only for small scale agricultural purposes.

#### 3.2.2 Land Ownership, Surrounding Land Use, and Land Use Designation

The property is owned by Mr. Warren Ho, President, Lani Properties. Surrounding urban land uses include the Pearl Country Club Golf Course to the north and northwest; H-1 Freeway to the south; Kaamilo Residential Subdivision to the east; and, State Forest Reserve Lands to the north.

The property is zoned P-1 and P-2 by the City and County of Honolulu. The State Land Use is Conservation District, General Subzone and Urban District. The majority of the property is in the Conservation District (upper portion) with urban designation for a

portion at the lower end (Figure 2). The proposed activity will not involve use of urban designated land.

### 3.3 PUBLIC FACILITIES AND SERVICES

#### 3.3.1 Water

No potable water service is provided and none is proposed. Irrigation is intended to be by natural rainfall and supplemented by transmission via flexible hose from 98-980 Kaamilo Street.

#### 3.3.2 Wastewater

No sanitary sewer service is required. If necessary, the owner will utilize a portable sanitary toilet. All use of sanitary facilities will be in accordance with applicable health regulations of the State of Hawaii, Department of Health, and City and County of Honolulu.

#### 3.3.3 Drainage

The property borders the Kalauao Stream along about 80 percent of its length. According to the FEMA Flood Insurance Rate Map (FIRM), the project site is in an area of undetermined flood hazard (Figure 8).

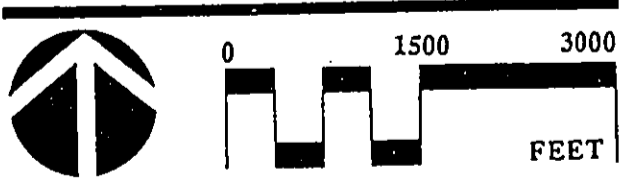
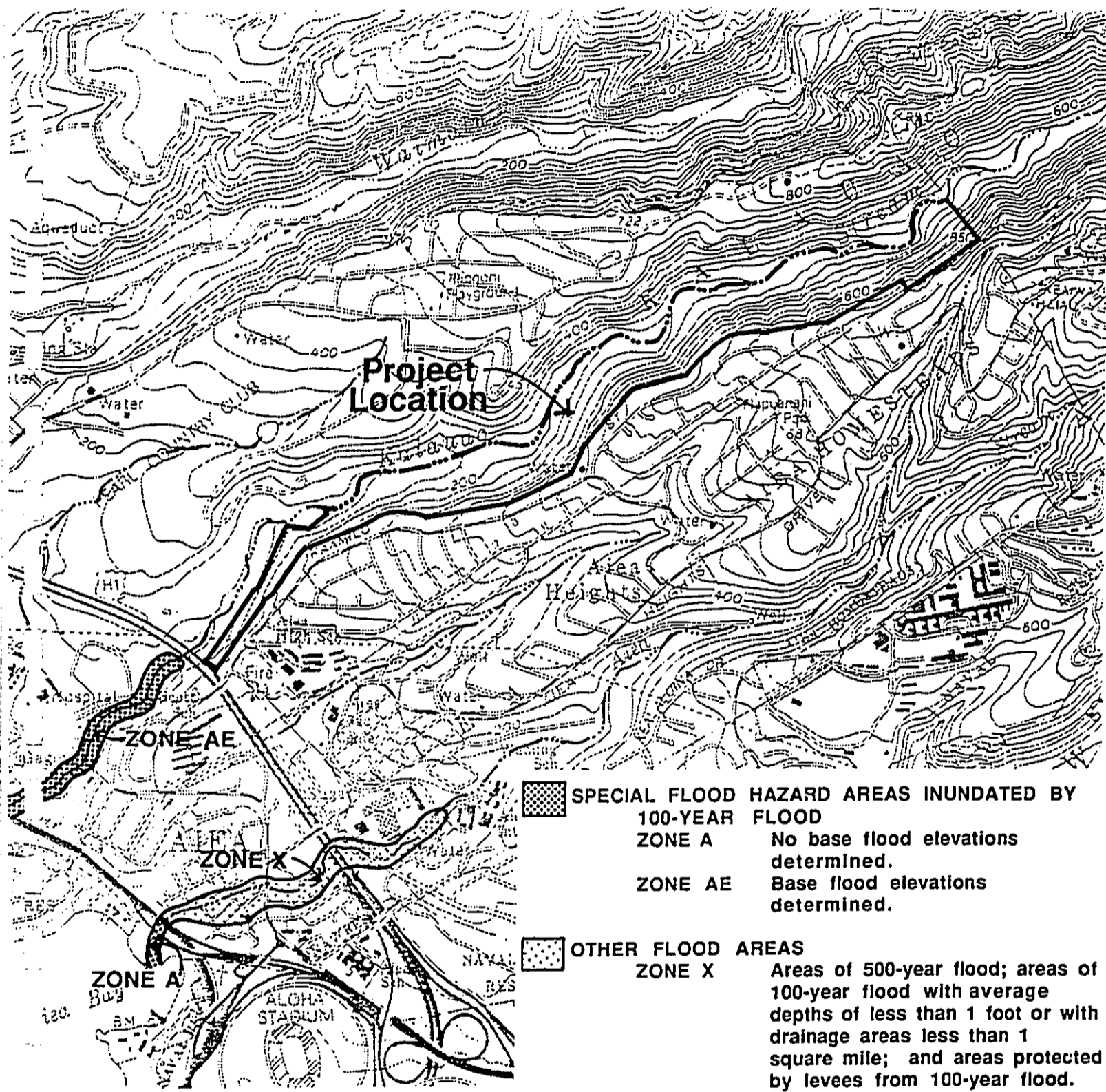
#### 3.3.4 Solid Waste

The proposed small-scale agricultural operations are not expected to generate large amounts of refuse. Should collection be required, private collectors will be employed. Agricultural waste including manure and "green" manure, will be recycled by composting to the maximum extent possible.

#### 3.3.5 Power and Communications

No power or telephone lines are required for the proposed farm operations.

DOCUMENT CAPTURED AS RECEIVED



R. M. TOWILL CORPORATION  
DECEMBER 1995

FIGURE 8  
FIMA-FLOOD INSURANCE MAP  
Small Scale Agricultural Use  
Kalauao, Oahu

### 3.3.6 Traffic

The traffic generated by the proposed small-scale agricultural operation is expected to be negligible (estimated maximum of <4 trips per day). This will involve a maximum of one (1) daily trip to and from the project site through 98-980 Kaamilo Street, plus one additional daily trip to and from the site for purposes of transferring produce or farm materials. Average use will probably be less due to days when no activity will occur. No traffic impacts are therefore, anticipated.

### 3.3.7 Air/Water Pollution

A small amount of air pollution may be generated from farm equipment including a small tractor or composter. All use of such equipment will be in accordance with applicable State and City and County of Honolulu regulations governing use. Exhaust emissions, therefore, will be negligible and are not expected to negatively impact the area.

Uses of chemicals including pesticides or herbicides will also be governed in accordance with applicable State, Federal, or City and County of Honolulu regulations.

SECTION 4  
RELATIONSHIP TO LAND USE POLICIES AND  
CONTROLS OF THE AFFECTED AREA

4.1 HAWAII STATE PLAN

The Hawaii State Plan, Chapter 226, Hawaii Revised Statutes, serves as a written guide for the future long range development of the State. The Plan identifies statewide goals, objectives, policies, and priorities.

The proposed project would be in conformance with the State Plan's objectives and policies for agriculture. According to Section 226-7 Objectives and policies for the economy - Agriculture, the following policies would apply to the proposed activity:

- (5) Enhance agricultural growth by providing public incentives and encouraging private initiatives;
- (7) Increase the attractiveness and opportunities for an agricultural education and livelihood; and
- (8) Expand Hawaii's agricultural base by promoting growth and development of flowers, tropical fruits and plants, livestock, feed grains, forestry, food crops, aquaculture, and other potential enterprises.

4.2 STATE CONSERVATION DISTRICT

The property is designated within the State Urban and Conservation Districts. The proposed area for farming uses is contained in the Conservation District, General Subzone (Figure 2).

According to Hawaii Administrative Rules (HAR), Title 13, Chapter 5, "Conservation District":

"§13-5-14 General (G) subzone. (a) The objective of this subzone is to designate open space where specific conservation uses may not be defined, but where urban use would be premature.

(b) The (G) subzone shall encompass:

- (1) Lands with topography, soils, climate, or other related environmental factors that may not be normally adaptable or presently needed for urban, rural, or agricultural use; and
- (2) Lands suitable for farming, flower gardening, operation of nurseries or orchards, grazing; including facilities accessory to these uses when the facilities are compatible with the natural physical environment.
- (c) Land uses permitted in the general (G) subzone are restricted to those listed in section 13-5-25."

Chapter 13-5, also indicates that the proposed agricultural use of the land would be governed under §13-5-25, and §13-5-23(c)(4), which states, "Identified land uses beginning with letter (D) require a board permit, and where indicated, a management plan." According to §13-5-23, the designation of the proposed use would include:

"L-1 AGRICULTURE

- (D-1) Agriculture within an area of more than one acre, defined as the planting, cultivating, and harvesting of horticultural crops, floricultural crops, or forest products, or animal husbandry. A management plan is also required."

Only a relatively small portion (approximately ±4 acres) of the total property (119+ acres) will be used for this purpose. The remainder of the 119 acres are intended to remain undeveloped.

#### 4.3 HAWAII COASTAL ZONE MANAGEMENT ACT (HCZMA)

The State of Hawaii Coastal Zone Management Act (HCZMA) program was approved on September 19, 1978. The purpose is to ensure that any activities affecting the coastal zone are conducted in a manner appropriate to the future protection and preservation of Hawaii's coastal zone resources. Although the proposed project is not subject to the CZM permitting requirement, a CZM Program Assessment is provided in the appendix pursuant to a request by the Office of Coastal Zone Management on May 29, 1996, to provide such information.

In summary, the proposed project is consistent with the objective of Hawaii's CZM law, to ensure the coordinated and future protection and preservation of Hawaii's coastal zone resources.



4.4 CITY AND COUNTY OF HONOLULU GENERAL PLAN AND DEVELOPMENT PLAN

The City and County of Honolulu General Plan and Development Plan for the area covers desired population, land uses, public infrastructure, environmental concerns, and cultural resources. Under the Primary Urban Center (PUC) Development Plan, the proposed agricultural use of the land will not affect the continued preservation use (P-1 zoning) of the project site.

4.5 CITY AND COUNTY OF HONOLULU ZONING

TMK: 9-8-11:01 is zoned P-1 and P-2 (Figure 2a). The location of the proposed activity would fall under the P-1 designation. According to the City and County Land Use Ordinance (LUO),

"5.10 Preservation districts: Purpose and intent.

- (a) It is intended that all lands within a state-designated conservation district be zoned P-1 restricted preservation district."

and,

"5.10-1 Preservation uses and development standards.

- (a) Within the P-1 restricted preservation district, all uses, structures and development standards shall be governed by the appropriate state agencies."

According to the LUO because the proposed activity is in the State Conservation District, development standards would be governed by the Department of Land and Natural Resources, through the Conservation District Use Permit (CDUP) process. This Environmental Assessment is, therefore, prepared pursuant to the requirement for the CDUP.

## SECTION 5 ALTERNATIVES TO THE PROPOSED ACTION

There are three alternatives to the proposed action:

- No action;
- Urban development for the lower portion of the property zoned for urban use; and
- Selection of an alternative location.

### 5.1 NO ACTION

The no action alternative would continue the current undeveloped condition of the land. Residents along the Kaamilo subdivision ridge would continue to enjoy views of a relatively undeveloped parcel surrounded by urban development and the greenways of the Pearl Country Club. There would be no discernable effects to other area residents.

The major problem with the no action alternative is twofold: 1) according to Hawaii Administrative Rules, §13-5-14 General (G) subzone, farming, flower gardening, operation of nurseries or orchards, and grazing, are uses which are allowed in the General subzone of the Conservation District; and 2) the no action alternative would deny the property owner use of the land for agricultural purposes.

### 5.2 URBAN DEVELOPMENT

The lower south/southeastern portion of the property is already in the State Urban land use district (Figure 2). This designation would allow for development of single or potentially, multifamily housing. Use of the land for subdivision purposes would require major time and financial commitment. Time would be required for project marketing, site and infrastructure planning, engineering, and eventual construction. Major financial commitments would be required in marketing and constructing the project in anticipation of future home sales. A sufficient number of units would need to be sold before the developer could realize an economic benefit.

Other development requirements would include need for analysis of: 1) environmental and social impacts of development; and 2) infrastructure requirements including roadway, water, and sewerage capacity.

The owner at this time is not interested in urban development of the project site. Although the portion of the site proposed for agricultural use is not specifically in the Urban land use district, energy expended for development would divert effort away from the proposed agricultural use.

### 5.3 DEVELOPMENT OF ALTERNATIVE SITE

The owner does not own an alternative location that has the same potential for agricultural development.

### 5.4 PREFERRED ALTERNATIVE

The preferred alternative is for development of the proposed project based on the above reasons:

- The no action alternative would deny the owner of the reasonable use of personal property according to HAR 13-5-14;
- The urban development scenario is inconsistent with the intended agricultural use of the land; and,
- There are no alternative locations with the same potential for agricultural development.

SECTION 6  
RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF  
THE ENVIRONMENT AND THE MAINTENANCE  
AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Development of the proposed project will commit the necessary construction effort and fiscal resources in order to complete the project. Use of these resources will provide benefits to the property owner who does not now have access to sufficient land for farming purposes. Existing vegetation, which primarily consists of koa haole will be removed and the land used for agricultural production. This long-term use of the land can provide for renewable growing and harvesting activities. This will enhance the present use of the land which is now vacant and fallow.

SECTION 7  
IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES BY THE  
PROPOSED ACTION

Development of the site for agricultural purposes will involve the irretrievable loss of limited material and financial resources. However, the costs associated with use of these resources should be evaluated in light of recurring benefits through agricultural use, which is a renewable resource.

Necessary construction materials and human resources will be committed in order to complete the proposed project. Materials and labor will be used to construct the storage shed, fence, and watering and feeding troughs. Labor will also be necessary to prepare the fenced enclosure and agricultural field. While reuse for much of these resources is not practicable, labor will be compensated during project development.

SECTION 8  
REQUIRED PERMITS AND APPROVAL

8.1 STATE

Department of Land and Natural Resources, Conservation District Use Permit.

8.2 CITY AND COUNTY OF HONOLULU

The proposed project site is in the Urban Land Use District and zoned P-1. According to the City and County of Honolulu, Land Use Ordinance, "Within the P-1 Restricted Preservation District, all uses, structures, and development standards shall be governed by the appropriate State agencies."

8.3 FEDERAL

No federal permits are required for the proposed action.

SECTION 9  
DETERMINATION

This Environmental Assessment, prepared in accordance with Chapter 343, Hawaii Revised Statutes, indicates that the potential for impacts associated with the proposed action will be minimal and does not warrant preparation of an Environmental Impact Statement.

In accordance with the provisions set forth in Chapter 343, Hawaii Revised Statutes, this assessment has determined that the project will have no significant adverse impact to water quality, air quality, existing utilities, noise, archaeological sites, or wildlife habitat. All anticipated impacts will be temporary and will not adversely impact the environmental quality of the area.

It is recommended that an Environmental Impact Statement (EIS) not be required, and that a negative declaration be issued for this project.

SECTION 10  
AGENCIES, ORGANIZATIONS AND INDIVIDUALS CONSULTED

10.1 STATE AGENCIES

Department of Land and Natural Resources  
    Land Division  
    Historic Preservation Division  
    Water Resource Management Division  
Department of Health  
    Clean Water Branch  
Department of Business, Economic Development & Tourism  
    Office of Planning, Office of Coastal Zone Management

10.2 CITY AND COUNTY OF HONOLULU

Department of Land Utilization  
Department of Public Works

10.3 ORGANIZATIONS AND OTHER PARTIES

Aiea Neighborhood Board No. 24  
Pearl Country Club Golf Course



SECTION 11  
COMMENTS AND RESPONSES TO THE DRAFT  
ENVIRONMENTAL ASSESSMENT PREPARATION

This section contains the Draft EA comments and the responses to comments.



**OFFICE OF STATE PLANNING AND ZONING**  
Office of the Governor

MAILING ADDRESS: P.O. BOX ONE HONOLULU HAWAII 96811-0001  
STREET ADDRESS: 200 SOUTH WAIKIKI STREET, 8TH FLOOR  
TELEPHONE: 808-587-3000 FAX: 808-587-3000

SPRINKLER CERTIFIED COMPANY  
FACILITY ADDRESS: 200 SOUTH WAIKIKI STREET, 8TH FLOOR  
TELEPHONE: 808-587-3000 FAX: 808-587-3000

JUN 4 8 56 AM '96

Ref. No. Z-0119

May 29, 1996

**MEMORANDUM**

**TO:** The Honorable Michael D. Wilson, Chairperson  
Department of Land and Natural Resources

**FROM:** Gregory G. Y. Pai, Ph.D. *Mary Ann Kalyanji for*  
Director

**SUBJECT:** Small Scale Agricultural Use at TMK 9-8-11:01, Kalaauo, Oahu,  
Conservation District Use Application OA-2815, and Draft Environmental  
Assessment

We have reviewed the above document and have the following comments.

The Environmental Assessment should include a discussion on the project's compliance with the Coastal Zone Management objectives and policies.

We note, in particular, that about half of the property has steep hillsides with 60 to over 100 degree slopes and the other half with 7 to 60 degree slopes. The document also indicates that runoff is medium to rapid, and erosion hazard is moderate to severe. Given the steepness of the property and the propensity for runoff, soil conservation measures should be incorporated into the project's design.

Thank you for the opportunity to comment.

**R. M. TOWILL CORPORATION**

480 WAIKIKI RD #411 HONOLULU HI 96817-4041 (808) 842-1123 FAX (808) 842-1037

August 9, 1996

Mr. Rick Egged, Director  
Office of Planning  
Department of Business, Economic Development & Tourism  
P.O. Box 3540  
Honolulu, Hawaii 96811-3540

Dear Mr. Egged:

**SUBJECT:** Draft Environmental Assessment for Small Scale Agricultural Use at  
Kalaauo, Oahu, TMK: 9-8-11:01

We have reviewed your comment letter of May 19, 1996. Per your request the Final Environmental Assessment will include a discussion of the project's compliance with the Coastal Zone Management objectives and policies, and will note that erosion control measures will be incorporated into the project's final design.

Thank you for this opportunity to respond. Should you have further questions you may contact us at (808) 842-1133.

Very truly Yours,

*Brian Takeda*

Brian Takeda  
Senior Planner

BT/bt  
cc Lani Properties, Inc.  
CK RMTC

Engineers Planners Photogrammetrists Surveyors Construction Managers

LAND MANAGEMENT DIV. 11: 808-587-0455 JUN 04 '96 14:26 H0.012 P.02

DEPARTMENT OF PUBLIC WORKS  
CITY AND COUNTY OF HONOLULU  
DIVISION OF LAND AND MANAGEMENT  
330 SOUTH KING STREET  
HONOLULU HAWAII 96813

RECEIVED  
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STREET ADDRESS  
DATE

96-14-0352

June 6, 1996

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

Dear Mr. Wilson:

Subject: Your Letter, OA-2815, Relating to a Conservation District Use Application  
For a Small Scale Agricultural Use at Tax Map Key: 9-8-11: 01

We have reviewed the subject application and the following comments:

**Engineering:**

1. A soils report is required. Should there be any questions, please contact Herbert Kido at 523-4042.
2. Address access to 98-980 Kaamilo Street and the types of vehicles to be used to access the lot. Should there be any questions, please contact Faith Kunimoto at 527-5084.
3. Discuss Best Management Practices for erosion control during and after construction. Expand discussions on impact on water quality to Kalauso Stream during and after construction.
4. Figure 6a "Conceptual Site Plan" preceding page 5 of the draft environmental assessment shows a 50-foot vertical drop in 80 feet of 1.6 to 1 slope. Address typical section for grading in adverse terrain; it will differ from minimal grading shown in Figure 5a "Typical Section of Access Road." Should there be any questions, please contact Gerald Takayasu at 527-6104.

Mr. Michael D. Wilson  
Page 2  
June 6, 1996

**Refuse Collections:**

We have no objection to the application. Should refuse collection be required for the agricultural operation, a private rubbish hauler should be used, as indicated in the draft environmental assessment. Should there be any questions, please contact David Shiraiishi at extension 527-5697.

Very truly yours,

*Kenneth E. Sprague*  
for KENNETH E. SPRAGUE  
Director and Chief Engineer

R. M. TOWILL CORPORATION

480 WAIKAMUI RD #411 HONOLULU HI 96817-4141 (808) 842-1133 FAX (808) 842-1837

August 9, 1996

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

Dear Mr. Sprague:

SUBJECT: Draft Environmental Assessment for Small Scale Agricultural Use at Kaluaao,  
Oahu, TMK: 9-8-11-01

We have reviewed your comment letter of June 6, 1996 and have prepared the following response.

1. A soils report is required, please contact Mr. Herbert Kido at 523-4042.

For discussion with Mr. Kido, a soils report characterizing the subject site will be prepared prior to the filing of any required construction permits for the proposed project. The soils report will characterize both the subject site and the access road.

2. Address access to 98-980 Kaamilo Street and the types of vehicles to be used.

Access to the project site will be via 98-980 Kaamilo Street. Per the Draft Environmental Assessment, access will be via utility vehicles. These vehicles will be limited in size to pickup trucks or sport utility type vehicles. Larger vehicles are not planned for use at this site.

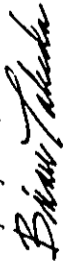
3. Best Management Practices (BMPs) for erosion control during and after construction.  
BMPs for erosion control before, during, and after construction will be provided in the Final Environmental Assessment, Appendix.

4. Address typical section for grading of the access road in adverse terrain.

A typical section for grading of the access road in adverse terrain will be provided in the Final Environmental Assessment. As noted above, appropriate measures including BMPs will be utilized before, during, and after construction.

Thank you for this opportunity to respond. Should you have further questions you may contact us at (808) 842-1133.

Very truly Yours,

  
Brian Takeda  
Senior Planner

BT/bt  
cc Lani Properties, Inc.  
CK RMTC

Engineers Planners Photogrammetrists Surveyors Construction Managers

COLONNADE ON THE GREENS CONDOMINIUM  
Association of Apartment Owners  
98-711 Iho Place  
Aiea, Hawaii 96701

June 19, 1996

Warren Ho, Applicant  
Lani Properties  
50 S. Beretania Street, #C-203  
Honolulu, HI 96813

Dear Mr. Ho,

During our regular condominium Board of Directors meeting on June 18, 1996, the board members reviewed the initial notice of your application for a conservation district use permit for small-scale farming and pasturage of approximately ten horses or cows on an area of 2-4 acres of parcel TMK: 9-4-11 01 in Kalaheo, Aiea.

Interest in your application is due to the subject parcel being directly adjacent of the condominium during trade wind conditions and to the lower portion of the parcel being in the direct view plane of a majority of the apartments in the condominium.

Concerns expressed during discussion of your application included odors from livestock, wind-blown insects from the livestock, pollution of Kalaheo Stream and erosion of the very steep slopes from either livestock grazing or farming. Because of the extremely limited information available to us, we did not know which part of the parcel you wished to use, how it was to be accessed, or whether a conservation use permit would restrict your use to a designated 2-4 acres or allow the uses anywhere in the parcel.

At the conclusion of the discussion the Board of Directors unanimously passed a motion directing me to send a letter opposing pasturage of horses or cows on the lower portion of the parcel that overlooks the Board of Water Supply Wells and the Pearl County Club and requesting that any conservation district use permit issued designate both the specific 2-4 acres to be used and the access to it.

Your consideration of our concerns is appreciated

Sincerely,

  
John Callahan  
Vice President

copies to:  
DLNR  
Tweill  
QECC

## R. M. TOWILL CORPORATION

480 WAIKAMUI RD #411 HONOLULU HI 96817-4941 (808) 848-1133 FAX (808) 848-1037

July 1, 1996

Mr. John Callahan, Vice President  
Colonnade On The Greens Condominium  
Association of Apartment Owners  
98-711 Iho Place  
Aiea, Hawaii 96701

Dear Mr. Callahan:

**SUBJECT:** Draft Environmental Assessment for Small Scale Agricultural Use at  
Kalaheo, Oahu, TMK: 9-8-11-01

We have reviewed your letter of June 19, 1996, and have prepared the following response:

1) *Odors and windblown insects affecting the Colonnade On The Greens*

The proposed location for the 4-acre agricultural site will be above the Colonnade On The Greens condominiums. The project site will use 2 out of a total 4-acres for a fenced enclosure and will be approximately 3,000 lineal feet from the condominium site. This distance and the proposed small scale of agricultural use are not expected to result in nuisances due to odors and windblown insects.

2) *Pollution of Kalaheo Stream*

The area surrounding the project site is heavily vegetated with introduced, exotic flora. Much of this thick vegetation already serves to detain stormwater runoff, providing filtration while allowing much of the rainfall to return percolate back into the ground. Kalaheo Stream itself is intermittent and remains dry throughout most of the year, flowing only during major rainfall events.

Because of the proposed small-scale use of the site as well as its location above Kalaheo Stream, it is expected that any animal wastes generated would be retained on-site and used for composting and fertilizer uses. Potential for adverse impacts are not anticipated.

3) *Erosion of the very steep slopes*

Sound land management practices will govern use of the site. These practices will include restricting the area required for site access to the minimum necessary and retaining, wherever possible, existing vegetation which promotes soil stability.

Engineers Planners Photogrammetrists Surveyors Construction Managers

Mr. John Callahan  
July 1, 1996  
Page 2

Thank you for this opportunity to respond. We hope we have addressed the concerns of your association. Should you have further questions you may contact us at (808) 842-1133.

Very truly Yours,



Brian Takeda  
Senior Planner

BT/bt  
cc Mr. Warren Ho

98-707 Iho Place #1002  
Aiea, HI 96701  
20 June 1996

Mr. Warren Ho  
Lani Properties  
50 S. Beretania St.  
Kukui Plaza Mall  
Suite C-203  
Honolulu, HI 96813

CERTIFIED MAIL P 214 495 692  
RETURN RECEIPT REQUESTED

Sir:

Reference is made to letter, State of Hawaii, Office of Environmental Quality Control, 8 June 1996, concerning Draft Environmental Assessment for Aiea Agricultural Land Use.

In accordance therewith, I hereby register my formal objection to your proposal.

1. The steep upgrade from Kalauao stream adjacent to the Pearl Country Club golf course makes your proposal impractical.
2. Your contention of permitting ten cows or horses on two to four acres is contrary to the fact that one such animal requires a minimum of one-half acre for grazing.
3. The resulting offensive odor from such land use would result in the further devaluation of property values to the existing homes.
4. I am not a plumber, but I do know that crap does not flow uphill; in this case it would wind up further polluting Pearl Harbor.
5. As a combat wounded veteran of World War II, I strongly resent further desecration of the Arizona Memorial. The valiant men resting there deserve better treatment.

You may rest assured I will coordinate my objections with other concerned citizens.

*W. T. Bain*  
W. T. BAIN  
Resident Owner

# R. M. TOWILL CORPORATION

480 WAIKAMAILU RD #411 HONOLULU HI 96817-1041 (808) 948-1133 FAX 808-942-1037

July 1, 1996

Mr. W. T. Bain  
98-707 Iho Place, No. 1002  
Aiea, Hawaii 96701

Dear Mr. Bain:

SUBJECT: Draft Environmental Assessment for Small Scale Agricultural Use at Kalauao, Oahu, TMK: 9-8-11-01

We have reviewed your letter of June 20, 1996, and have prepared the following response:

- 1) *The steep grade from Kalauao Stream adjacent to the Pearl Country Club Golf Course makes the proposal impractical*

According to the project Draft Environmental Assessment (EA), "About half of the property is very steep hillside with slopes of 60% to over 100%. The other half has slopes of 7% to 60%. Only a small portion of the property is usable..." As noted in the project EA only a small portion comprising 4-acres or about 3% of the property's 119-acres will be used. The use of this land will be for personal use and recreation following retirement. The feasibility of this proposal therefore, can only be measured by the personal satisfaction derived from the growing of fruits and vegetables, and pasturage of horses or cows.

- 2) *Permitting ten cows or horses on two to four acres is contrary to the fact that one such animal requires a minimum of one-half acre for grazing*

The proposed project calls for use of 2-acres for a fenced enclosure. This area is not intended to provide the sole means of support for the livestock. Feed, water, and other dietary needs will be brought to the site to ensure the health and welfare of the animals. Occasionally, the horses or cows will be allowed to feed and graze elsewhere on the property under supervision.

- 3) *Offensive odor from such land use would result in further devaluation of property values to the existing homes*

Use of the site for the support of horses or cows is not expected to result in offensive odor. The proposed activity will take place within Kalauao Valley which has good circulation patterns and exposure to tradewinds. The horses or cows will be within a 2-acre area out of the total 119+ acres of the subject parcel. Because of this small area in relation to the large undeveloped parcel, odors are not expected to concentrate sufficiently to become a nuisance.

Engineers Planners Photographers Surveyors Construction Managers

Mr. W. T. Bain  
July 1, 1996  
Page 2

4) *Animal wastes would further pollute Pearl Harbor*

It is not expected that animal wastes would pollute Pearl Harbor. The area surrounding the project site is heavily vegetated with introduced, exotic flora. Much of this thick vegetation already serves to detain stormwater runoff, providing filtration while allowing much of the rainfall to return percolate back into the ground. Kalauao Stream itself is intermittent and remains dry throughout most of the year, flowing only during major rainfall events.

Because of the proposed small-scale use of the site as well as its location above Kalauao Stream, it is expected that any animal wastes generated would be retained on-site and used for composting and fertilizer uses. This would further reduce the potential for impacts.

5) *The proposed project would further desecrate the Arizona Memorial*

Mr. Warren Ho is a retired 30-year U.S. Army Colonel who is also a combat veteran. He has served in Viet Nam and shares your regard for the valiant men resting at the Arizona Memorial. He is a lifelong resident of the Aiea/Pearl City area and remembers swimming and fishing at the Pearl Harbor end of Kalauao Stream as a child. He has a deep respect both for the Arizona Memorial and for the land where he grew up and now resides. It is his intention that the proposed project be used in consonance with and in respect of his neighbors.

Thank you for this opportunity to respond. We hope we have addressed your concerns and answered any questions you may have concerning this project. Should you have any further questions you may contact us at (808) 842-1133.

Very truly Yours,



Brian Takeda  
Senior Planner

BT/bt  
cc Mr. Warren Ho



**R. M. TOWILL CORPORATION**

450 WAIKIKIA RD #411 HONOLULU HI 96817-4941 (808) 542-1100 FAX (808) 542-1937

August 9, 1996

Ms. Elsie Johnston  
 Colonnade-On-The-Green  
 98-719 Iho Place, No. 703  
 Aiea, Hawaii 96701

Dear Ms. Johnston:

**SUBJECT:** Draft Environmental Assessment for Small Scale Agricultural Use at  
Kalaauo, Oahu, TMK: 9-8-11-01

We have received your letter dated July 4, 1996 and have prepared the following response. Your concern regarding the proposed small scale agricultural lot adjoining Colonnade-On-The-Green has been noted. We are hoping to work with all of the neighbors adjoining this site, including residents of Kaamilo Street, to address any potential questions or problems that may arise. We are exercising every effort to ensure a responsible project and would ask that you consider the following:

- The proposed agricultural project does not involve a zoning change. The subject of the proposal involves use of land within the State Conservation District, which provides for agriculture and pasturage uses which are permitted activities.
- Problems associated with flying insects will be addressed by use of proven pest control products including "Ivomec", which is in wide use in the livestock industry for the effective control of insects, flying and otherwise. Similarly, odors are not expected to constitute a problem given the relatively small number of animals (no more than 10) within the larger +119 acres of the site. It is expected that with this low density of use that odors from animal wastes will be negligible. Composting, reuse of animal wastes to supplement the growing of crops, and good air circulation patterns within the valley will help to further diffuse any potential concentration of odors.
- Please be advised that the use of the land will be subject to State and City and County of Honolulu regulations governing nuisance odors as well as noise.
- Kalaauo Stream which is located nearby will not be adversely affected. The area surrounding the site is heavily vegetated with introduced, exotic flora. Much of this thick vegetation already serves to detain stormwater runoff,

Engineers Planners Photogrammetrists Surveyors Construction Managers

DK	KTS	
WES	NM	
ATT	RF	
REC'D JUL 11 1996	REC'D	

98-719 IHO PL. #703  
 AIEA HI. 96701  
 JULY 4th

DEAR MR. HO,  
 AS A RESIDENT OF COLONNADE ON THE GREEN, I AM VERY CONCERNED THAT YOU ARE REQUESTING A ZONING CHANGE TO CULTIVATE PLANTS AND HAVE UP TO 10 HORSES AND COWS ON PROPERTY IN THE VALLEY.

YOU MAY NOT BE AWARE THAT OUR LOVELY TRADES BLOW DIRECTLY DOWN THE VALLEY AND INTO OUR WINDOWS. THE SHELL WOULD BE CARRIED RIGHT IN. ALSO WE ARE ALL AWARE OF THE FLIES AND ETC. THAT COME WITH ANIMALS.

WITH THE CREEE FLASH FLOODING THE CREEK COURSE, AS IT DOES ON A REGULAR BASIS, A LOT OF UNPLEASANT THINGS WOULD BE WASHED DOWN AND ON INTO PEARL HARBOR AND THE ARIZONA MEMORIAL.

ALSO I DID NOT SEE ON THE NOTICE ANYWHERE, HOW YOU PLAN TO ACCESS THIS PROPERTY.

I FEEL WHEN YOU REALLY THINK ABOUT THIS, YOU WOULD REALIZE THAT THIS IS AN APPROPRIATE USE OF THIS LAND.

YOURS SINCERELY

ELSIE JOHNSTON

Ms. Elsie Johnston  
August 9, 1996  
Page 2

providing filtration while allowing much of the rainfall to return percolate back into the ground.

Because of the proposed small-scale use of the site as well as its location well above the stream, it is expected that any animal wastes generated would be retained on-site and used for composting and fertilizer uses. This would further reduce the potential for impacts associated with runoff.

- Access to the site will be through 98-980 Kaamilo Street, a residential property. A rough graded access road will lead to the agricultural site.

We thank you for this opportunity to respond. Should you have any further questions please do not hesitate to contact us at (808) 842-1133.

Very truly Yours,



Brian Takeda  
Senior Planner

BT/bm Lani Properties, Inc.  
cc CK RMTC

# R. M. TOWILL CORPORATION

410 WAIKIKIAE RD #411 HONOLULU HI 96817-4041 (808) 943-1133 FAX (808) 943-1037

## COLONNADE ON THE GREENS CONDOMINIUM

Association of Apartment Owners  
98-711 Iho Place  
Aiea, Hawaii 96701

Warren Ho, applicant  
Lana Properties  
50 S Boretana Street, #C-203  
Honolulu, HI 96813

July 4, 1996

Dear Mr. Ho,

I received a letter from your consultant, Brian Takoda of R. M. Towill Corporation, dated July 1, 1996, which answered some, but not all, of the questions that were raised in our June 19, 1996 letter to you. I also picked up a copy of the Draft Environmental Assessment from Leslie Segundo yesterday, which leaves very little time to reply by July 8, 1996.

We do now know the approximate area being described but still do not know whether a Conservation District Use Permit (CDUP) applies only to the approximately 4 acres or to all 119 acres in this parcel. The second paragraph of page 5 of the Draft Environmental Assessment states "The horses and/or cows would be periodically allowed to range on other portions of TMK 9-8-11 01, for grazing and exercise." This leads us to believe that the CDUP applies to the entire parcel which we at the Colonnade find unacceptable. We also believe that all of the adjoining property owners of the parcel would find this unacceptable if they knew about your proposal.

Your consultant, Mr. Takoda, states in his letter that the project site "will be approximately 1,000 linear feet from the condominium site". However, from the maps provided in the Draft Environmental Assessment, it appears to be only about 1,800 feet directly upwind on a normal trade wind day. We feel that this is much too close to alleviate odors and windblown insects.

The Draft Environmental Assessment also shows the access to the proposed agricultural site, which will be in the view plane of over 200 apartments at our condominium, as well as that of many Ridgeview Townhouses and single family homes on the Diamond Head side of Pearlridge. None of us are eager to have the present view of Preservation/Conservation land crossed by a steep, erosion-prone (as described in the Draft Environmental Assessment pages 4, 6, and 7 and figures 5 and 5a) four-wheel drive trail that promises to become a stream during frequent heavy rains and a source of blowing dust when used during other times.

The preceding paragraph illustrates what we consider to be a very serious omission in the Draft Environmental Assessment: the views and quality of life of the residents on the Diamond Head side of the proposed project are frequently considered but those of the residents of the Ewa and Makai areas are never mentioned, even though they are the most affected.

The more we learn about this project the more potential disturbance in the lives of hundreds of residents we see. The potential benefits to you do not seem commensurate with the degraded views, odors, insects and pollution that appear inevitable. We will request that a complete Environmental Impact Statement be required to include notification of all affected residents, and that public hearings then be held before issuance of a Conservation District Use Permit be considered for TMK 9-8-11 01.

Sincerely,

*John Callahan* John Callahan, Vice President

copies to DLNR, Towill, QECC, Rep Okamura, CM Hinnemann

August 9, 1996

Mr. John Callahan, Vice President  
Colonnade-On-The-Green  
Association of Apartment Owners  
98-711 Iho Place  
Aiea, Hawaii 96701

Dear Mr. Callahan:

**SUBJECT:** Draft Environmental Assessment for Small Scale Agricultural Use at Kaluaao, Oahu, TMK: 9-8-11:01

We have received your letter of July 4, 1996, and have prepared the following response.

Your concern regarding the proposed small scale agricultural lot adjoining Colonnade-On-The-Green has been noted. We are hoping to work with all of the neighbors adjoining this site, including residents along Kaamilo Street, to address any potential problems or questions that may arise. We are exercising every effort to ensure a responsible project and would ask that you please consider the following:

- The small scale use of the site is consistent with maintaining the pastoral setting of Kaluaao Valley. The land owner intends to maintain this quality of life in and surrounding the valley for his friends, neighbors, and community, and for his home which is located nearby.
- The proposed project cannot be considered a full scale farm, it is an enclosure involving 4 acres with limited provision for up to only 10 horses or cows and for the growing of fruits, vegetables, and flowers. The proposal is intended to remain at a small scale relative to the +119 acres comprising the total landholding. There is no plan to expand the 4 acres into a "feed lot" type of operation.
- Noises typically associated with a farm type of operation are expected to be absent from this site. These noises would include:
  - Use of harvesting and planting machines operating during the early morning and daylight hours. Most of the activities at the site would be limited to use of hand tools. Where machines are used, they will be limited in size and appropriate to the small scale of agricultural use. State and City and County of Honolulu regulations governing noise would apply to all activities at this site.

- Noise from farm animals. Noises from livestock constituting a nuisance are typically associated with branding, castrating, and other farm related

Engineers Planners Photoanmmetristis Surveyors Construction Managers

Mr. John Callahan  
August 9, 1996  
Page 2

activities. These activities are not proposed at this location. Also, there will be no more than ten horses or cows which would minimize the source of noise.

Traffic from trucks and other transportation making pick-ups and deliveries. Large trucks for farming purposes will not be used at the site. Because use of the site is proposed as a source of recreation and enjoyment, it is far more likely that there may be days when there will be no activity.

Problems associated with flying insects will be addressed by use of proven pest control products including "Ivomec", which is in wide use in the industry for the effective control of insects, flying and otherwise. Similarly, odors are not expected to constitute a problem given the relatively small number of animals within the larger +119 acres. It is expected that with this low density of use, that odors from animal wastes will be negligible. Composting and reuse of animal wastes will further help to supplement the growing of crops and help to diffuse any sources of concentrated odors.

Please be advised that all land uses will be subject to State and City and County of Honolulu regulations governing nuisance odors as well as noise.

The proposed road will be private and is only intended to provide access to the site. As noted in the project Environmental Assessment, the road will be rudimentary and accessible by utility vehicles. Although this will be a basic road, it will be built to standards necessary to ensure safety for its users. This includes sufficient protection from erosion due to storm runoff, as well as other factors, such as subsidence.

The vegetation surrounding the site is lush and contains numerous introduced species such as koa haole, mango trees, guava trees, lilikoi vines and California grass. Much of this vegetation continues to grow well over several feet in height. It is expected that while the road may be visible to residents from buildings such as Colonnade-On-The-Green, that the overall impact would not be greater than the existing utility road which follows along the side of the valley. To date, we are not aware of any complaints regarding the visual disamenity of this road which is used by Hawaiian Electric Company during maintenance and repair of its power lines crossing the valley.

Kalauao Stream which is located nearby will not be adversely affected. The area surrounding the site is heavily vegetated with introduced, exotic flora. Much of this thick vegetation already serves to detain stormwater runoff.

Mr. John Callahan  
August 9, 1996  
Page 3

providing filtration while allowing much of the rainfall to return percolate back into the ground.

Because of the proposed small-scale use of the site as well as its location well above the stream, it is expected that any animal wastes generated would be retained on-site and used for composting and fertilizer uses. This would further reduce the potential for impacts associated with runoff.

We thank you again for this opportunity to respond. Should you or anyone from your association have any further questions you may contact us at (808) 842-1133.

Very truly Yours,



Brian Takeda  
Senior Planner

BT/bt  
cc Lani Properties, Inc  
CK RMTIC

CM/ML

July 5, 1996  
98-719 Iho Pl.  
#604  
Aiea, HI 96701

Dear Sir,

I am writing this in response to the proposal to put a farm near the Pearl Country Club Golf Course.

My wife and I are currently owner-occupants of an apartment in the Colonnade on the Greens. We live in building number five which is the building that is closest to the proposed farm.

We would like to make it very clear, we are strongly opposed to the proposed farm.

The farm would not only lower our present quality of life but would also adversely affect the value of our property.

My job requires me to work at various times through out the day and night. The noise created by the farm equipment and animals would prevent me from getting adequate sleep during the days that I am required to work nights. The noise pollution throughout the day would also be an unpleasant distraction of our every day lives.

The odors that would be created by the farm animals would blow directly into our apartment with the prevailing trade winds. I have lived on a farm in the past and do not wish to be subjected to these unpleasant odors again.

We feel that it is unreasonable to allow a farm to be located in the middle of our quiet neighborhood.

Sincerely,

*Cheryl Miller*  
Philip and Cheryl Miller

cc: Warren Ho  
Lauren Tanaka  
Brian Takeda  
Gary Gill

R. M. TOWILL CORPORATION

450 WAIKANAHI RD #411 HONOLULU HI 96817-4041 (808) 848-1155 FAX (808) 848-1037

August 9, 1996

Mrs. Cheryl Miller and Mr. Phillip Miller  
Colonnade-On-The-Green  
98-719 Iho Place, No. 604  
Aiea, Hawaii 96701

Dear Mr. and Mrs. Miller:

SUBJECT: Draft Environmental Assessment for Small Scale Agricultural Use at  
Kalapaoo, Oahu, TMK: 9-8-11-01

We have received your letter dated July 5, 1996 and have prepared the following response.

Your concern regarding the proposed small scale agricultural lot adjoining Colonnade-On-The-Green has been noted. We are hoping to work with all of the neighbors adjoining this site, including residents along Kaamilo Street, to address any potential questions or problems that may arise. We are exercising every effort to ensure a responsible project and would ask that you consider the following:

- The small scale use of the site is consistent with maintaining the pastoral setting of Kalapaoo Valley. The land owner intends to maintain this quality of life in and surrounding the valley for his friends, neighbors, community, and for his home which is located nearby.
- The proposed project cannot be considered a full scale farm, it is an enclosure involving 4 acres with limited provision for up to only 10 horses or cows and for the growing of fruits, vegetables, and flowers. The proposal is intended to remain at a small scale relative to the +119 acres comprising the total landholding. There is no plan to expand the 4 acres into a "feed lot" type of operation.
- Noises typically associated with a farm type of operation are expected to be absent from this site. These noises would include:
  - Use of harvesting and planting machines operating during the early morning and daylight hours. Most of the activities at the site would be limited to use of hand tools. Where machines are used, they will be limited in size and appropriate to the small scale of agricultural use. State and City and County of Honolulu regulations governing noise would apply to all activities at this site.
- Noise from farm animals. Noises from livestock constituting a nuisance are typically associated with branding, castrating, and other farm related activities. These activities are not proposed at this location. Also, there

Engineers Planners Photogrammetrists Surveyors Construction Managers

Mr. and Mrs. Miller  
August 9, 1996  
Page 2

will be no more than ten horses or cows which would minimize the source of noise.

Traffic from trucks and other transportation making pick-ups and deliveries. Large trucks for farming purposes will not be used at the site. Because use of the site is proposed as a source of recreation and enjoyment, it is far more likely that there may be days when there will be no activity.

Problems associated with flying insects will be addressed by use of proven pest control products including "Ivomec", which is in wide use in the industry for the effective control of insects, flying and otherwise. Similarly, odors are not expected to constitute a problem given the relatively small number of animals within the larger +119 acres of the site. It is expected that with this low density of use, that odors from animal wastes will be negligible. Composting and reuse of animal wastes will further help to supplement the growing of crops and help to diffuse any sources of concentrated odors.

Please be advised that all land uses will be subject to State and City and County of Honolulu regulations governing nuisance odors as well as noise.

We thank you for this opportunity to respond. Should you have any further questions please do not hesitate to contact us at (808) 842-1133.

Very Truly Yours,



Brian Takeda  
Senior Planner

BT/bt  
cc Lani Properties, Inc.  
CK RMTC

**R. M. TOWILL CORPORATION**

420 WAIKAMUI RD #411 HONOLULU HI 96817-4041 (808) 842-1133 FAX (808) 842-1037

August 9, 1996

Mr. and Mrs. H. J. Oberhaus  
 Colonnade-On-The-Green  
 98-719 Iho Place, No. 5-204  
 Aiea, Hawaii 96701

Dear Mr. and Mrs. Oberhaus:

SUBJECT: Draft Environmental Assessment for Small Scale Agricultural Use at  
 Kalanooa, Oahu, TMK: 9-8-11-91

We have received your letter dated July 5, 1996 and have prepared the following response.

Your concern regarding the proposed agricultural lot has been noted. We are hoping to work with all of the neighbors adjoining this site, including residents along Kaamilo Street, to address any potential problems or questions that may arise. We are exercising every effort to ensure a responsible project and would ask you to consider the following:

- The small scale use of the site is consistent with maintaining the serene pastoral setting of Kalanooa Valley. The owner intends to maintain this quality of life in and surrounding the valley for his friends, neighbors, community, and for his home which is located nearby.
- Appropriate mitigation measures will be exercised to avoid the potential for adverse impacts. This includes limiting the number of horses or cows to not more than 10 animals. There is no plan to expand the 4 acres into a "feed lot".
- All activities will be in accordance with noise and nuisance regulations of the State and City and County of Honolulu. Nuisance odors and noises usually associated with a farm operation are expected to be largely absent. This is because of the proposed small scale of use relative to the +119 acres of the total landholding.

We thank you for this opportunity to respond. Should you have any further questions please do not hesitate to contact us at (808) 842-1133.

Very truly yours,

*Brian Takeda*  
 Brian Takeda  
 Senior Planner

BT/bt  
 cc Lani Properties, Inc.  
 CK RMTTC

Engineers Planners Photogrammetrists Surveyors Construction Managers

DK	VTIS
WER	CS
INT	FF
REC'D JUL 11 A 1996 RMTTC	
PJK	

MR. & MRS. H. J. OBERHAUS  
 98-719 Iho Pl. #5-204  
 Aiea, HI 96701

5 July 1996

Warren Ho  
 50 South Beretania St.  
 Kukui Plaza Mail C-203  
 Honolulu, HI. 96813

Dear Mr. Ho:

My wife and I are residents at the Colonnade-on-the-Green, 98-719 Ido Place. 5-204 Aiea, HI. 96701.

We have been informed that an Aiea Agricultural Land Use Notice has been requested in the rear of our Condominium building. We strongly object to this proposed land use and wish to be on the record as opposed to it.

Sincerely yours,

*H. J. Oberhaus*  
 H. J. Oberhaus

Copy: State of Hawaii, Dept of Land and Natural Resources  
 R.M. Towill Corporation  
 State of Hawaii, Office of Environmental Quality Control

10/10/96

BENJAMIN J. CAVETANO  
DIRECTOR



RECEIVED  
DIVISION OF  
LAND MANAGEMENT

JUL 10 1 20 PM '96

OFFICE OF ENVIRONMENTAL QUALITY CONTROL

220 SOUTH KING STREET  
FOURTH FLOOR  
HONOLULU, HAWAII 96813  
TELEPHONE: 595-4110  
FACSIMILE: 595-4116

GARY GILL  
Director

Mr. Warren Ho, Lani Properties  
July 8, 1996  
Page 2 of 2

Please submit a copy of this letter and your response to the Land Division of the Department of Land and Natural Resources, State of Hawai'i for their inclusion in the final environmental assessment for this project. If there are any questions, please call Mr. Leslie Segundo, Environmental Health Specialist at 586-4185. Thank you.

Sincerely,

GARY GILL  
Director

July 8, 1996

Mr. Warren Ho  
Lani Properties  
50 South Beretania Street, No. C-203  
Honolulu, Hawai'i 96813

Dear Mr. Ho:

We submit for your response (required by Section 343-5(c), Hawaii Revised Statutes) the following comments on an April 1996 draft environmental assessment prepared by R. M. Towill Corporation and entitled "Small Scale Agricultural Use at TMK: 9-8-11:01, Kalaauo, Oahu". The document was submitted by a May 15, 1996 memorandum (File No. OA-2815, DEA) to our office by Mr. Dean Uchida, Administrator, Land Division, Department of Land and Natural Resources, State of Hawai'i. Notice of availability of this draft environmental assessment was published in the June 8, 1996, and the June 23, 1996, editions of the *Environmental Notice*.

1. In Section 3, please discuss the biota of the Kalaauo stream. Please consult with the Division of Water Resources Management of the Department of Land and Natural Resources, State of Hawai'i.
2. In Section 4, please discuss the direct, indirect and cumulative impacts of pasture/animal husbandry and agricultural activities on the water quality and the biological resources of Kalaauo Stream.
3. Mention is made on page 11 that no potable water is provided and none is proposed. The DEA discloses that irrigation water will be by natural rainfall and supplemented by flexible hose from 98-980 Kaamilo Street. Please discuss if there are future plans to use water from Kalaauo Stream for agricultural activities. Please consult with the Honolulu Board of Water Supply concerning the use of water from a residential lot to supplant agricultural activities not on the lot.

c: Hon. Michael Wilson, Chairperson, Board of Land and Natural Resources  
Ms. Lauren Tanaka, DLNR Land Division  
Mr. Brian Takeda, R.M. Towill Corporation



## R. M. TOWILL CORPORATION

480 Waiakemilo Rd #411 Honolulu, HI 96817-4941 (808) 842-1133 Fax (808) 842-1037

August 8, 1996

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

Dear Mr. Gill:

SUBJECT: Draft Environmental Assessment for Small Scale Agricultural Use at  
Kalauao, Oahu, TMK: 9-8-11-01

We have received your letter dated July 8, 1996 and have prepared the following response.

1) *Discuss the biota of Kalauao Stream.*

We have coordinated this requirement with Mr. David Higa, Division of Water Resource Management, Department of Land and Natural Resources. According to Mr. Higa the primary concern regarding need for an assessment of biota would involve whether there would be potential for impacts to the stream. As noted in our Draft Environmental Assessment and our responses below, Kalauao Stream will not be disturbed by the proposed activity.

2) *Discuss the direct, indirect, and cumulative impacts of pasturage/animal husbandry on the water quality of Kalauao Stream.*

We anticipate no impacts to the water quality of Kalauao Stream. The only period when water quality would be of concern, therefore, would involve major rainfall periods when stream flows would be present.

The area surrounding the site is heavily vegetated with introduced, exotic flora. Much of this thick vegetation already serves to detain stormwater runoff, providing filtration while allowing much of the rainfall to return percolate back into the ground. Because of the proposed small-scale use of the agricultural site as well as its location well above the stream, it is expected that any animal wastes generated would be retained on-site and used for composting and fertilizer uses. This would further reduce the potential for impacts associated with runoff.

3) *Discuss if there are any future plans to use water from Kalauao Stream for agricultural uses, and consult with Board of Water Supply concerning the use of water from a residential lot to supplement agricultural activities not on the lot.*

Mr. Gary Gill  
August 8, 1996  
Page 2

Kalauao Stream will not be used as a source of irrigation water for agricultural purposes.

According to consultation with the Board of Water Supply, there are no restrictions on the use of water from a residential lot to supplement agricultural activities not on the lot. The Board, however, has advised us that the cost of residential water would be higher than the rate applied for agricultural metered water.

We thank you for this opportunity to respond. Should you have any further questions please do not hesitate to contact us at (808) 842-1133.

Very Truly Yours,



Brian Takeda  
Senior Planner

BT/bt

cc Lani Properties, Inc.  
CK RMITC



# R. M. TOWILL CORPORATION

480 WAIKAMUI RD #411 HONOLULU, HI 09817-4941 (808) 842-1133 FAX (808) 842-1037

August 9, 1996

Mr. Masayoshi Yashima  
General Manager  
Pearl Country Club  
98-535 Kaonohi Street  
Aiea, Hawaii 96701

Dear Mr. Yashima:

SUBJECT: Draft Environmental Assessment for Small Scale Agricultural Use at  
Kalauao, Oahu, TMK: 9-8-11:01

We have received your letter dated July 8, 1996 and have prepared the following response.

Your concern regarding the proposed small scale agricultural lot adjoining the Pearl County Club golf course has been noted. We are hoping to work with all of the neighbors adjoining this site, including yourself, to address any potential problems or questions that may arise. We are exercising every effort to ensure a responsible project and would ask that you consider the following:

- The small scale use of the site is consistent with maintaining the pastoral setting of Kalauao Valley. The land owner intends to maintain this quality of life in and surrounding the valley for his friends, neighbors, and community, and for his home which is located nearby.
- The proposed project cannot be considered a full scale farm, it is an enclosure involving 4 acres with limited provision for up to only 10 horses or cows and for the growing of fruits, vegetables, and flowers. The proposal is intended to remain at a small scale relative to the +119 acres comprising the total landholding. There is no plan to expand the 4 acres into a "feed lot" type of operation.
- Problems associated with flying insects will be addressed by use of proven pest control products including "Ivomec", which is in wide use in the industry for the effective control of insects, flying and otherwise. Similarly, odors are not expected to constitute a problem given the relatively small number of animals within the larger +119 acres of the site. It is expected that with this low density of use, that odors from animal wastes will be negligible. Composting and reuse of animal wastes will further help to supplement the growing of crops and help to diffuse any sources of concentrated odors.

Please be advised that the use of the land will be subject to State and City and County of Honolulu regulations governing nuisance odors as well as noise.

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Construction Managers • Environmental Services


Mr. Masayoshi Yashima  
August 9, 1996  
Page 2

- Kalauao Stream which is located nearby will not be adversely affected. The area surrounding the site is heavily vegetated with introduced, exotic flora. Much of this thick vegetation already serves to detain stormwater runoff, providing filtration while allowing much of the rainfall to return percolate back into the ground.

Because of the proposed small-scale use of the site as well as its location well above the stream, it is expected that any animal wastes generated would be retained on-site and used for composting and fertilizer uses. This would further reduce the potential for impacts associated with runoff.

We thank you for this opportunity to respond. Should you have any further questions please do not hesitate to contact us at (808) 842-1133.

Very truly Yours,

  
Brian Takeda  
Senior Planner

BT/bt  
cc Lani Properties, Inc.  
CK RMTC

REFERENCES  
(Listed in Chronological Order)

In Gardens of Hawaii, Bernice P. Bishop Museum, Special Publication 50, Bishop Museum Press, 1965.

Handbook of Hawaiian Weeds, Experiment Station/Hawaiian Sugar Planters' Association, Honolulu, Hawaii, 1966.

Soil Survey of the Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii, U.S. Department of Agriculture, Soil Conservation Service, August 1972.

Atlas of Hawaii, Second Edition, University of Hawaii Press, 1984.

State of Hawaii Data Book 1984, A Statistical Abstract, Department of Planning and Economic Development, State of Hawaii, 1984.

Hawaii Stream Assessment, A Preliminary Appraisal of Hawaii's Stream Resources, Report R84, Prepared for Commission on Water Resource Management, State of Hawaii, By Hawaii Cooperative Park Service Unit, National Park Service, December 1990, Honolulu, Hawaii.

State of Hawaii Data Book 1993-94, A Statistical Abstract, Department of Business, Economic Development, and Tourism, State of Hawaii, June 1994.

Land Use Ordinance No. 86-96, Department of Land Utilization, City and County of Honolulu, April 1995.

Letter Coordination with Cultural Surveys Hawaii, December 4, 1995.

Letter Coordination with Mr. Thomas Dye, Oahu Archaeologist, State Historic Preservation Division, Department of Land and Natural Resources, December 21, 1995.

Letter Coordination from Dr. Don Hibbard, Administrator, State Historic Preservation Division, Department of Land and Natural Resources, January 1, 1996.

Archaeological Reconnaissance of A 4-Acre Parcel in the Ahupua'a of Kalauao, O'ahu,  
TMK: 9-8-11:01 (Por.), Hallett H. Hammatt, Ph.D., Cultural Surveys Hawaii,  
March 1996.

## APPENDICES

Archaeological Reconnaissance of A 4-Acre Parcel in the  
Ahupua'a of Kalauao, O'ahu, TMK: 9-8-11:01 (Por.)

Hawaii Coastal Zone Management Program Assessment for  
Small-Scale Agricultural Use at TMK: 9-8-11:01,  
Kalauao, Oahu, August 8, 1996

Proposed Best Management Practices (BMPs) for  
Small-Scale Agricultural Use at TMK: 9-8-11:01,  
Kalauao, Oahu, August 8, 1996

ARCHAEOLOGICAL RECONNAISSANCE OF  
A 4-ACRE PARCEL IN THE AHUPUA'A  
OF KALAUAO, O'AHU  
TMK 9-8-11:1 (Por.)

*DRAFT*

by

Hallett H. Hammatt, Ph.D.

Prepared for

R.M. Towill

Cultural Surveys Hawaii  
March 1996

DOCUMENT CAPTURED AS RECEIVED

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DOCUMENT CAPTURED AS RECEIVED

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## I. INTRODUCTION

### Scope of Work

This archaeological reconnaissance on the property of Mr. Warren Ho was conducted at the request of Mr. Brian Takeda of R.M. Towill, Inc. Cultural Surveys Hawaii was provided with a copy of a Jan. 1, 1996 letter to R.M. Towill from Dr. Don Hibbard requesting either an archaeological survey or adequate demonstration that the project area (portion of TMK 9-8-11:1) has been extensively disturbed in the past. The purpose of this study is to determine the effect of a proposed small scale agricultural use on the agricultural resources in the project area.

### Project Area Description

The project area includes approximately 4 acres of land at the base of Kalauao Gulch (Figures 1-4). The property inspected extends from the northwestern edge of Aiea Homestead subdivision to a natural terrace above Kalauao Stream. The owner, Mr. Ho, is planning to build a access path from the backyard of 98980 Kaamilo Street down the slope to the bottom land below. The address mentioned is on Kaamilo Street at the intersection with Lauhulu Street. The sloping land to the northwest of the subdivision, overlooking the stream, is quite steep and supports thick stands of *koa haole* and California grass. This slope descends to a high natural terrace also covered with California grass and *koa haole*. Along the banks of the stream itself are mature banyan, java plum and mango trees. Some coffee plants are also growing in the flats along the edge of the stream.

### Evidence of Previous Use for Commercial Agriculture

The natural terrace consists of a thick loamy floodplain soil which is entirely free of rocks. The steep stream side of this natural terrace, in contrast, is littered with both large and small boulders, the larger of which have cable marks resulting from their being winched from the field above. These piles of unsorted boulders, many of which are moved by mechanical means, are typically found at the edges of cane and pineapple fields. This presents clear evidence that the level portion of the project area was used for commercial agriculture. It is of interest to note that a Wall survey map, circa 1924 (R.M. 2715) shows pineapple fields in what corresponds to the present project area (Figure 5) This map shows a portion of the Honolulu Sugar Plantation.

### Archaeological and Historical Background

The name Ka-lau-ao means "the multitude of clouds" (Pukui *et al.* 1976).

Sterling and Summers make reference to one archaeological site in the *ahupua'a* of Kalauao. This site is connected with Kalamanu'ia, a chiefess and *Moi* of O'ahu, 10 generations before Ka'ahumanu (*i.e.* 16th century; Kame'elehiwa 1992:80). She lived most of the time in Kalauao, following in her mother's footsteps. No foreign or domestic wars appear to have occurred during her reign (Sterling and Summers 1976:12). The foundation of her houses (Site 110) stood in Kalauao until recent times (McAllister 1933). Kalamanu'ia was credited with having built the fishponds of Kapaakea (Site 111), Opu (Site 109), and Paaiiu (Site 108) along Pearl Harbor.

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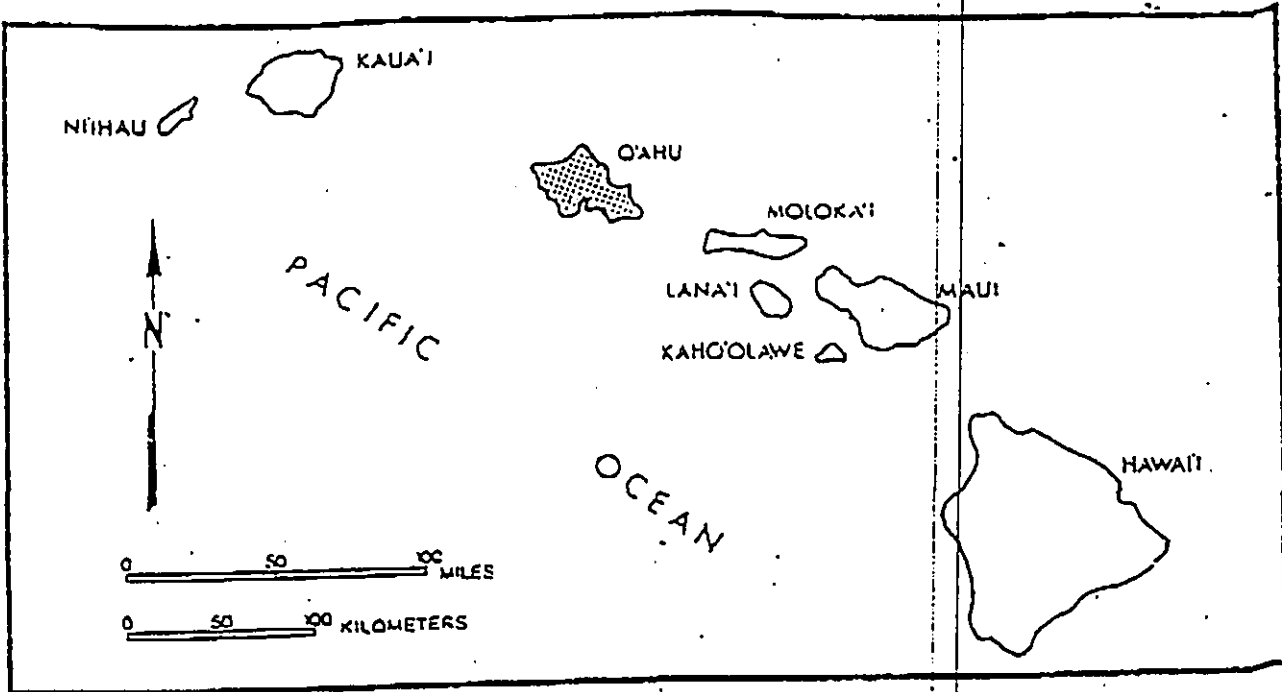


Fig. 1 State of Hawai'i

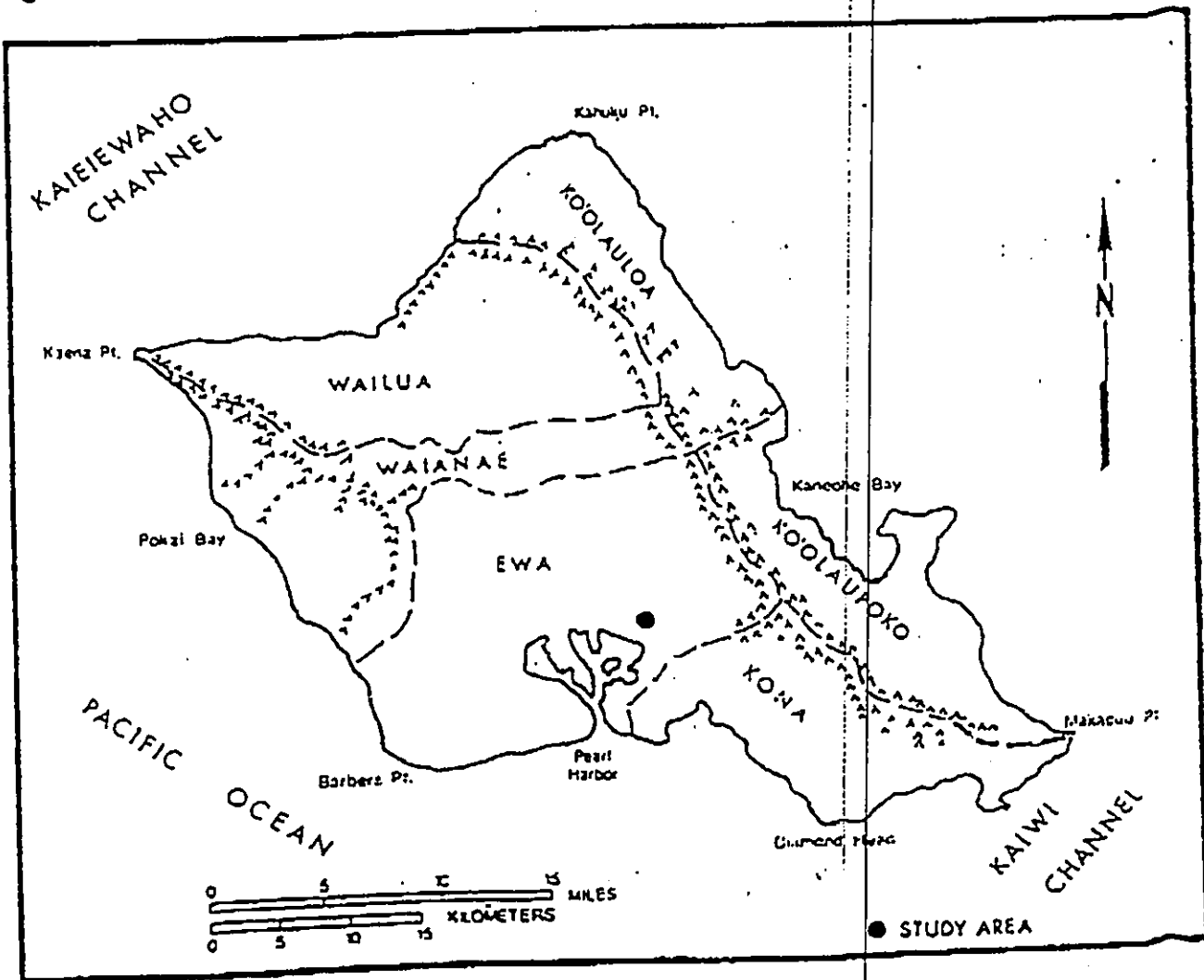


Fig. 2 O'ahu Island Location Map

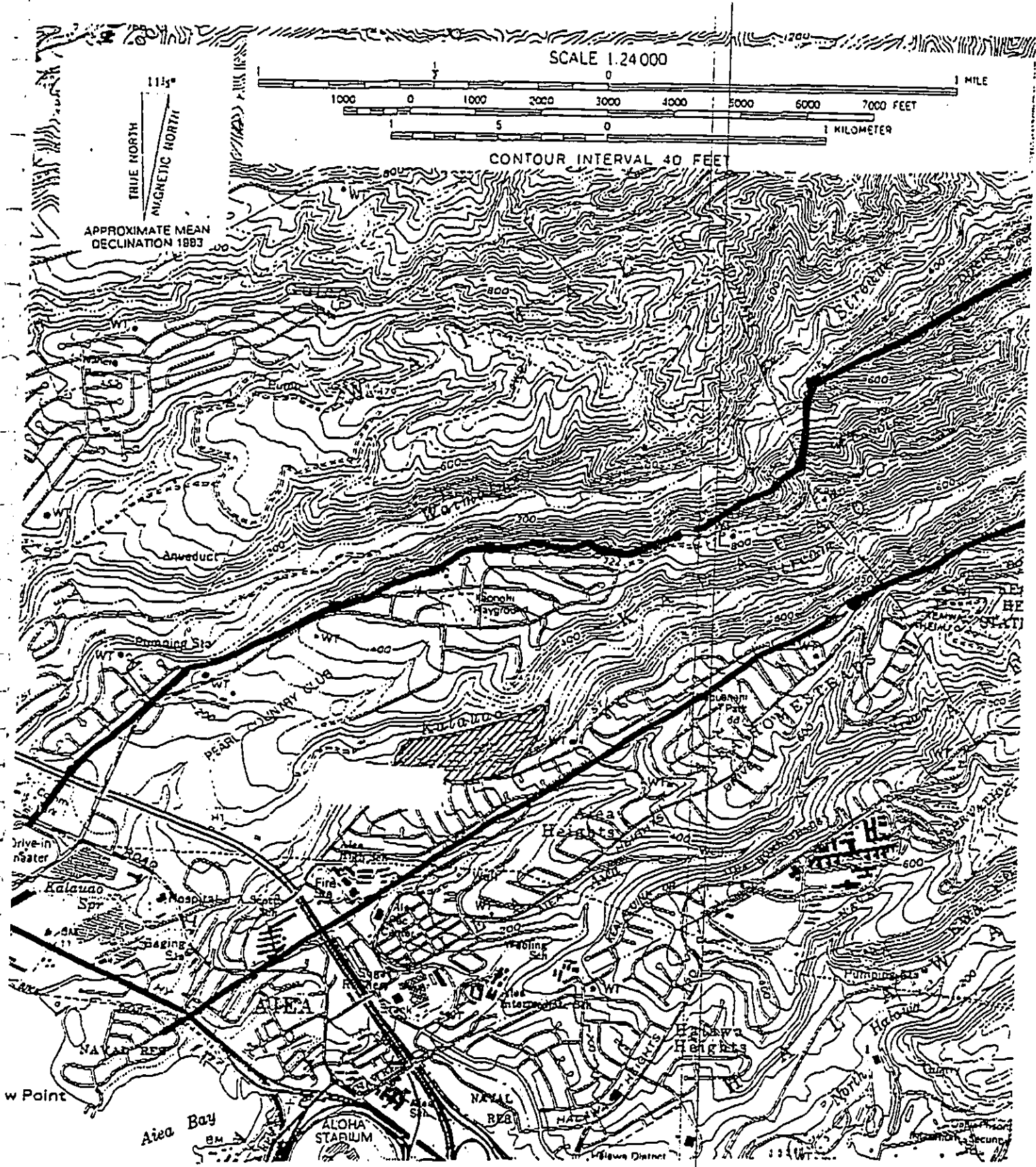


Figure 3 Portion of USGS 7.5 Series Topographic Map Waipahu Quad

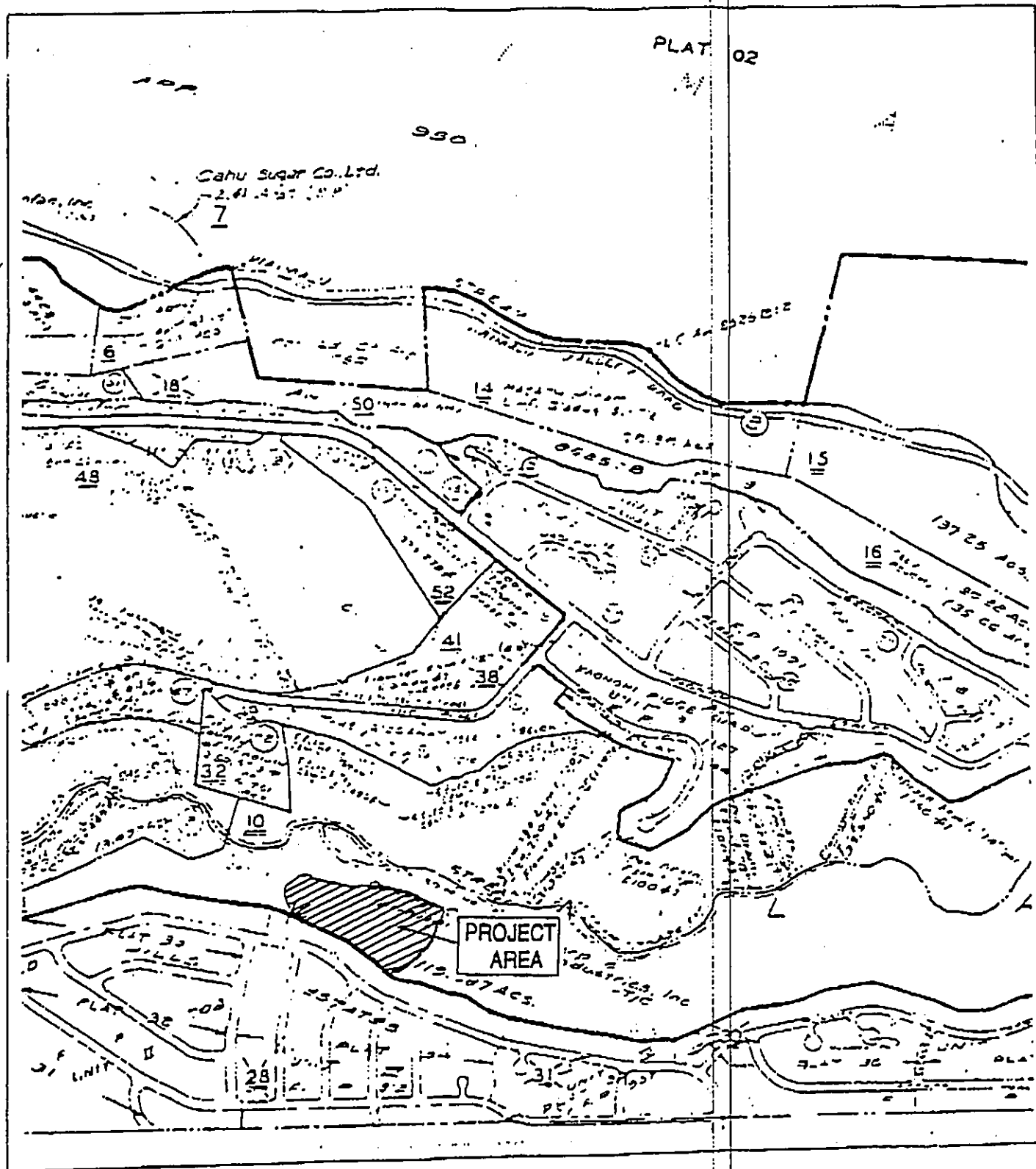


Figure 4 TMK 9-8-11:1 (portion) Showing Project Area

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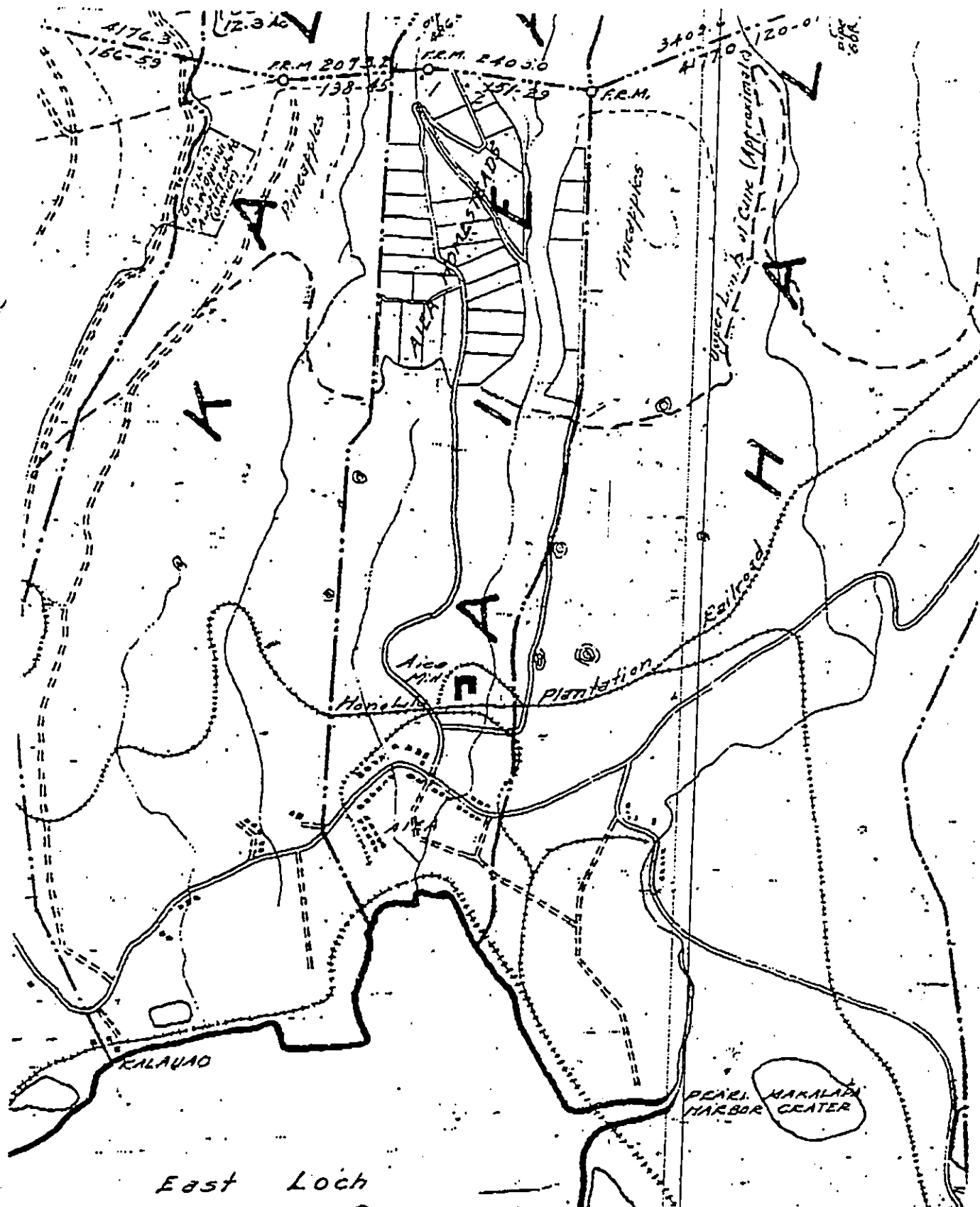


Figure 5 Portion of Wall Survey Map (R.M. 2715) Showing Pineapple Field in Project Area

Handy describes the settlement of the *ahupua'a* as follows: "The lowlands were all formerly terraces irrigated from Kalauao stream, but Kalauao Gulch was too narrow to have terraces inland. By the 1930s most of the lowlands were in cane or bananas" (Handy 1940:81).

The Jan. 1, 1996 letter from the State Historic Preservation Division mentions a site found about 1 mile upstream in Kalauao Valley, this site 50-80-09-527 is described as a stacked boulder wall and terrace, identified as an agricultural *kuleana*. The letter also mentions 4 other similar sites further up the valley. It is of interest here that during the field work the two archaeologists wandered out of the project area down to the banks of Kalauao Stream parallel to the southeastern bank of the stream, and within 10 feet of the stream is a well-built stone wall 20 m. long and 1.5 m. wide with a maximum height of 60 cm. A similar wall was noted on the other side of the stream. This wall appears to be a historic-era wall to retain the stream flow and may be associated with commercial agricultural but could possibly be a *kuleana* wall. This wall appears to function solely as flood control and not as part of a traditional irrigation system. Some large boulders were stacked along the edge of the stream adjacent to the wall. These boulders must have been moved by mechanical means, suggesting commercial agricultural activities. No terracing or *'auwai* were noted in the vicinity of this wall.

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## II. RECONNAISSANCE RESULTS

Two archaeologists, Mr. William Folk as well as the author, did a thorough walk-through of the 4-acre project area on Feb. 28, 1996, accompanied by Mr. Warren Ho. The sloping land descending from 98980 Kaamilo Street and the entire natural terrace area proposed for agricultural use was covered in the reconnaissance (Figure 6). Archaeologists traversed parallel to the stream in 3 separate sweeps 20 m. apart. The level natural terrace area contains no archaeological sites and no evidence of subsurface cultural material. As previously mentioned there is convincing evidence that this area was formerly used for commercial agriculture, quite possibly pineapple. The sloping land was carefully inspected for overhangs, caves and petroglyphs. None were encountered.

### Cattle Wall

Perpendicular to the slope at approximately the 250' contour is a discontinuous stacked boulder wall which was traced for approximately 60 meters. Maximal height of this wall is one meter. The wall serves as a retaining wall along the edge of the cliff and no where was it observed free standing. The wall is discontinuous and is only built up where the cliff is not steep and stops where the cliff is steep (Figures 7 & 8). In some areas boulders are simply stacked on bedrock to make the slope steeper to discourage the cows. The longest traceable portion of the wall is approximately 10 meters. This wall clearly functioned as a cattle wall to prevent cows from traversing the less steep parts of the cliff. The natural terraces along the stream could have been used for pasture following pineapple cultivation with this wall built to keep the cows confined to the gulch. It is also possible that the wall served to keep the cows out of the gulch during the era of commercial cultivation in the gulch.



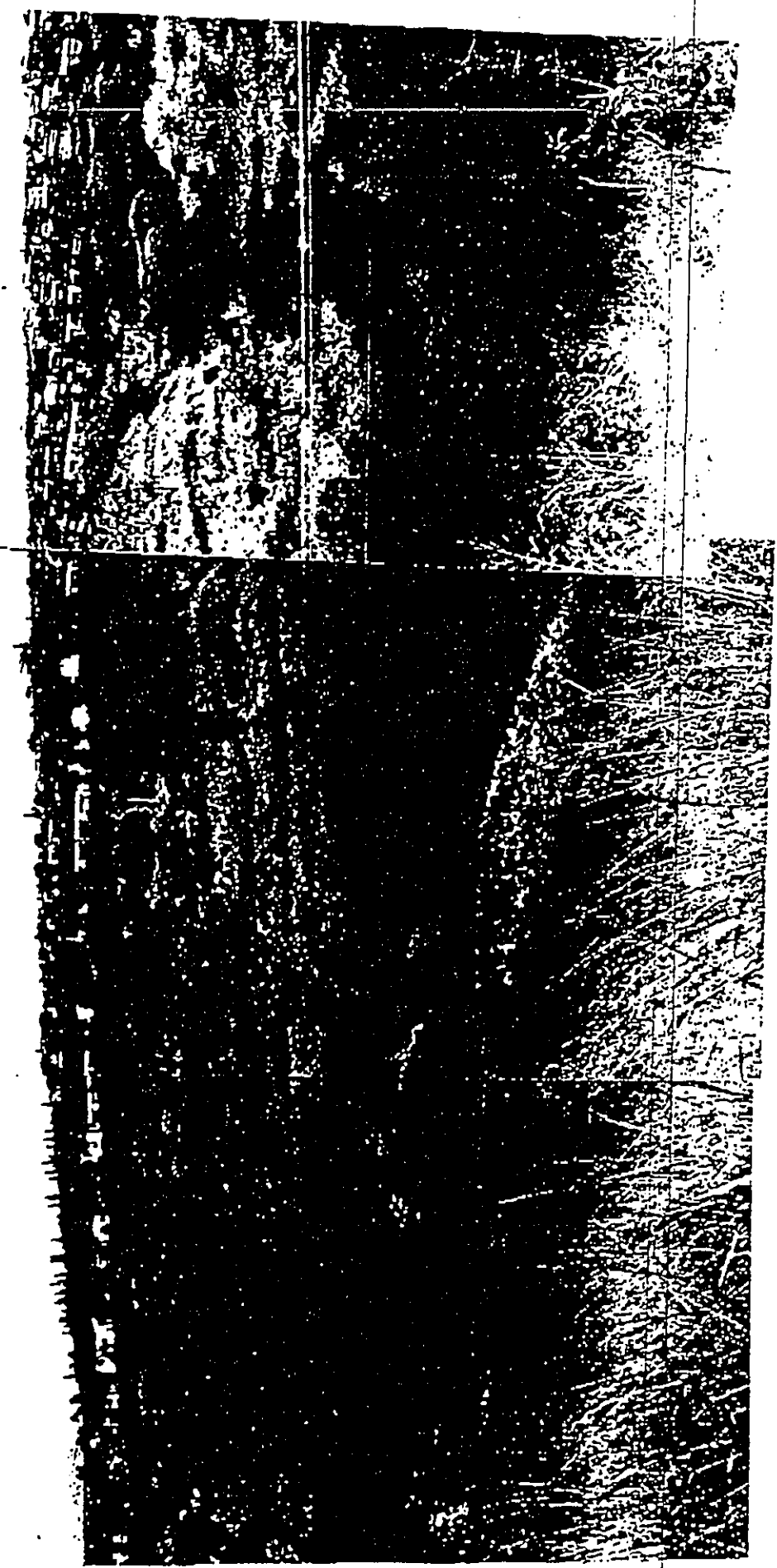


Figure 6 Panorama of Project Area from 98980 Kaamilo Street, View Toward Wai'anae Mountains



Figure 7 Stacked Boulder Retaining Wall, Approximately 1 M. High, Photo to SE



Figure 8 Stacked Boulders on Slope, Continuation of Cattle Wall, View to NE

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### III. SUMMARY AND RECOMMENDATIONS

The portion of the project area proposed for agricultural use contains no archaeological sites and no impact to archaeological resources would occur. The owner intends to build an access path from 98980 Kaamilo Street to the level land below. This activity will also have no impact to archaeological resources as long as the discontinuous sections of wall are avoided. It should be a fairly easy matter to avoid this feature in planning the route of the path. If this is done the proposed activity would have no impact to archaeological resources.

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Hawaii Coastal Zone Management Program Assessment  
in accordance with  
Chapter 205A  
Hawaii Revised Statutes

August 8, 1996

HAWAII COASTAL ZONE MANAGEMENT  
PROGRAM ASSESSMENT

1. RECREATIONAL RESOURCES

Objective: Provide coastal recreational opportunities accessible to the public.

- Policies:
- 1) Improve coordination and funding of coastal recreation planning and management.
  - 2) Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:
    - a) Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;
    - b) Requiring replacement of coastal resources having significant recreational value, including but not limited to surfing sites and sandy beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the State for recreation when replacement is not feasible or desirable;
    - c) Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;
    - d) Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;
    - e) Encouraging expanded public recreational use of County, State, and Federally owned or controlled shoreline lands and waters having recreational value;
    - f) Adopting water quality standards and regulating point and non-point sources of pollution to protect and where feasible, restore the recreational value of coastal water;
    - g) Developing new shoreline recreational opportunities, where appropriate, such as artificial reefs for surfing and fishing; and
    - h) Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and natural resources, County planning commissions; and crediting such dedication against the requirements of section 46-6.

Check either "Yes" or "No" for each of the following questions.

	<u>Yes</u>	<u>No</u>
1. Will the proposed action involve or be near a dedicated public right-of-way?		X
2. Does the project site abut the shoreline?		X
3. Is the project site near a State or County Park?	X	
4. Is the project site near a perennial stream?		X
5. Will the proposed action occur in or affect a surf site?		X
6. Will the proposed action occur in or affect a popular fishing area?		X
7. Will the proposed action occur in or affect a recreational or boating area?		X
8. Is the project site near a sandy beach?		X
9. Are there swimming or other recreational uses in the area?		X

#### DISCUSSION

The project site, TMK: 9-8-11: 01, is privately owned. It is currently vacant and undeveloped, and situated between Aiea Heights and Pearl Ridge, above the Pearl Country Club Golf Course. It extends about 1.5 miles from the H-1 Freeway up along the Kalauao Stream to the Ewa Forest Reserve line. Its upper end is adjacent to the Keaiwa Heiau State Recreational area.

The proposed farming and pasturage activity will be limited within approximately 2 to 4 acres, and primarily for personal use and recreation. Therefore, no public recreational activities will be affected by the proposed project.

For additional information, please refer to Section 1 of the Environmental Assessment.

## 2. HISTORIC RESOURCES

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

- Policies:
- 1) Identify and analyze significant archaeological resources;
  - 2) Maximize information retention through preservation of remains and artifacts or salvage operations; and
  - 3) Support State goals for protection, restoration, interpretation, and display of historic resources.

Check either "Yes" or "No" for each of the following questions.

	<u>Yes</u>	<u>No</u>
1. Is the project site within a historic/cultural district?		X
2. Is the project site listed on or nominated to the Hawaii or National register of historic places?		X
3. Does the project site include undeveloped land which has not been surveyed by an archaeologist?		X
4. Has a site survey revealed any information on historic or archaeological resources?		X
5. Is the project site within or near a Hawaiian fishpond or historic settlement area?		X

### DISCUSSION

An archaeological reconnaissance of the project site was conducted in March 1996 by Cultural Surveys Hawaii. Cultural Surveys Hawaii concluded that the portion of the project area proposed for agricultural use contained no archaeological sites and that therefore, no impact to archaeological sites would occur.

For additional information, please refer to Section 3.1.5 and Appendix of the Environmental Assessment.



### 3. SCENIC AND OPEN RESOURCES

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

- Policies:
- 1) Identify valued scenic resources in the coastal zone management area;
  - 2) Insure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline;
  - 3) Preserve, maintain and, where desirable, improve and restore shoreline open space and scenic resources; and
  - 4) Encourage those developments which are not coastal dependent to locate in inland areas.

Check either "Yes" or "No" for each of the following questions.

	<u>Yes</u>	<u>No</u>
1. Does the project site abut a scenic landmark?		X
2. Does the proposed action involve the construction of a multi-story structure or structures?		X
3. Is the project site adjacent to undeveloped parcels?	X	
4. Does the proposed action involve the construction of structures visible between the nearest coastal roadway and the shoreline?		X
5. Will the proposed action involve construction in or on waters seaward of the shoreline? On or near a beach?		X

### DISCUSSION

The project site is surrounded by urban uses and is one of the only remaining large undeveloped parcels in the area. The proposed farming and pasturage uses will require clearing of a small area of approximately 2 to 4 acres out of a total +119 acres. The tilling, planting, and pasturage of horses or cows are not expected to disturb the scenery or visual resources of the area. The proposed small scale of activity is consistent with the pastoral setting and the low density of use is expected to help preserve the visual resources of the area.

The Pearl County Club Golf Course to the west and northwest contains regularly maintained greens and fairways in an open space setting. The Kaamilo residential community to the east is on a ridge above the subject site. Residents along the ridge line will continue to have views of a relatively undeveloped parcel, and the Pearl County Club Golf Course, beyond.

**4. COASTAL ECOSYSTEMS**

Objective: Protect valuable coastal ecosystems from disruption & minimize adverse impacts on all coastal ecosystems.

- Policies:
- 1) Improve the technical basis for natural resource management;
  - 2) Preserve valuable coastal ecosystems of signif. biological or econ. importance;
  - 3) Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land water uses, recognizing competing water needs; and
  - 4) Promote water quantity and quality planning and management practices which reflect the tolerance of fresh water and marine ecosystems and prohibit land and water uses which violate State water quality standards.

Check either "Yes" or "No" for each of the following questions.

	<u>Yes</u>	<u>No</u>
1. Does the proposed action involve dredge or fill activities?		X
2. Is the project site within the Shoreline Setback Area (20 to 40 feet inland of the shoreline)?		X
3. Will the proposed action require some form of effluent discharge into a body of water?		X
4. Will the proposed action require earthwork beyond clearing and grubbing?	X	
5. Will the proposed action include the construction of special waste treatment facilities, such as injection wells, discharge pipes, or cesspools?		X
6. Is an intermittent/perennial stream located on or near the project site?	X	
7. Does the project site provide habitat for endangered species of plants, birds, or mammals?		X

Check either "Yes" or "No" for each of the following questions.

	<u>Yes</u>	<u>No</u>
8. Is any such habitat located nearby?		X
9. Is there a wetland on the project site?		X
10. Is the project site situated in or abutting a Natural Area Reserve?		X
11. Is the project site situated in or abutting Marine Life Conservation District?		X
12. Is the project site situated in or abutting an estuary?		X

### DISCUSSION

Grading activity is limited to preparation of a stable foundation for the proposed agricultural access road. The only site work necessary to prepare the agriculture field for planting will be clearing, tilling and plowing work to remove boulders and break up sod.

Kalauao Stream which is located nearby will not be adversely affected. The area surrounding the site is heavily vegetated with introduced, exotic flora. Much of this thick vegetation already serves to detain stormwater runoff, providing filtration while allowing much of the rainfall to return percolate back into the ground.

Because of the proposed small-scale use of the site as well as its location well above the stream, it is expected that any animal wastes generated would be retained on-site and used for composting and fertilizer uses. This would further reduce the potential for impacts associated with runoff. The project itself will not require development of water, nor will the livestock be permitted near the stream, even during periods when storm flows are present. This will be to ensure continued protection of the stream, as well as the livestock due to the steep slopes along the stream.

**5. ECONOMIC USES**

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

- Policies:**
- 1) Concentrate in appropriate areas the location of coastal dependent development necessary to the State's economy;
  - 2) Insure that coastal dependent development such as harbors and ports, visitor industry facilities, and energy generating facilities are located, designed, and constructed to minimize adverse social, visual, and environmental impacts in the coastal zone management area; and
  - 3) Direct the location and expansion of coastal dependent developments to areas presently designated and used for such development and permit reasonable long-term growth at such areas, and permit coastal dependent development outside of presently designated areas when:
    - a) Utilization of presently designated locations is not feasible;
    - b) Adverse environmental effects are minimized; and
    - c) Important to the State's economy.

Check either "Yes" or "No" for each of the following questions.

	<u>Yes</u>	<u>No</u>
1. Does the project involve a harbor or port?		X
2. Is the project site within a designated tourist destination area?		X
3. Does the project site include agricultural lands or lands designated for such use?		X
4. Does the proposed activity relate to commercial fishing or seafood production?		X
5. Does the proposed activity relate to energy production?		X
6. Does the proposed activity relate to seabed mining?		X

**DISCUSSION**

The proposed small-scale agricultural use of the land will involve farming of fruits and vegetables, cultivation of floral and ornamental plants, and pasturage of up to approximately 10 horses and/or cows.

The intended purpose for farming and pasturage is for personal use and recreation. Although the commercial sale of crops is not under current consideration, the owner has indicated that depending on productivity and demand for locally grown produce, that some crops could eventually be sold to the local market. The diversity of crop types combined with the relatively small scale of use, however, is expected to preclude any large commercial usage.

### 6. COASTAL HAZARDS

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

- Policies:
- 1) Develop and communicate adequate information on storm wave, tsunami, flood erosion, and subsidence hazard;
  - 2) Control development in areas subject to storm wave, tsunami, flood, erosion, and subsidence hazard;
  - 3) Ensure that developments comply with requirements of the Federal Flood Insurance Program; and
  - 4) Prevent coastal flooding from inland projects.

Check either "Yes" or "No" for each of the following questions.

	<u>Yes</u>	<u>No</u>
1. Is the project site on or abutting a sandy beach?		X
2. Is the project site within a potential tsunami inundation area as depicted on the National Flood Insurance Program flood hazard map?		X
3. Is the project site within a potential flood inundation area according to a flood hazard map?		X
4. Is the project site within a potential subsidence hazard area according to a subsidence hazard map?		X
5. Has the project site or nearby shoreline areas experienced shoreline erosion?		X

### DISCUSSION

The project site is located in Aiea, approximately half a mile inland from the eastern shore of Pearl Harbor. Elevation ranges from about 70 feet at the lower end near the H-1 Freeway to about 800 feet at the upper end. The project site, therefore, is not expected to be subject to coastal hazards.

## 7. MANAGING DEVELOPMENT

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

- Policies:
- 1) Effectively utilize and implement existing law to the maximum extent possible in managing present and future coastal zone development;
  - 2) Facilitate timely processing of applications for development permits and resolve overlapping or conflicting permit requirements; and
  - 3) Communicate the potential short- and long-term impacts of proposed significant coastal developments early in their life cycle and in terms understandable to the general public to facilitate public participation in the planning and review process.

Check either "Yes" or "No" for each of the following questions.

	<u>Yes</u>	<u>No</u>
1. Will the proposed activity require more than two permits or approvals?		X
2. Does the proposed activity conform with the State and County land use designations for the site?	X	
3. Has or will the public be notified of the proposed activity?	X	
4. Has a draft or final environmental impact statement or an environmental assessment been prepared?	X	

## DISCUSSION

The proposed 4 acre site is designated within the State Conservation District. The proposed area for farming uses is contained in the General Subzone.

According to Hawaii Administrative Rules (HAR), Title 13, Chapter 5, "Conservation District":

"§13-5-14 General (G) subzone. (a) The objective of this subzone is to designate open space where specific conservation uses may not be defined, but where urban use would be premature.

(b) The (G) subzone shall encompass:

- (1) Lands with topography, soils, climate, or other related environmental factors that may not be normally adaptable or presently needed for urban, rural, or agricultural use; and
- (2) Lands suitable for farming, flower gardening, operation of nurseries or orchards, grazing; including facilities accessory to these uses when the facilities are compatible with the natural physical environment.

(c) Land uses permitted in the general (G) subzone are restricted to those listed in section 13-5-25."

Chapter 13-5, also indicates that the proposed agricultural use of the land would be governed under §13-5-25, and §13-5-23(c)(4), which states, "Identified land uses beginning with letter (D) require a board permit, and where indicated, a management plan." According to §13-5-23, the designation of the proposed use would include:

"L-1 AGRICULTURE

(D-1) Agriculture within an area of more than one acre, defined as the planting, cultivating, and harvesting of horticultural crops, floricultural crops, or forest products, or animal husbandry. A management plan is also required."

Only a relatively small portion (approximately ±4 acres) of the total property (119+ acres) will be used for this purpose. The remainder of the 119 acres are intended to remain undeveloped.

Public notification of this proposal will be through public hearings required as part of the Conservation District Use Permit approval process. Additional public notification will be provided by publication of the proposed action in the Office of Environmental Quality Control (OEQC) Bulletin. For additional information please refer to Section 4 and 8 of the Environmental Assessment.

Proposed Best Management Practices (BMPs) for  
Small-Scale Agricultural Use at TMK: 9-8-11:01,  
Kalauao, Aiea, Oahu

August 8, 1996



Best Management Practices (BMPs)  
Small-Scale Agricultural Use at TMK: 9-8-11:01,  
Kalauao, Aiea, Oahu

August 8, 1996

1. QUALIFICATION

The following BMPs are intended to supplement the Land Use Management Plan submitted to the Department of Land and Natural Resources, May 1996, as part of the application for a Conservation District Use Permit (CDUP). The practices represented are designed to provide guidance before, during, and after construction to establish the proposed small scale agricultural lot.

2. INDIVIDUAL RESPONSIBLE FOR PROJECT

The name of the person responsible for this project is as follows:

Mr. Warren Ho, President  
Lani Properties, Inc.  
50 South Beretania Street  
Kukui Plaza Mall, C-203  
Honolulu, Hawaii 96813  
Ph: (808) 521-0081 Fax: (808) 533-3887

3. SCHEDULE

This project is anticipated to begin shortly upon receipt of the Conservation District Use Permit.

4. METHODS, MEASURES AND PRACTICES

The following methods, measures and practices will be observed during development of the proposed project:

#### 4.A BEFORE CONSTRUCTION

1. The site shall be inspected before start of any earthwork. Debris and litter which could contribute to erosion around the work area shall be cleared and disposed of in accordance with applicable regulations of the State and City and County of Honolulu. All other work areas will similarly be inspected. Use of unstable or highly erodible areas for staging of construction equipment and materials will be avoided.
2. All internal combustion equipment, accessory fuel storage, and other sources of petroleum, oils, and lubricants will be properly stored in leak proof storage tanks or containers. Tanks or containers found to be leaking will be replaced or repaired.
3. Maintenance and fueling of equipment may only be performed in designated areas enclosed by a containment berm constructed to contain spills and prevent storm water runoff from carrying pollutants to State waters. The location of the designated maintenance and fueling area will be determined in the field.
4. No washing of trucks or dumping of excess building materials will be allowed on-site, e.g., lumber used to construct the storage shed.

#### 4.B DURING CONSTRUCTION

1. Areas that remain unfinished in excess of 30 days will be revegetated to facilitate soil stabilization.
2. Storm flows onto the construction site will be managed by use of berms, swales, or other such structural controls as are appropriate to detain flows. As much as practicable, berms, swales, or other structural controls, will be located along the high side of the agricultural site in order to divert flows from the work area.
3. A stabilized site entrance shall be provided to help reduce vehicle tracking of

sediments. The paved street adjacent to the site will be cleaned as required to remove any excess mud, dirt or rock tracked from the site.

4. All BMPs will be inspected and repaired as necessary. During dry periods inspections will be conducted one per week. During a rainfall event exceeding 0.5 inches or greater, over a 24-hour period, inspection shall be daily.
5. In the event of potential unexpected or heavy storm conditions causing excessive runoff of sediment Vegetative controls or hydromulching will be used to stabilize new and existing ground areas subject to erosion.

#### 4.C AFTER CONSTRUCTION ACTIVITIES

Following construction the agricultural site will require little maintenance beyond managing cultivation and pasturage activities. The surrounding area is expected to remain rich in vegetation which will help to protect soil stability. It is expected that from time to time the area may need to be trimmed to prevent invasive weed species from overrunning the agricultural area. Green wastes collected from this activity will be composted or disposed of in accordance with applicable regulations of the State and City and County of Honolulu.