

JOHN WAIHEE  
GOVERNOR OF HAWAII



'94 MAY -5 AM 1988

OFFICE OF  
QUALITY

STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
P. O. BOX 621  
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Ref. LM-GYT

May 5, 1994

Keith W. Ahue  
Chairperson

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WATER AND LAND DEVELOPMENT

Mr. Brian Choy, Director  
Office of Environmental Quality Control  
220 South King Street, 4th Floor  
Honolulu, HI 96813

Dear Mr. Choy:

**Subject: Negative Declaration for Proposed Direct Lease of State Lands at  
Pi'ihonua, South Hilo, Hawai'i - Tax Map Key:3rd/2-3-32:04  
Applicant: Hawai'i County Economic Opportunity Council**

In accordance with the requirements of Chapter 343, Hawai'i Revised Statutes, and Chapter 200 of Title 11, Administrative Rules, a Final Environmental Assessment has been prepared for the subject project.

Notice of availability of the Draft Environmental Assessment for the project was published in the January 8, 1994 OEQC Bulletin. A comment was received from Mr. Charles Young of Ka Lahui. His comment and the applicant's response is included in the Final Environmental Assessment.

As the proposing agency, we are forwarding herewith, one copy of the OEQC Bulletin Publication Form and four copies of the Final Environmental Assessment. We have determined that there will be no significant impacts as a result of the project and, therefore, are filing the Final Environmental Assessment as a negative declaration. We respectfully request that public notice of the Final Environmental Assessment be published in the next scheduled OEQC Bulletin.

Very truly yours,

Handwritten signature of Keith W. Ahue in cursive.  
KEITH W. AHUE

c: Hawai'i Land Board Member  
Land Management Administrator  
Hawai'i District Land Office  
HCEOC

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1994-05-23 - HI - FEA - Hawaii County Economic  
Opportunity Council Site Development

~~DRAFT~~ <sup>FINAL</sup> ENVIRONMENTAL ASSESSMENT  
FOR HAWAII COUNTY ECONOMIC OPPORTUNITY COUNCIL SITE DEVELOPMENT  
SOUTH HILO, HAWAII

Prepared By:

RON TERRY, PhD.  
HCR 9575, KEAAU, HAWAII 96749

and

MARTIN STUART, LTD., & NEIL ERICKSON, ARCHITECT  
120 KEAWE STREET, SUITE 12  
HILO, HAWAII 96720

February 20, 1994

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~~DRAFT~~ <sup>FINAL</sup> ENVIRONMENTAL ASSESSMENT

FOR

HAWAII COUNTY ECONOMIC OPPORTUNITY COUNCIL SITE DEVELOPMENT  
TMK 3-2-3:4  
SOUTH HILO, HAWAII

APPLICANT:

Hawaii County Economic Opportunity Council  
34 Rainbow Drive  
Hilo, Hawaii 96720

CONSULTANT:

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and

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Hilo, Hawaii 96720

APPROVING AGENCY:

Department of Land and Natural Resources  
State of Hawaii  
Land Management Division  
75 Aupuni Street  
Hilo, Hawaii 96720

CLASS OF ACTION:

Use of State lands and Use of State Funds.

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NEGATIVE DECLARATION (FINAL ENVIRONMENTAL ASSESSMENT)  
FOR HAWAII COUNTY ECONOMIC OPPORTUNITY COUNCIL SITE DEVELOPMENT  
SOUTH HILO, HAWAII

Prepared By:

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February 20, 1994

NEGATIVE DECLARATION (FINAL ENVIRONMENTAL ASSESSMENT)

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TMK 3-2-3:4  
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CHAPTER 1: PROJECT DESCRIPTION

1.1. Technical

1.1.1 Project Location

The proposed project is located on TMK 3rd/2-3-32:4, a long and narrow "island parcel" of approximately 5.28 acres between Waianuenue Avenue and Rainbow Drive, in the District of South Hilo, Hawaii Island (Figs. 1-2).

1.1.2 Purpose and Objectives

The proposed project involves the lease of State Land for the relocation of Hawaii County Economic Opportunity Council's (HCEOC) facilities, which are currently located approximately 200 feet to the north, across Rainbow Drive, on another parcel. The existing HCEOC facilities are housed in dilapidated structures which the organization has badly outgrown.

The Hawaii County Economic Opportunity Council is a private, non-profit Community Action Agency. Its purpose and function are to prevent, alleviate and eliminate poverty in Hawaii. The organization has a thirty-three member board reflecting a broad range of community interests, including public agencies, private groups and the disadvantaged communities themselves. The focus of this board is to create equal opportunity for the disadvantaged by implementing programs for education, job training, housing, transportation, child care, nutrition and economic development. HCEOC operates four district offices that offer programs designed to meet the needs of the district. Other programs are offered island-wide through the Central Office, which is located in Hilo. The Central Office also serves as the administrative center for HCEOC.

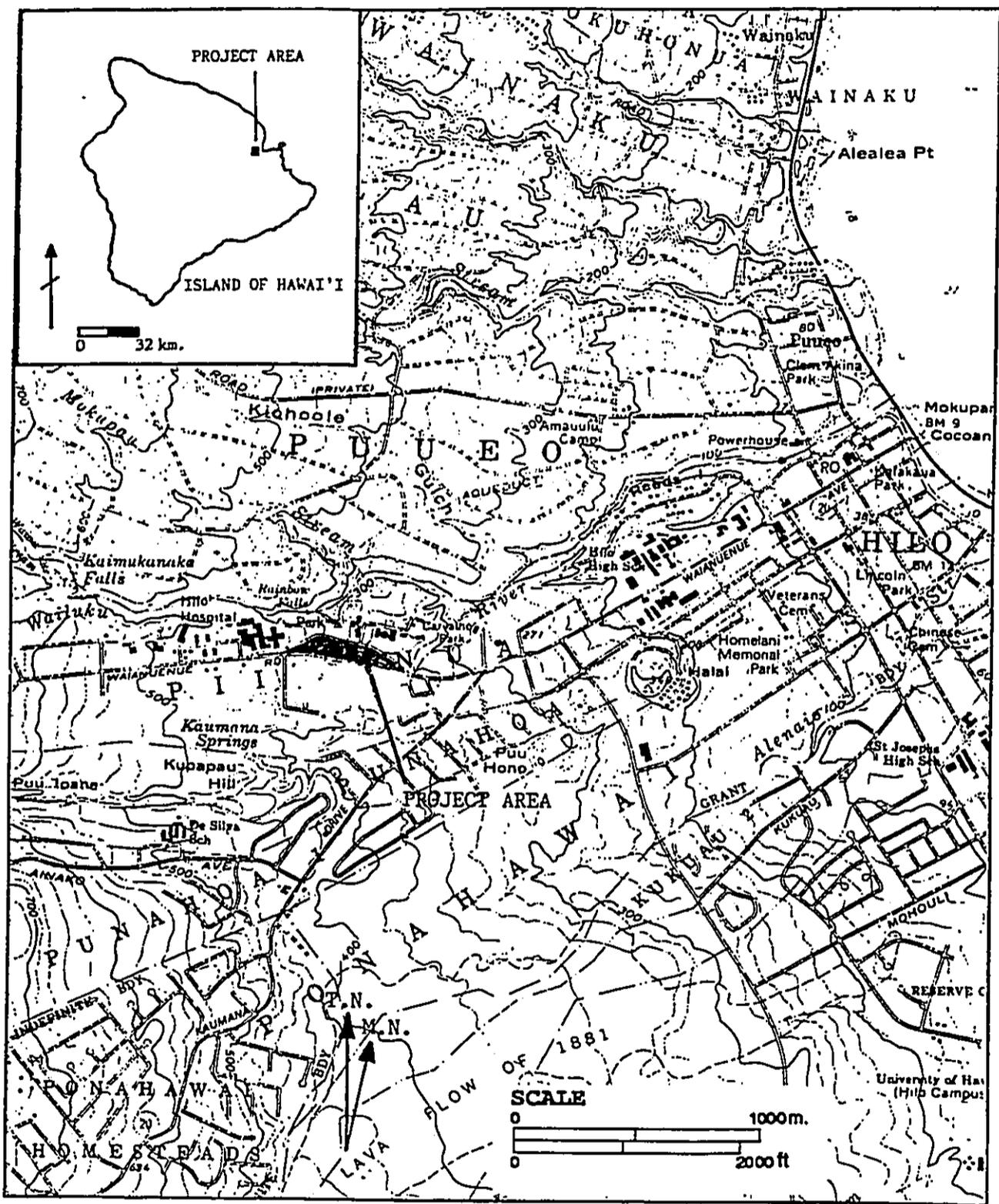


FIGURE 1: USGS HILO QUADRANGLE SHOWING PROJECT AREA (SHADED)

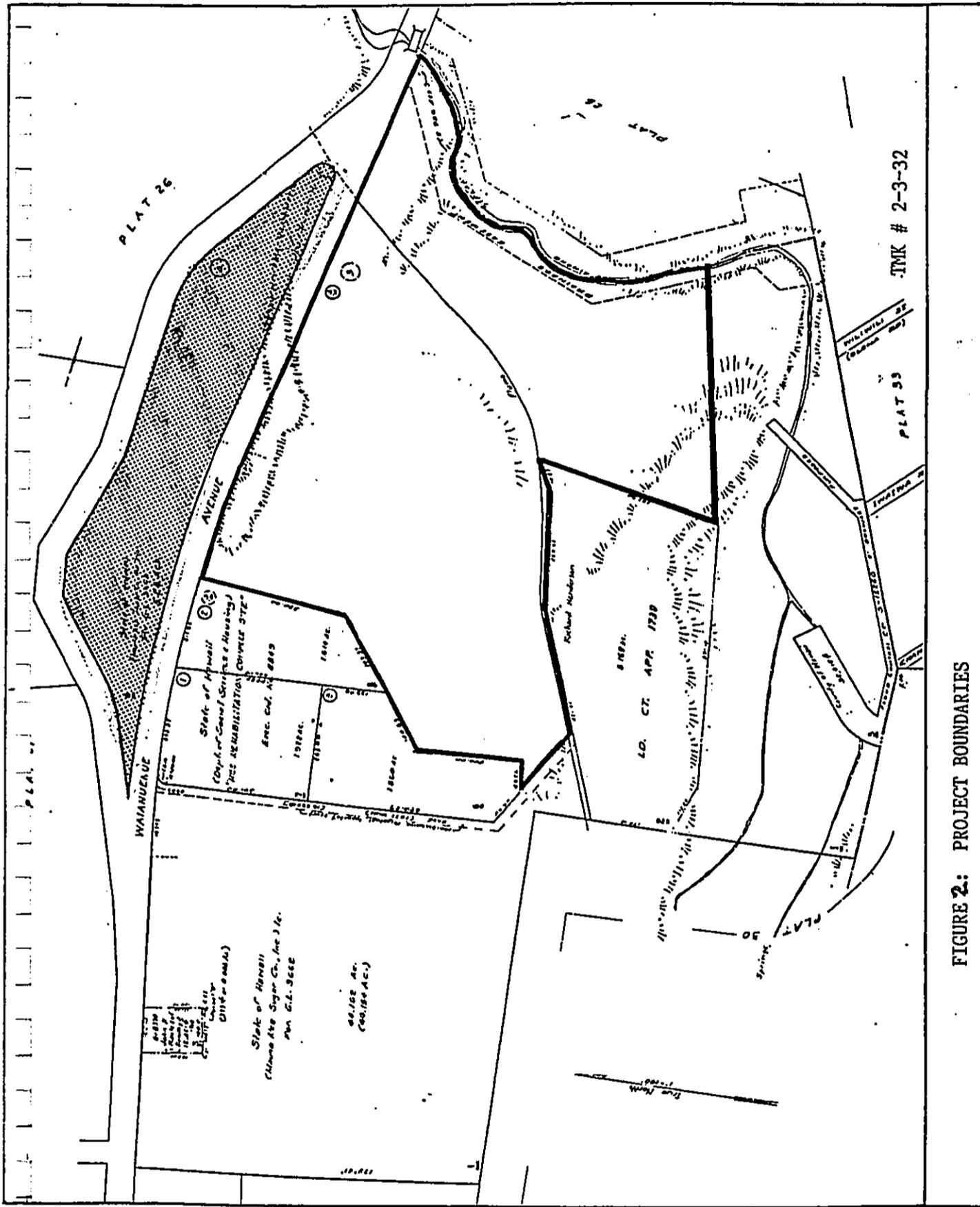


FIGURE 2: PROJECT BOUNDARIES

HCEOC offers an extremely broad range of services, some of which merit consideration in this document from the environmental standpoint. Some of HCEOC's programs are:

1. **Transportation.** Daily buses provide point-to-point service from off-highway communities to shopping areas, banks, post offices, medical facilities, nutrition sites, Head Start schools and rehabilitation facilities. Vehicles, including 17-passenger vans, buses, and handi-lift vans are housed and maintained on-site at HCEOC.
2. **Food Services.** HCEOC's Emergency Food Assistance program periodically distributes federally-provided food to needy residents at thirteen sites throughout the Big Island. Another program buys food at bulk prices and then delivers or otherwise makes this food available to the elderly. Food is stored on-site, as are the vehicles used to deliver the food. An institutional-sized kitchen is also present.
3. **Home Maintenance and Improvement Assistance.** Several programs, including Home Weatherization, Low Income Home Energy Assistance, and Housing Preservation, involve remodeling, device installation and maintenance at existing homes. Shop facilities are maintained at HCEOC such activities.
4. **Agricultural Programs.** The Agriculture Training and Employment Program provides the opportunity for unemployed persons to learn diversified farm crop cultivation, production, and marketing methods through actual hands-on experience on three farm sites in Hilo, Keaau and Wailea. Another experimental program focuses on mass bullfrog culturing. These programs require storage and maintenance of farm vehicles, equipment and tools, and also involve storage and use of fuel, fertilizer and pesticides.

HCEOC also directs the Head Start operations on the island and coordinates a number of social programs serving families, the elderly, juveniles, substance abusers, immigrants and refugees. The new facility will require office space and training facilities for a total of twenty-three human service programs. Approximately sixty paid staff will work on-site. In addition, a typical week at the HCEOC facilities will include hundreds of visits by people who are using the services HCEOC offers or assisting HCEOC in some way.

The broad scope of the programs offered at HCEOC has several implications in terms of environmental considerations:

1. Approximately 22,000 square feet of roofed-in building space will be built.
2. Parking stalls would be constructed for approximately 140 automobiles, in addition to parking for 6 twenty-four foot buses.
3. Approximately 4.85 acres of the land surface would be graded.
4. Repair and maintenance of vehicles and equipment will take place on-site.

#### 1.1.3 Proposed Improvements

##### Design

The facilities for the community service programs and administration offices will be separate buildings clustered within a campus-like environment (Fig. 3). The informal setting will be residential rather than institutional in scale and character, and will thus appear more inviting to clients served by the facility.

The natural slope of the site and the narrow orientation to prevailing winds encouraged a design which steps the building mauka-makai. The design produces a natural source of light and ventilation.

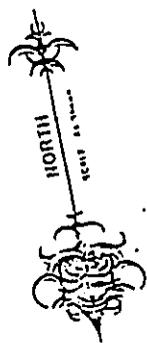
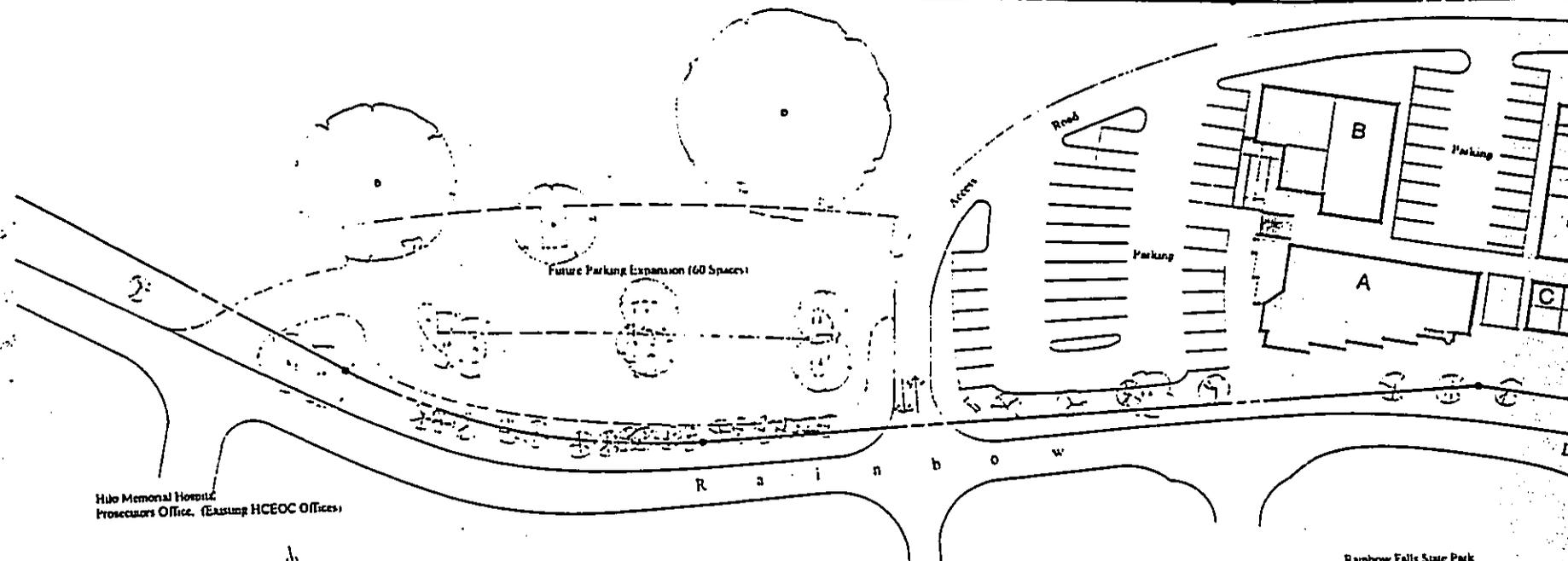
The project comprises five one- and two-story buildings totalling approximately 22,000 square feet. They will be constructed of light wood framing with either spread foundations or post-and-pier foundations. Concrete slabs on grade are planned for most of the structures, although some elevated ground floors may be incorporated in the final design.

The exterior finishes will be of wood and concrete, with painted metal roofs, and painted metal and/or wood framed windows.

One building complex housing mechanical facilities will be located several hundred feet uphill from the administrative offices and meeting rooms. This separation will reduce potential noise to HCEOC and to Rainbow Falls State Park, and will also provide a security screen.

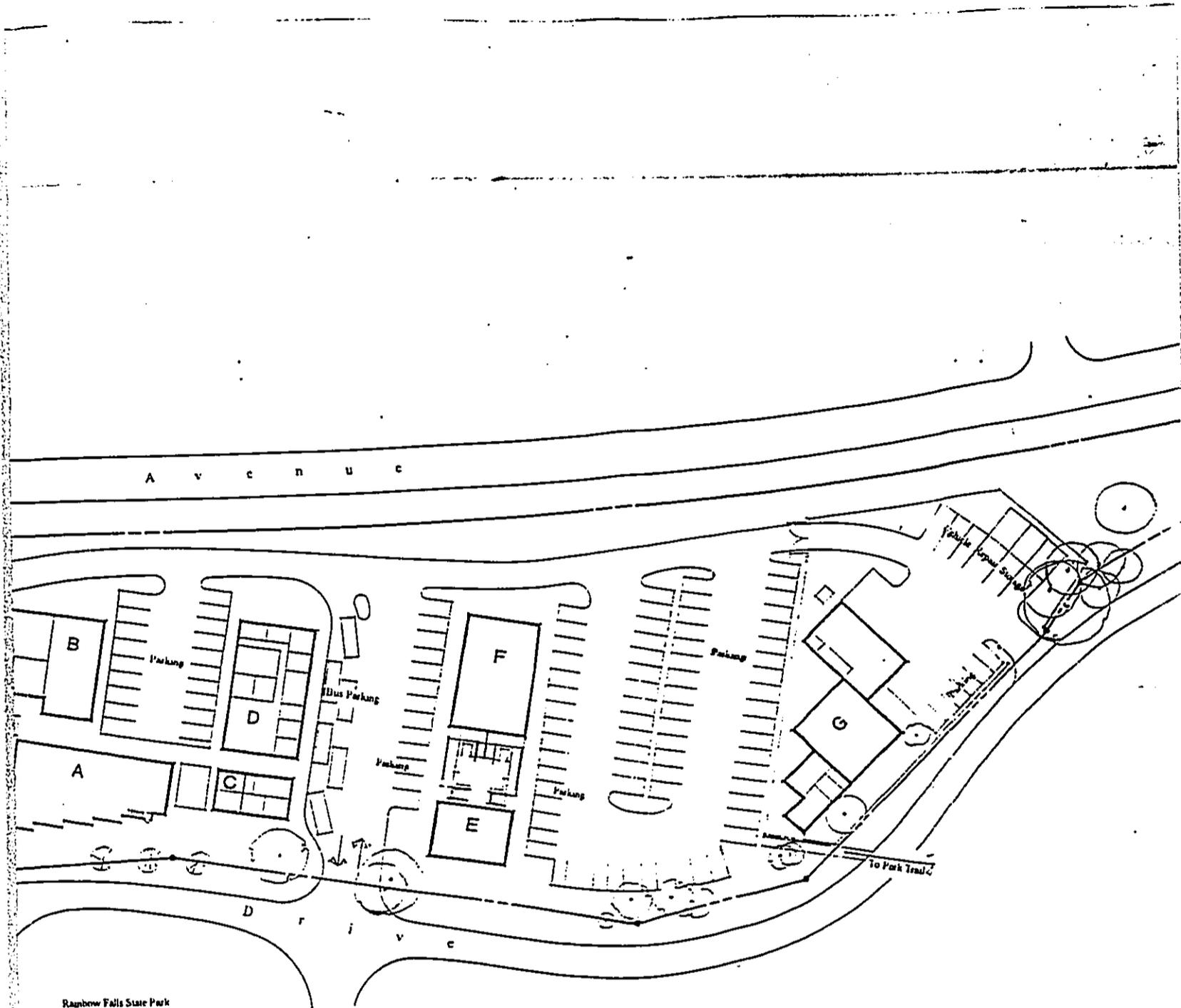
W a i a n u e n u e

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HAWAII COUNTY ECONOMIC OPPORTUNITY COUNCIL — New Facilities Comple





New Facilities Complex

Prepared by:  
**STUART/ERICKSON & ASSOC.**  
190 Keawe Street, Suite 12, Hilo, Hawaii 96721

### Access and Parking

Access to the facility is proposed through four separate entrances on Rainbow Drive, subject to the review and approval of government agencies. One of the proposed entrances is designed to serve a future parking expansion on the makai end of the parcel and would not be built immediately. There will be no access to or from Waiianuenu Avenue.

Circulation within the facility has been designed to maximize access to individual buildings while screening the Rainbow Drive margin of the parcel from motor traffic, except at the entrances (see Figure 3).

Paved parking lots and driveways will be located between the various buildings. Parking for clients and the physically handicapped is directly adjacent to the building served. Parking for employees will be separate and dedicated to this use.

Ramps and sloped walkways will provide a pedestrian corridor between parking and building levels as well as access for the physically disabled. Where practical, covered walkways will be present to create a shelter from the high rainfall at the site.

### Operational Details

The facility will operate typically during normal business hours of 8:00 am to 6:00 pm with the exception of the Agriculture and Kitchen programs. These may begin before sunrise and continue after sunset on certain days.

### Funding

The cost of the planned improvements is expected to be approximately \$2.5 million dollars. The 1993 State Legislature appropriated the funds to the HCEOC as a grant-in-aid for the Capital Improvement Project. Construction may begin as soon as early 1994, and will take approximately one year to complete.

#### 1.1.4 Ownership

The parcel is owned in fee by the State of Hawaii and would be leased to HCEOC.

## CHAPTER 2 ENVIRONMENTAL SETTING

### 2.1 Physical Environmental Characteristics

#### 2.1.1 Geology, Soils & Hazards

##### 2.1.1.1 Surface Geology

The surface geology of the project area is prehistoric basalt flows of the Kahuku Series from Mauna Loa. Most of the surface is covered with weathered Pahala Ash of variable thickness (MacDonald et al 1983:350). The average elevation on the site is approximately 380 feet, with moderate relief extending about 50 feet above and below this figure.

Slopes in the areas planned for construction average approximately 8 percent or less, and are not anticipated to pose any problems in site design and preparation.

##### 2.1.1.2 Soils

The soil that has developed on the ash-mantled lava is classified Hilo Silty Clay Loam. This soil has a dark-brown, highly acidic surface layer about 12 inches thick overlying a subsoil that may be as deep as 48 inches. Rock outcrops are also present. On areas of steeper slopes, the soil erosion hazard changes from slight to moderate. Permeability is rapid and runoff is slow. The makai extremity of the parcel lacks a mantle of Pahala Ash and its soil is classified as Keaukaha Extremely Rocky Muck. This is a well-drained, thin organic soil overlying pahoehoe rock. It is rapidly permeable, with medium runoff and slight erosion hazard (Sato et al 1973).

Subsurface investigations conducted to evaluate soil and subsurface conditions on the building site revealed that on-site soil has the structural deficiencies typical of ash-derived soils in Hilo and Hamakua (Stewart Engineering 1993). These soils often have low bearing capacity, high compressibility, low shear strength, high shrinkage potential and may be subject to sliding. Therefore, on-grade foundations and certain pavements will require excavation to bedrock. Fortunately, the depth to bedrock is shallow for most of the site. The site architects and engineers have developed a plan to ensure the soundness of all foundations and pavements. Measures include vegetation clearing, removal of on-site soil in certain areas where foundations on grade are required, importation of appropriate fill material, and the use of bulldozers, other heavy equipment and perhaps blasting to remove overburden soils and excavate into the basalt bedrock.

### 2.1.1.3 Geologic Hazards

Just as with all development in Hilo, this project is subject to volcanic hazard, particularly lava inundation. The United States Geological Survey classifies the area as Lava Flow Hazard Zone 3, on a scale of ascending risk 9 to 1. Zone 3 is considered "less hazardous than zone 2 [which is adjacent to and downslope of active vents] because of greater distance from recently active vents and/or because the topography makes it less likely that flows will cover these areas" (Heliker 1990:23). The Northeast Rift Zone of Mauna Loa has been active in the last century, with eruptions that headed towards Hilo occurring in the years 1899, 1935, 1942, and 1984 (Macdonald et al 1986:64). Lava flows penetrated the area now occupied by the city of Hilo in 1881. The 22-day eruption in 1984 again threatened Hilo, approaching within 4 miles of the Kaumana neighborhood before finally halting. Lava flow hazard is a fact of life for all who reside on the slopes of Kilauea, Mauna Loa, and Hualalai volcanos.

Seismically the area shares with the entire island of Hawaii a Zone 3 on a scale of ascending risk 1 to 4 in the Seismic Probability Rating (Furumoto et al 1973:34). Major damage is possible. The relevant design implications of this setting are to follow suitable lateral load specifications according to the Uniform Building Code.

### 2.1.2 Weather and Climate

The average annual rainfall at the site is approximately 150 inches (Taliaferro 1959:130). Average annual temperature is approximately 75 degrees Fahrenheit, with small diurnal and seasonal variation (UH-Manoa Dept. of Geography 1983:64). Winds are normally light in the area, even by Hawaiian standards. Wind patterns for the Hilo airport display a dominance of northeasterly winds of less than 12 MPH in the daytime, while somewhat gentler drainage winds from Mauna Kea are present at night (UH-Manoa Dept. of Geography 1983:65).

Average weather is not expected to have any significance in terms of the design or use of the proposed facility. The buildings will be designed in accordance with specifications of the 1992 Uniform Building Code to withstand the effects of strong winds.

### 2.1.3 Hydrology

This section discusses the hydrological setting of the site, including off-site drainage, flood zone status and the impacts of the proposed action to on-site drainage. Structures necessary to deal with off-site and on-site drainage are also described.

The entire parcel is designated on Flood Insurance Rate Maps as Zone X, which is defined as areas of minimal or moderate flood hazard, outside the 100-year flood plain.

On-site drainage improvements will be necessary. As mandated in *Storm Drainage Standards* (Hawaii County Department of Public Work 1970), any increase in runoff determined to be due to development of a proposed site, including but not limited to buildings, paved roads and parking areas and more intensive use, must be disposed of by on-site drainage facilities. This will be accomplished by construction of a series of drywells whose number and location will be determined as more specific plans are available.

Less than five acres of land will be disturbed by clearing, grading, and excavation activities, and the construction is not part of a larger common plan of development or sale. Therefore, it is the understanding of the applicant that a National Pollutant Discharge Elimination System (NPDES) permit will not be required. Nevertheless, the applicant intends to implement best management practices to control erosion, pollution and sedimentation associated with construction of the project. All applicable governmental regulations concerning grading and construction will be followed.

### 2.1.4 Flora, Fauna, and Ecosystems

The original vegetation of the project area was Lowland Wet Forest (Gagne and Cuddihy 1990), but the region has been extensively modified by Hawaiian cultivation, cattle grazing, wild pig rooting, and the effects of Western flora and fauna introductions.

The site of the proposed project today retains almost nothing of its native character. A jumbled forest of alien trees and shrubs, including albizia (Albizia falcataria), melastoma (Melastoma candidum), trumpet tree (Cecropia obtusifolia), Hilo holly (Ardisia elliptica), mango (Mangifera indica), and tulip trees (Spathodea campanulata) dominates most of the site. A large grass pasture is also present. The understory consist of a number of herbaceous species, shrubs, vines and ferns, few of which are native. No listed or candidate endangered plant species are present on the site. Two trained

botanists walked the site and developed a full species list for the site (Appendix 2).

Native fauna in such disturbed lowland habitats is not abundant. No native passerine bird species are likely to frequent the site. The two Hawaiian raptors, the Hawaiian hawk or 'io (Buteo solitarius) and the Hawaiian owl or pueo (Asio flammeus sandwichensis) can easily be spotted in the area. Although the Hawaiian hawk is an endangered species, the subject property is not considered to be part of its essential habitat, and no hawk nests were found on the site. The project will probably have little or no effect on hawk activity. Indigenous and migratory seabirds such as the Pacific golden plover or kolea (Pluvialis fulva) also typically rest or forage on grassy areas such as the pasture found on the project area. Again, the proposed project is not expected to impact such occasional use.

The only native Hawaiian land mammal, the Hawaiian hoary bat (Lasiurus cinereus semotus), may also be present in the area, as it is common in many lowland forest on the island of Hawaii. No impact on bat habitat is anticipated.

#### 2.1.5 Air Quality, Noise and Scenic Resources

Air pollution in the area is minimal. Periodic deterioration in Hilo's air quality due to volcanic emissions ("vog") blown northwest due to occasional southerly winds is present.

Ambient noise in the area is low, and comes mainly from the traffic, especially trucks and buses, ascending or descending the steep grade of Waiānuenuē Avenue. Residential activities such as lawnmowing, music, and home repair also produce intermittent noise. Buses entering, exiting and idling at nearby Rainbow Falls State Park are another source of noise, although it is somewhat buffered by vegetation.

Although the vegetation at the site offers nothing outstanding or unique in terms of landscape, the mere presence of forest, pasture and shrubbery provides a rural greenbelt for passing drivers and visitors to Rainbow Falls State Park. The Office of State Planning commented that the project design should incorporate a landscaped buffer along the entire length of the property facing Rainbow Drive, and that "screening the proposed structure and parking areas is considered important in retaining the appearance of the natural surroundings of this popular visitor attraction [Rainbow Falls]" (See Appendix 1 for full text).

Fortunately, there is a row of ornamental areca palms and other vegetation between the project site and Rainbow Drive.

Currently, this contributes to the "tropical jungle" ambience of Rainbow Falls Park. Given the geometry of the selected building site in relationship to the road (see Fig. 3), this pastoral feeling can easily be preserved or even enhanced through sensitive landscaping.

Assurance of an attractive landscape buffer can be attained by attaching conditions to the appropriate permits necessary for the project.

## 2.2 Social, Cultural and Economic Setting

### 2.2.1 Existing Land Use in Project Vicinity

The existing property is presently vacant and unused for any purpose.

Current land uses in the vicinity of the proposed project are residential, agricultural, and institutional. This area of Waianuenu Avenue is fast developing into a center for institutions providing social services. Existing facilities include Hilo Hospital, the Big Island Center for Independent Living, the Big Island Substance Abuse Center, the Hilo Rehabilitation Complex and the County Prosecuting Attorney (including Victim Assistance). New facilities planned for the area include a Long-Term Elderly Housing unit, which is to be located within 600 feet of the proposed site. The proposed project's situation in relation to adjacent parcels is such that little disturbance and no interference with adjacent uses is to be expected. On the contrary, this clustering should contribute to more effective interaction between the agencies, which have many related functions.

### 2.2.3 Socio-Economic Context

The community most directly served and affected by the proposed facilities is the city of Hilo and surrounding rural regions. The population of Hilo as of 1990 was 37,808. The districts of Hamakua, North and South Hilo, and Puna together had 72,506.

Table 1  
Social Characteristics of Hilo Area vs Island and State

	State	Island	Hilo
Total Population	1,108,229	120,317	37,808
Percent Non-White	66.6%	60.4%	73.4%
Percent Who Do Not Speak English Well	22.9%	16.3%	16.9%
Percent Over 65 Years	13.4%	14.9%	17.7%
Percent Under 18 Years	32.8%	36.6%	34.4%
Percent Living in Poverty	8.3%	14.2%	14.5%
Percent Family Household Without Husband	13.9%	20.6%	24.9%
Percent Who Have A Work Disability	6.6%	9.6%	9.4%
Per Capita Median Income	\$15,770	\$13,169	\$13,373

*Source: U.S. Census Data, 1990 Census of Population*

Several social characteristics distinguish Hilo from other districts in the state and have significance in terms of the location of the facilities of Community Action Agencies (Table 1). Hilo has one of the largest elderly sectors of any districts in the state, with some 17.7% of the population over the age of 65 years. Of this total, 17.1% has some form of mobility or self-care limitation. At the same time, however, there is no lack of children; 34.4% of the population is under 18 years of age, a figure higher than the state average. Hilo also has a high proportion of non-white population. Many people in Hilo were born elsewhere and have a native language other than English, leading to a larger-than-average (for the county) percent who do not speak English well. This figure exceeds 25% in certain adjacent rural towns served by HCEOC. In other categories that directly or indirectly measure poverty, such as median income, percent below poverty level, and single parent households, Hilo is seen to be considerably disadvantaged.

Clearly then, for reasons of both client base and centrality, the Hilo District is an appropriate location for the facility.

Although socio-economic data of a fine spatial scale are lacking, it appears evident that the demographic profile in the immediate neighborhood of the subject property is not characteristic of the client base served by HCEOC. However, the area is currently the setting for a number of public health/social service agencies (See Section 2.2.1) that complement the functions of HCEOC to varying degrees.

## 2.3 Transportation, Utilities, and Public Services

### 2.3.1 Roads and Traffic

The design as currently proposed has four entrances facing Rainbow Drive (see Figure 3). Going from makai to mauka, the first entrance is 275 feet mauka (west) of the makai junction or Rainbow Drive and Waianuenue Avenue, opposite the entrance to the existing HCEOC office complex. This entrance is meant to serve future parking expansion and would not be built immediately. The second entrance is 350 mauka of the first (and 100 feet makai of the entrance to Rainbow Falls State Park) and would serve as the main access to the facility. The third entrance would be approximately 350 feet mauka of the second, opposite the exit driveway for Rainbow Falls State Park. The fourth entrance is dedicated to the motor pool and access would be through a gate locked at night. It would be located 500 feet mauka of the third entrance, at the mauka extremity of the parcel.

Agency comment letters from the Police Department and the Department of Public Works expressed concern about adverse traffic impacts (see Appendix 1). Mr. Julian Ng, a professional traffic engineer, was retained to assemble and analyze existing traffic count data and to evaluate potential impacts.

He determined that most traffic would approach from and depart towards the makai direction, just as is true today. Currently, with the facilities located on the Hamakua side of Waianuenue Avenue, most traffic entering the facility makes a right turn off of Waianuenue and traffic exiting makes a left turn onto Waianuenue. Most traffic using the proposed facilities would probably do the same, leading to essentially no difference in traffic volumes, patterns or congestion.

Mr. Ng examined the traffic pattern and determined that the main intersection of concern was at Waianuenue Avenue and Rainbow Drive. A traffic count for this intersection had been performed in 1992 and provided the data for the analysis.

The objective evaluation of traffic congestion he performed is based on the concept of Levels of Service (LOS), which are

scaled A through F. LOS A represents very little delay, LOS C is considered acceptable level of delays, and LOS E means long delays. LOS levels are calculated using traffic volume data. The following table summarizes the analysis.

**Table 2**  
**Traffic Analysis, Rainbow Drive/Waianuenue Avenue**

	AM Peak Hour LOS	PM Peak Hour LOS
Current Conditions	B	B
20% Increase (all turning movements)	B	C
100% Increase (Rainbow Drive turns)	B	C

The current Level of Service for both the morning and afternoon peak hours is B. Although it is quite possible that no net traffic increase will occur as a result of HCEOC's relocation across the street from their current facilities, Mr. Ng analyzed the traffic impacts that would result from two separate hypothetical increases in traffic volume. Even under the extreme scenario, the Level of Service does not decline below acceptable levels.

A significant increase in traffic might also impact the congestion at the Waianuenue/Kaumana intersection, which is currently served by a stop sign and periodically experiences long delays. Although it should again be stated that the HCEOC relocation may very well fail to generate additional traffic, some increase may occur and may aggravate congestion there. However, the Hawaii County Department of Public Works expects to signalize this intersection in September 1994. This needed traffic improvement will eliminate queuing problems at this intersection.

### 2.3.2 Electricity and Telephone

Electrical and telephone connections are readily available for the proposed project. Since the proposed project would for the most part merely replace HCEOC's existing facilities, no significant increase in power consumption is to be expected.

### 2.3.3 Water Supply

A 16-inch diameter county water line runs along Waianuenue Avenue mauka of the project area, detours through the project site to a point midway along Rainbow Drive, and then rejoins the path of Waianuenue Avenue makai of the project area (see letters from DWS, Appendix 1). This line is supplied by the 800,000 gallon capacity, No. 2 Hilo Reservoir. This system is capable of fulfilling all water demands from the proposed project, including fire flow requirements. Current plans call for the relocation of the 16-inch water line and installation of three new fire hydrants to the Rainbow Drive right-of-way. Plans for the water system are being coordinated with the County Department of Water Supply.

### 2.3.4 Wastewater

The proposed project is located within an area served by County of Hawaii sewer lines. The project would be connected to this system, and all wastewater generated by the proposed facilities would be channeled to the county sewers. An existing 10-inch diameter sewer line runs along the Waianuenue Avenue frontage of the site. Provisions were made during the construction of this line for new connections. Existing 6-inch diameter Y's were provided at various points along the sewer line, along with 6-inch diameter connections at existing manholes near the Ainako Stream bridge, just makai of the site. Sewage from these lines is currently treated at a primary plant on Kalaniana'ole Avenue, but beginning in late 1993 will be treated at a new secondary facility near the airport.

### 2.3.5 Solid Waste

No municipal solid waste collection system is in place in the County of Hawaii. It is the responsibility of all solid waste generators, including private homes, businesses, and public facilities to arrange for transfer of solid waste to either the county landfills in Hilo and Kona or one of the transfer stations located throughout the island. Solid waste is a critical problem in Hawaii County, where appropriate sites for landfills are scarce and existing facilities near capacity.

The proposed project would add little, if any, to the waste stream, because it represents merely a relocation of existing services. Nevertheless, it is appropriate that a Community Action Agency using State land act as a model for solid waste reduction. The proposed project should incorporate to the greatest degree practicable waste-reducing strategies, including systems for collection and recycling of used oil,

lead acid batteries, office paper and food waste composting. It is even possible that the facilities may act as a one-time market for recycled materials such as crushed glass paving aggregate, and a continuing market for locally-generated compost for landscaping purposes. It should be noted that HCEOC currently has an active recycling/re-use program.

#### 2.3.6 Hazardous Waste

The proposed facilities would generate and store small quantities of materials such as motor fuels, used motor oil, paints, solvents, and thinners, and pesticides. These materials are classified by U.S. Environmental Protection Agency (EPA) as "hazardous waste," and their storage, use, and disposal are subject to EPA guidelines.

The HCEOC administration has performed a hazardous waste generation count in accordance with EPA guidelines and regulations. This count has determined that at present, and in the foreseeable future, the HCEOC facilities do not and will not generate more than 100 kilograms (220 pounds) of hazardous waste per month, and will not generate "acutely" hazardous waste. Furthermore, the facilities do not and will not accumulate more than 1000 kilograms (2200 pounds) of hazardous waste at any one time. Therefore, the HCEOC facilities qualify as conditionally exempt small quantity hazardous waste generators and would not be subject to filing EPA "Notification of Hazardous Waste Activity."

However, all use and disposal of hazardous waste will continue to be performed in conformance with federal and state regulations. To the greatest extent possible, hazardous wastes should be recycled in an approved manner (e.g., as auto batteries and motor oil are currently). Other hazardous waste shall be disposed of through a professional hazardous waste disposal company. Such practices would simply be a continuation of existing policy and practices at HCEOC.

#### 2.3.7 Police, Fire and Emergency Services

The area containing both the existing and the proposed facilities is almost ideally located with respect to police services (County headquarters lie 1.8 miles distant), fire services (midway between two fire stations, both less than 2 miles away) and ambulance services (within 0.3 miles of Hilo Hospital). No impact upon these services is expected as a result of the proposed project.

## 2.4 Archaeological/Historic Environment

An archaeological inventory survey of the site was conducted by Robert Spear, Ph.D., of Scientific Consultant Services, Inc. This report and the clearance letter from the State Historic Preservation Division are included as Appendix 3 and are summarized below.

No Land Commission Awards were granted on or near the project area. No sites registered with the State Historic Preservation Division are present in the immediate area of the site. Previous broad-scale archaeology surveys conducted within the confines of 19th century Hilo had noted that no major prehistoric remains were present within the city (Hudson 1932). Spear reviewed studies conducted for civil projects on nearby Alenaio Stream that had found no artifacts earlier than the last quarter of the 19th century. However, previous work by Spear (1992) for the a nearby site originally proposed for the HCEOC facility discovered two small historic sites from the early Post-Contact period.

Any remains present were likely to be post-Contact in origin. However, since no intensive archaeological surveys had been conducted in the project area, an intensive ground reconnaissance was deemed necessary.

A field crew walked transects spaced no more than 33 feet apart, depending on the vegetation, noting features on and between the survey lines.

Two archaeological sites were located during the survey. One consisted of the remains of an old Portuguese oven, and the other was a historic dump containing bottles, bottle fragments and glass, ceramics and rusted metal. Both sites date from approximately 1900. Neither of these sites required subsurface testing nor were any other locations identified that required excavations.

Both sites were determined to be significant for their informational content. The consulting archaeologist have determined that sufficient information has been collected as a part of this research that both sites can now be evaluated as no longer significant. The State Historic Preservation Division (SHPD) has concurred with this analysis and has determined that development of the subject property will have "no effect" on significant historic sites, and that no further archaeological work need be done.

## CHAPTER 3 ENVIRONMENTAL IMPACTS AND PROPOSED MITIGATION MEASURES

### 3.1 Short Term Impacts

*Adverse Impacts:* There will be slight interruptions in normal traffic patterns during construction. Some noise, dust and excess runoff will also result temporarily from the grading and renovation work.

*Mitigation:* Professional traffic control shall be utilized during construction. Dust and noise control shall be implemented during construction to reduce their impact. Care shall be exercised to control excess runoff during construction.

*Beneficial Impacts:* Construction will provide one-time economic benefits for the area, which has recently experienced high unemployment due to the nationwide recession and the phase-out of plantation jobs.

### 3.1 Long Term Impacts

#### 3.1.1 Traffic and Circulation

No significant traffic impacts are expected.

#### 3.1.2 Social, Land Use, Population and Employment

No significant impacts are expected.

#### 3.1.3 Water Quality and Drainage

Wastewater treatment and drainage control structures should preclude impacts to ground and surface water quality and off-site and on-site drainage quantities.

#### 3.1.5 Waste Disposal

*Impacts:* The proposed project would add little, if any, to the waste stream, because it represents merely a relocation of existing services. Some hazardous waste will be generated, although quantities will be small enough so that HCEOC will qualify as a conditionally exempt small quantity hazardous waste generator.

*Mitigation:* The proposed project shall incorporate to the greatest degree practicable waste-reducing strategies, including recycling and composting. All use and disposal of

hazardous waste shall be performed in conformance with federal and state regulations. To the greatest extent possible, hazardous wastes shall be recycled in an approved manner (e.g., auto batteries and motor oil). Other hazardous waste shall be disposed of through a professional hazardous waste disposal company, as is currently being done.

3.1.6 Flora and Fauna

No significant impact to flora and fauna is expected.

3.1.7 Archaeology/Historic sites

No significant impact to archaeological or other historic sites is expected.

3.1.8 Visual and Noise Quality

Because the project design incorporates an extensive landscaping buffer along Rainbow Drive, no significant impact to visual resources or noise levels is expected.

## CHAPTER 4            ALTERNATIVES

### 4.1    No Action

No action would mean that the HCEOC activities remain in their current location. This scenario would impose a hardship on HCEOC, because the existing facilities are overcrowded, inadequately equipped, and inappropriate to optimum functioning of the agency.

### 4.2    Alternative Site Locations

During earlier phases of project design, another state parcel nearby was considered for the project site. A number of considerations, especially the cost of site preparation, ruled against this choice. Analyses of available state land conducted by HCEOC staff determined that the proposed site is clearly the most suitable site in the Hilo area, and no alternative sites are currently under consideration.

## CHAPTER 5            DETERMINATION

The proposed project will not significantly alter the environment and impacts will be minimal. Therefore, the Department of Land and Natural Resources has determined that the preparation of an Environmental Impact Statement is not warranted (see cover letter).

CHAPTER 6 FINDINGS AND REASONS

1. The proposed project will not involve an irrevocable commitment or loss or destruction of any natural or cultural resources.
2. The proposed project will not curtail the range of beneficial uses of the environment.
3. The proposed project will not conflict with the State's long-term environmental policies.
4. The proposed project will not substantially affect the economic or social welfare of the community or State.
5. The proposed project will not involve substantial secondary impacts, such as population changes or effects on public facilities.
6. The proposed project will not involve a substantial degradation of environmental quality.
7. The proposed project will not substantially affect any rare, threatened or endangered species of flora or fauna or habitat. No endangered species of flora or fauna are known to exist on the project site.
8. The proposed project will not detrimentally affect air or water quality or ambient noise levels.
9. The proposed project will not be located in any environmentally sensitive area, such as flood plain, tsunami zone, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.

For the reasons above, the proposed project will not have any significant effect in the context of Chapter 343, Hawaii Revised Statutes and section 11-200-12 of the State Administrative Rules.

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**APPENDIX 1**  
**AGENCY AND INDIVIDUAL COMMENTS**

DIVISION OF  
LAND MANAGEMENT  
**KA LAHUI HAWAII**  
Moku o Hawaii  
JAN 20 2 10 PM '94

District of North Kona  
Post Office Box 4851  
Kailua-Kona, Hawaii 98746

District of South Kona  
Post Office Box 801  
Honolulu, Hawaii 96720

Jan. 26, 1994

Mr. Glenn Toguchi  
Department of Land and Natural Resources  
P.O. Box 936  
Hilo, Hawaii 96720

Dear Mr. Toguchi:

I would like to thank you once again for taking your time to speak with me over the phone last Friday, and for sharing your views with regards to my concerns on the sale, lease or exchange of ceded lands. As you recall we discussed in particular three pending actions listed in the January 8, 1994 OEQC bulletin. They are 1) Lease of ceded lands to HCEOC, 2) Lease of land which may be ceded lands for easement to Hawaii county and 3) Exchange of ceded lands in Piihonua for private lands in Kehena. The merits of the proposed actions are obvious however in my opinion they may not necessarily meet all the criteria for the disposition of ceded lands as stated in the state constitution. The desire of the DLNR to act in behalf of the "public good" is without question but in examining each of the proposals on their individual merits I would like to offer the following comments and would greatly appreciate your thoughts and guidance on how certain determinations are made within the scope of the DLNR's policies and procedures.

TMK 2-3-32:04

The subject property is 5.28 acres or thereabouts and was formerly planted in cane. The applicant is the HCEOC, a private non-profit Community Action Agency. The proposal for development calls for a fairly large construction project of buildings, parking lots, motorpool etc. It appears that the HCEOC is prepared to invest a sizable amount of capital. In a situation where improvements to the property are made does the lease rent reflect the fair market value as improved property or as cane land? If as a business HCEOC should fail, what mechanisms are employed to safeguard the public's interest from investment loss. I suppose I have a view that if the property is leased to the applicant then a reasonable profit should be expected by the lessor. This is a business risk that a lessor undertakes in binding the property under contract and therefore a profit is justified. Should the lessee default that would constitute a loss to the lessor and in this case to the beneficiaries.

I would also appreciate understanding how the DLNR determines how long leases should run and how that policy would apply to this applicant.

TMK 7-5-05:07 *not applicable to this EA*

It is unclear as to whether the subject property is ceded lands or

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not. I assume this will be determined prior to the granting of easement. Again the merits of granting the easement are obvious. My question would be more on procedure. I have observed construction already underway on the Queen Liliuokalani development which would seem inappropriate if the easement has not yet been granted. In a situation such as this how is the value of the easement determined. The trust is investing to make profit, as above is this value reflected in the grant of easement.

TMK 2-3-27:4 not applicable to this ET

The site of the Wedeman property contains important archeological sites and thus is of historical significance. As such there are laws already in existence which protect those sites from destruction. It would appear that the development of the property would be very difficult if not inappropriate. It would be preferable if the DLNR were to purchase the site and designate it for preservation but lacking the funds to do so they are proposing a trade or exchange. I can see the logic to that approach but here again how do we value the exchange. The Wedeman property has a current net worth i.e. fair market value. They will be given a parcel of equal value in exchange. The new parcel however has much higher potential for development and should the Wedemans decide to develop the Pihoonua site, does the DLNR receive a fair share of the profits?

In our conversation we discussed the issue of "public good". This is impossible to measure and difficult to audit. In the three cases above I definitely see three individuals or entities benefitting in measurable terms, all three will profit. How will the public or more specifically the native hawaiians benefit? What guidelines are used?

I greatly appreciate your assistance in helping me to understand the DLNR's policies and procedures with regard to the disposition of the ceded lands.

Sincerely,

*Charles Young*  
Charles Young

P.S.

I would also ask that you reconsider putting me on your mailing list when you notify other interested parties on pending proposals.

*Mahalo*

Ron Terry, Ph.D.  
GeoMetrician Associates  
HCR 9575  
Kea'au, Hawai'i 96749

March 3, 1994

Charles Young  
Ka Lahui Hawaii  
District of North Kona  
Kailua-Kona Hawai'i 96745

Dear Mr. Young:

As the consultants for the Environmental Assessment for the HCEOC facility relocation, we recently received a copy of your letter of 26 January 1994 regarding the proposed lease of State land in South Hilo (TMK 2-3-32:04) to Hawaii County Economic Opportunity Council.

Regarding your questions on the following:

- o Does the action meet all the criteria for the disposition of ceded lands as stated in the state constitution?
- o Does the lease rent reflect the fair market value as improved property or as cane land?
- o How does DLNR determine how long leases should run and how that policy would apply to this applicant?

We have relied in our Environmental Assessment upon the Department of Land and Natural Resources to determine the proper disposition, lease rent and lease length for State Lands. They have indicated that State of Hawaii law permits dispositions such as the one proposed.

Furthermore, it is our understanding that 20 percent of the lease rents derived from this transaction will be transferred to the Office of Hawaiian Affairs, as specified by the laws and regulations of the State of Hawaii. This provides a benefit specifically and exclusively for the Hawaiian community, one which is currently lacking because the parcel has no land use.

In regard to your further question:

- o If as a business HCEOC should fail, what mechanisms are employed to guarantee the public's interest from investment loss?

We wish to point out that HCEOC is not a business, but rather a non-profit corporation whose sole purpose is to prevent, alleviate and eliminate poverty in Hawaii and to offer services for the under-privileged.

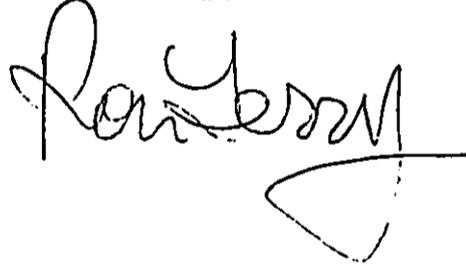
HCEOC's broad range of programs truly serves the disadvantaged among our community, especially low-income families, the elderly, young children, substance abusers, immigrants and refugees.

Native Hawaiians/part-Hawaiians are well-represented in the clientele of HCEOC. For example, 75 percent of the children participating in the Head Start program are Hawaiian. Over 45 percent of those individuals participating in the surplus food distribution, family development, agricultural training and transportation programs are Hawaiian. Several housing projects, including the Miloli'i Self-Help and the Keaukaha/Panaewa program, have virtually 100% Hawaiian beneficiaries.

The project stands to benefit both the general population of the State of Hawaii and the Native Hawaiian population through expanding and accelerating the work of the Hawaii County Economic Opportunity Council.

Thank you for your thoughtful review of this proposals and your comments. In response to your request, I will add your name to the mailing list of individuals and agencies that are pre-consulted during the preparation of Environmental Assessments.

Sincerely,

A handwritten signature in black ink, appearing to read "Roy Brown". The signature is written in a cursive style with a large, sweeping flourish at the end.

JOHN WAIHEE  
GOVERNOR OF HAWAII



RECEIVED  
DIVISION OF  
LAND MANAGEMENT  
HONOLULU, HAWAII

AUG 5 1 02 PM '91

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

July 31, 1991

WILLIAM W. PATY, CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES

KEITH W. AHUE  
MANABU TAGOMORI

DAN T. KOCHI

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

MEMORANDUM

TO: Glenn Taguchi, Hawaii District Land Agent, Land  
Management

FROM: Don Hibbard, Administrator  
State Historic Preservation Division *DH*

SUBJECT: State Land Disposition -- Right of Entry Permit to Plan  
and Design Human Service Complex (Hawaii County  
Economic Opportunity Council)  
Piihonua, South Hilo, Hawaii  
TMK: 2-3-32: 4

HISTORIC PRESERVATION PROGRAM CONCERNS:

We believe that study and some mechanical grubbing of this parcel will have "no effect" on historic sites. Although the property has never been surveyed for historic sites, our records show that it was cultivated in sugar cane for many years and we do not expect any historic remains to have survived.

If you have any questions about this review, please call Holly McEldowney at 587-0008.

*9*



RECEIVED  
DIVISION OF  
LAND MANAGEMENT  
HONOLULU, HAWAII

**Department of Public Works**

25 Aupuni Street, Room 202 • Hilo, Hawaii 96720 • (808) 961-8321 • Fax (808) 969-7138

*TU-A HCE*

Lorraine R. Inouye  
Mayor

Bruce C. McClure  
Chief Engineer

Laurence E. Capellas  
Deputy Chief Engineer

July 25, 1991

MR GLENN TAGUCHI  
HAWAII DISTRICT LAND AGENT  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
STATE OF HAWAII  
75 AUPUNI STREET  
HILO HI 96720

SUBJECT: STATE LAND DISPOSITION  
Applicant: Hawaii County Economic Opportunity Council  
Location: South Hilo, Hawaii  
TMK: 2-3-32: 04

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

1. The parcel is in Flood Zone "X".
2. The intersection of Waiuanue Avenue and Kaumana Drive is a traffic bottleneck during the afternoon rush hours.
3. Access should be from the minor street. The roadway to Rainbow Falls does not have street lights and the alignment is poor.

*[Signature]*  
ROBERT K. YANABU, Division Chief  
Engineering Division

DEM:byf

cc: Engineering Division

*[Handwritten mark]*

70-A HCEOC

Lorraine R. Inouye  
Mayor

Victor V. Vierra  
Chief of Police

Francis C. DeMoraes  
Deputy Chief of Police

RECEIVED  
DIVISION OF  
LAND MANAGEMENT  
HILO, HAWAII



**Police Department**

JUL 31 1 14 PM '91

349 Kapiolani Street • Hilo, Hawaii 96720-3998 • (808) 961-2244 • Fax (808) 961-2702

July 26, 1991

Mr. Glenn Y. Taguchi  
Hawaii District Land Agent  
Department of Land & Natural Resources  
75 Aupuni Street  
Hilo, Hawaii 96720

Attention: Mr. Larry Okazaki, Land Agent

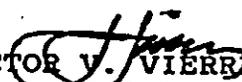
Dear Mr. Taguchi:

RE: STATE LAND DISPOSITION  
PROSPECTIVE APPLICANT: HAWAII COUNTY ECONOMIC  
OPPORTUNITY COUNCIL  
INTENDED USE: HUMAN SERVICES COMPLEX  
TMK: 3RD/2-3-32:04

The above application has been reviewed and our conditional response, based on the limited information provided, is that traffic will be adversely affected by any major construction or development in this area.

Thank you for the opportunity to provide input.

Sincerely,

  
VICTOR V. VIERRA  
CHIEF OF POLICE

JD:sk

cc: South Hilo Police



JOHN WAIHEE  
GOVERNOR OF HAWAII



JOHN C. LEWIN, M.D.  
DIRECTOR OF HEALTH

STATE OF HAWAII  
DEPARTMENT OF HEALTH  
P. O. BOX 3378  
HONOLULU, HAWAII 96801

In reply, please refer to:

December 7, 1992

92-396/epo

Ron Terry, Ph.D.  
GeoMetrician Associates  
HCR 9575  
Keaau, Hawaii 96749

Dear Dr. Terry:

Subject: Environmental Assessment for New Site Design for  
Proposed Hawaii County Economic Opportunity Council  
Hilo District and Central Office, Hilo, Hawaii

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

Wastewater

It has been determined that the subject project is located within the County sewer service system. As the area is sewered, we have no objections to the proposed new Hawaii County Economic Opportunity Council (HCEOC) site (which includes a facility with a motor pool, industrial arts shops for repairs and light manufacture, industrial scale kitchens, areas for washing and packing of agricultural commodities and offices) provided that the project is connected to the public sewers.

The developer should work closely with the County to assure the availability of additional treatment capacity and adequacy for the project. Non-availability of treatment capacity will not be an acceptable justification for use of any private treatment works.

If you should have any questions on this matter, please contact Ms. Lori Kajiwara of the Wastewater Branch at 586-4290.

Solid Waste

The proposed discussions of environmental impacts of the construction and operation of the Hilo District and Central Office of the HCEOC should also address solid waste impacts of the facility. As this site is on State land and has the potential to be a model for economic activities in the county, we suggest that systems for collection and recycling of used oil,

Dr. Ron Terry  
December 7, 1992  
Page 2

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lead acid batteries, office paper, and food waste composting should be considered. Similarly, this office recommends that crushed glass should be used as an aggregate substitute in paving and local compost used in landscaping.

If you should have any questions, please call Ms. Carrie McCabe of the Office of Solid Waste Management at 586-4243.

Underground Storage Tanks (USTs)

1. The applicant should realize that owners and operators of USTs which used to store petroleum products are subject to the federal UST rules and regulations as set forth in Title 40 of the Code of Federal Regulations, Part 280 (Attachment A).
2. Owners of new USTs must notify the Department of Health (DOH) of the existence of such USTs within 30 days of bringing the USTs into use. Owners must complete the notification form found in Attachment B and submit the completed and signed form to the Department's Solid and Hazardous Waste Branch.
3. The installation of UST systems containing flammable and combustible liquids is also subject to regulation by the County Fire Departments. In this case, the City and County of Honolulu, Fire Prevention Bureau, should be contacted regarding the County requirements that may exist governing UST systems.
4. Finally, we have reviewed our records and have no reason to believe that USTs were ever in operation at this site. However, the applicant should be aware that abandoned USTs and other subsurface structures -- as well as soil and ground water contamination -- may nonetheless be present at the site.

With this in mind, we would like to stress the need for thorough environmental assessment investigation and remediation before undertaking construction projects. This is especially important in the redevelopment of properties that have been used for commercial/industrial purposes in the past, as is occurring with increasing frequency in urban Honolulu. The applicant should realize that environmental investigation and remediation of soil and ground water contamination can potentially be both costly and time-consuming. To avoid disruptive scheduling delays and budget overruns, potential contamination problems must be properly identified and assessed before beginning construction so that the necessary investigative and remedial measure can be

Dr. Ron Terry  
December 7, 1992  
Page 3

92-396

planned for in advance and implemented before the commencement of construction, rather than during the project.

If you should have any questions on this matter, please contact Ms. Carolyn Winters at 586-4230.

Hazardous Waste

Several of the proposed facilities (i.e., motor pool, industrial area shops for repair and light manufacture, and washing areas) may potentially generate hazardous waste. These wastes may include solvents, paints and thinners, contaminated wastewaters, contaminated used oils and other types of waste associated with repair and maintenance.

Once operational, these facilities should make a hazardous waste determination using federal regulations (40 CFR 261) to identify a hazardous waste. All federal regulations on the proper handling and disposal of hazardous waste (40 CFR 260-270) should be followed. In addition, the generator of hazardous waste may need to obtain an EPA Identification Number depending on the volume of waste generated per month (See Attachment).

If you should have any questions on this matter, please contact Ms. Grace Simmons at 586-4235.

Very truly yours,

  
JOHN C. LEWIN, M.D.  
Director of Health

Enc.

C: Wastewater Branch  
Office of Solid Waste Management  
Solid and Hazardous Waste Branch

JOHN WAIHEE  
GOVERNOR OF HAWAII



JOHN C. LEWIN, M.D.  
DIRECTOR OF HEALTH

STATE OF HAWAII  
DEPARTMENT OF HEALTH

P. O. BOX 3378  
HONOLULU, HAWAII 96801

In reply, please refer to:

September 16, 1993

92-396/epo

Ron Terry, Ph.D.  
GeoMetrician Associates  
HCR 9575  
Keauu, Hawaii 96749

Dear Dr. Terry:

Subject: Environmental Assessment for New Site Design for Proposed  
Hawaii County Economic Opportunity Council  
Hilo District and Central Office, Hilo, Hawaii  
TMK: 2-2-32: 4

Thank you for allowing us to review and comment on the subject project at the new proposed site located at the above TMK. Our comments, dated December 7, 1992, still apply to this new site. We have no additional comments to make at this time.

Very truly yours,

A handwritten signature in cursive script, appearing to read "John C. Lewin".

JOHN C. LEWIN, M.D.  
Director of Health



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII

25 AUPUNI STREET • HILO, HAWAII 96720  
TELEPHONE (808) 969-1421 • FAX (808) 969-6996

September 17, 1993

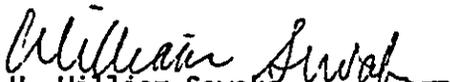
Dr. Ron Terry, Ph.D.  
GeoMetrician Assoc.  
HCR 9575  
Keaau, HI 96749

ENVIRONMENTAL ASSESSMENT  
PROPOSED HAWAII COUNTY ECONOMIC OPPORTUNITY COUNCIL  
TAX MAP KEY 2-3-32:4

This is in response to your letter of September 1, 1993.

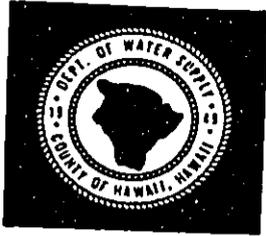
First of all, the Tax Map Key designation of 2-2-32:4 on your letter is apparently incorrect.

Our letter of November 12, 1992 regarding Tax Map Key 2-3-32:1 is applicable for the new subject site. However, please note that the existing 16-inch waterline traverses through the property. Any damage to or relocation of this waterline as a result of developing the property will be the responsibility of the developer. Construction plans shall be submitted for our review and approval during the design phase of the project.

  
H. William Sewake  
Manager

QA

*... Water brings progress...*



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII

25 AUPUNI STREET • HILO, HAWAII 96720  
TELEPHONE (808) 969-1421 • FAX (808) 969-6996

November 12, 1992

Ron Terry, Ph.D.  
GeoMetrician Association  
HCR 9575  
Keaau, HI 96749

WATER AVAILABILITY  
TAX MAP KEY 2-3-32:1

This is in response to your letter received October 23, 1992. Based on the prevailing water situation in the area, water can be made available from a 16-inch waterline along Waianuenue Avenue fronting the property with a connection size subject to review and approval during the construction design phase of your proposed development.

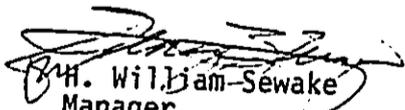
However, prior to issuing a water commitment to the proposed development, the following are required:

1. The anticipated maximum daily water usage as recommended by a registered engineer must be submitted. The Department reserves the right to make a final determination.
2. In accordance with the Department's "Water Commitment Guidelines Policy," a copy of which is attached, a water commitment deposit must be remitted. You will be informed of the deposit amount upon final determination of the submittal required in Item 1.

Upon completion of the above requirements, an official water commitment will be effected in accordance with the attached policy. The commitment will be in writing with specific conditions and effective dates stated.

Please keep in mind that this letter shall not be construed as a water commitment. In other words, unless a water commitment is officially effected, water availability is subject to change depending on the water situation.

Should there be any questions, please call our Water Resources and Planning Section.

  
W. William Sewake  
Manager

WA

Attach.

*... Water brings progress ...*

Stephen K. Yamashiro  
Mayor



Virginia Goldstein  
Director

Norman Olesen  
Deputy Director

## County of Hawaii

### PLANNING DEPARTMENT

25 Aupuni Street, Room 109 • Hilo, Hawaii 96720-4252  
(808) 961-8288 • Fax (808) 961-9615

September 16, 1993

Ron Terry, Ph.D.  
GeoMetrician Assoc.  
HCR 9575  
Keaau, HI 96749

Dear Dr. Terry:

Consultation in Preparation of the Draft  
Environmental Assessment (EA)  
Site for Proposed Hawaii County Economic  
Opportunity Council Office (HCEOC)  
Tax Map Key: 2-3-32:4; Piihonua, S. Hilo, Hawaii

This is to acknowledge receipt of your letter dated September 1, 1993, relative to the above-referenced project.

The Draft EA should give a detailed description of the proposed project together with appropriate maps. It should also include discussion on land use designations and their relationship to existing policies and plans for the area.

For your information, the subject property is situated within the State Land Use Urban District. The General Plan Land Use Pattern Allocation Guide (LUPAG) Map designates the area as Low Density Urban which allows for Single Family Residential uses, ancillary community and public uses and convenience type commercial uses. The property is zoned Single Family Residential-10,000 square feet (RS-10).

Given the proposed project information, we have determined that the proposed use could be processed by a Use Permit as it falls under the category of uses defined under Section 25-28(a)(1) of the Zoning Code. This section states:

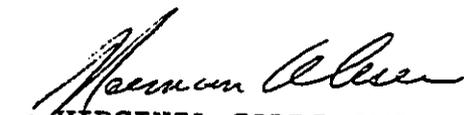
Ron Terry, Ph.D.  
Page 2  
September 16, 1993

"(1) All districts, except ML, MG and O districts: churches, temples and other institutions of a religious, cultural, philanthropic, or charitable nature. A minimum lot area of 10,000 square feet is required within the RS, RD, RM, and RA districts.

Please be advised, that since this project involves the use of state lands, the requirements of Chapter 343, Hawaii Revised Statutes, relating to Environmental Impact Statements, must be completed, preferably by the Department of Land and Natural Resources.

Should you have any questions, please feel free to contact Alice Kawaha of this office at 961-8288.

Sincerely,

  
VIRGINIA GOLDSTEIN  
Planning Director

AK:mjs  
0822D

JOHN WAIHEE  
GOVERNOR OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES

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

KEITH AHUS, CHAIRPERSON  
BOARD OF LAND AND NATURAL RESOURCE

DEPUTIES

JOHN P. KEPPELER II  
DONA L. HANAKE

AQUACULTURE DEVELOPMENT  
PROGRAM

AQUATIC RESOURCES  
CONSERVATION AND

ENVIRONMENTAL AFFAIRS  
CONSERVATION AND  
RESOURCE ENFORCEMENT

CONVEYANCES  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
DIVISION

LAND MANAGEMENT  
STATE PARKS  
WATER AND LAND DEVELOPMENT

LOG NO: 9762  
DOC NO: 9310ks03

October 14, 1993

Robert L. Spear  
Scientific Consultant Services, Inc.  
47-269 D Hui Iwa Street  
Kaneohe, Hawaii 96744

Dear Dr. Spear:

SUBJECT: Review of: "An Inventory Survey of the H.C.E.O.C. (Option II) Parcel, Piihonua Ahupua'a, South Hilo District, Hilo, Island of Hawai'i". Spear 1993.  
Scientific consultant Services, Inc., Draft Report  
Piihonua, South Hilo, Island of Hawaii  
TMK: 2-3-32: 004

Thank you for submitting the subject report for our review. We believe the survey coverage was adequate to locate and record all the historic sites in the property. Two historic sites, - 19036 and -19037, were identified and both sites are from the islands' post-contact period. We concur that both sites were significant solely for their information content, criterion D, and that sufficient information has been recorded during the survey so the sites can be considered "no longer significant". Hence, any proposed development of the subject project area will have "no effect" on significant historic sites.

We await the final version of the report which we understand will include good quality photographic reproduction. If you should have any further questions, please contact Kanalei Shun at 587-0007.

Sincerely,

A handwritten signature in black ink, appearing to read "Don Hibbard".

DON HIBBARD, Administrator  
State Historic Preservation Division

KS:amk

c: Virginia Goldstein, County of Hawaii Planning Department

APPENDIX 2  
SPECIES LIST, PROPOSED HCEOC SITE, HILO, HAWAII

by  
Ron Terry, Ph.D.  
and Layne Yoshida, M.A.

APPENDIX 2

SPECIES LIST, PROPOSED HCEOC SITE, HILO, HAWAII

Nomenclature of flowering plants follows Wagner, Herbst and Sohmer (1990) for indigenous and naturalized species, and various other sources including Neal (1965) and St. John (1973) for others. Fern nomenclature follows an unpublished list by C. H. Lamoureux. Common names (when known) are listed below each plant's scientific name. Status is listed as Native [N] (includes indigenous and endemic, [NE] (native endangered species), or Alien [A] (which includes Polynesian introduction before 1778).

FERNS AND FERN ALLIES

Adiantum sp. Maidenhair fern	[A]
Blechnum sp.	[A]
Christella parasitica Oak fern	[A]
Dicranopteris linearis Uluhe, false staghorn	[N]
Lycopodium phyllanthum wawae`iole	[N]
Lygodium japonicum Climbing fern	[A]
Nephrolepis exaltata Kukukupu, swordfern	[N]
Phymatosorus scolopendria Laua`e	[A]
Pityrogramma chrysophylla Gold fern	[A]
Psilotum nudum moa, whisk fern	[N]

FLOWERING PLANTS - MONOCOTS

<u>Agavaceae</u>	
Cordyline fruticosa Ti	[A]
<u>Apocyanaceae</u>	
Allamanda cathartica Allamanda	[A]

-	<u>Araceae</u>	
	Alocasia macrorrhiza	[A]
	`Ape`	
-	Colocasia esculenta	[A]
	Taro	
-	Epipremnum pinnatum	[A]
	Taro vine, pothos	
-	<u>Arecaceae</u>	
-	Cocos nucifera	[A]
	Coconut, niu	
-	Livistona chinensis	[A]
	Chinese fan palm	
-	Roystonea regia	[A]
	Royal Palm	
-	<u>Commelinaceae</u>	
-	Commelina diffusa	[A]
	Dayflower, honohono	
-	<u>Cyperaceae</u>	
-	Cyperus halpan	[A]
	Umbrella sedge	
-	Kyllinga nemoralis	[A]
	Kili`o`opu	
-	Mariscus javanicus	[N]
	`Ahu`awa	
-	<u>Heliconiaceae</u>	
-	Heliconia latispatha	[A]
	Heliconia	
-	<u>Musaceae</u>	
-	Musa x paridisiaca	[A]
	Banana	
-	<u>Poaceae</u>	
-	Brachiaria mutica	[A]
	California grass	
-	Coix lachryma-jobi	[A]
	Job's tears	
-	Eleusine indica	[A]
	Goosegrass, wiregrass	
-	Panicum maximum	[A]
	Guinea grass	
-	Paspalum conjugatum	[A]
	Hilo grass	

Pennisetum purpureum [A]  
     Elephant grass  
 Sacirolepis indica [A]  
     Glenwood grass  
 Saccharum officinarum [A]  
     Sugar cane  
 Setaria gracilis [A]  
     Perennial foxtail  
 Setaria palmifolia [A]  
     Palmgrass

Zingiberaceae

Hedychium coronarium [A]  
     White ginger  
 Hedychium flavescens [A]  
     Yellow ginger  
 Zingiber zerumbet [A]  
     `Awapuhi

FLOWERING PLANTS - DICOTS

Acanthaceae

Justicia betonica [A]  
     White shrimp plant  
 Thunbergia fragrans [A]  
     White thunbergia

Anacardiaceae

Mangifera indica [A]  
     Mango  
 Schinus terebinthifolius [A]  
     Christmasberry

Araliaceae

Schefflera actinophylla [A]  
     Octopus tree

Asteraceae

Ageritina riparium [A]  
     Hamakua pamakani  
 Ageratum conyzoides [A]  
     Ageratum  
 Bidens pilosa [A]  
     Spanish needle  
 Emilia fosbergii [A]  
     pualele  
 Emilia sonchifolia [A]  
     Flora's paintbrush, red pua lele  
 Erechites hieracifolia [A]  
     Fireweed

Pluchea symphytifolia	[A]
Sourbush	
Wedelia trilobata	[A]
Wedelia	
<u>Balsaminaceae</u>	
Impatiens wallerana	[A]
Impatiens, Busy Lizzy	
<u>Begoniaceae</u>	
Begonia hirtella	[A]
Begonia	
<u>Bignoniaceae</u>	
Spathodea campanulata	[A]
African tulip tree	
<u>Buddleiaceae</u>	[A]
Buddleia asiatica	
Dog tail	
<u>Caprifoliaceae</u>	
Sambucus mexicana	[A]
Elderberry	
<u>Caricaceae</u>	
Carica papaya	[A]
Papaya	
<u>Caryophyllaceae</u>	
Drymaria cordata	[A]
Drymaria	
Silene gallica	[A]
Small-flowered catchfly	
<u>Cecropiaceae</u>	
Cecropia obtusifolia	[A]
Cecropia, trumpet tree	
<u>Clusiaceae</u>	
Clusia rosea	[A]
Autograph tree	
<u>Convolvulaceae</u>	
Ipomoea congesta (I. indica)	[N]
Koali, morning glory	
<u>Euphorbiaceae</u>	
Macaranga mappa	[A]
Bingabing	

- Phyllanthus debilis  
Phyllanthus

[A]

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<u>Fabaceae</u>	
Albizia falcataria	[A]
Albizia	
Desmodium incanum	[A]
Spanish clover	
Mimosa pudica	[A]
Sensitive plant, sleeping grass	
Mucuna gigantea	[N]
Ka'e'e	
Samanea saman	[A]
Monkeypod tree	
<u>Malvaceae</u>	
Abutilon spp.	[?]
Hibiscus rosa-sinensis	[A]
Chinese or red hibiscus	
Malvaviscus penduliflorus	[A]
Turk's cap	
<u>Melastomaceae</u>	
Melastoma candidum	[A]
Melastoma	
<u>Moraceae</u>	
Ficus microcarpa	[A]
Chinese banyan	
<u>Myrsinaceae</u>	
Ardisia elliptica	[A]
Shoebuttton ardisia	
<u>Myrtaceae</u>	
Psidium cattleianum	[A]
Strawberry guava, waiawi	
Psidium guajava	[A]
Common guava	
Syzygium cumini	[A]
Java plum	
Syzygium jambos	[A]
Rose apple	
<u>Oxalidaceae</u>	
Oxalis corymbosa	[A]
Pink wood sorrel	
<u>Passifloraceae</u>	
Passiflora edulis	[A]
Passion fruit, liliko'i	
<u>Rosaceae</u>	

- Rubus rosefolius [A]  
Thimbleberry
- Rubiaceae  
Paederia scanden [A]  
Maile-pilau
- Scrophulariaceae  
Castilleja arvensis [A]  
Indian paintbrush
- Sterculiaceae  
Dombeya wallichii [A]  
Dombeya
- Melochia umbellata [A]  
Melochia
- Ulmaceae  
Trema orientalis [A]  
Gunpowder tree
- Verbenaceae  
Lantana camara [A]  
Lantana
- Stachytarpheta dichotoma [A]  
Vervain
- Verbena litoralis [A]

Literature Cited

- Lamoureux, C.H., n.d. Unpublished List of Hawaiian Pteridophytes. University of Hawaii, Dept. of Botany, Honolulu.
- Neal, M.C. 1965. In Gardens of Hawaii. Honolulu: Bishop Museum Press.
- Wagner, W.L., Herbst, D.R., and S.H. Sohmer. 1990. Manual of the Flowering Plants of Hawaii, 2 vols. B.P. Bishop Museum Spec. Pub. 83. Honolulu: University of Hawaii Press.

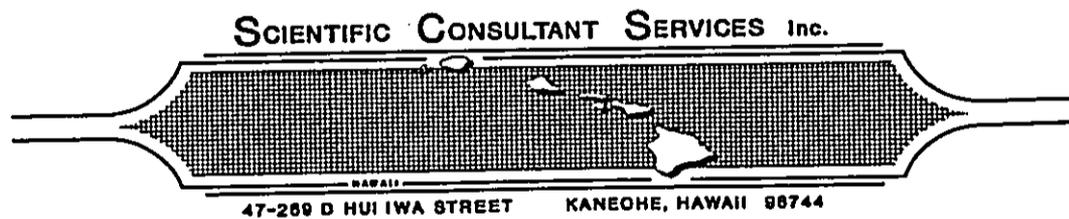
APPENDIX 3  
ARCHAEOLOGICAL REPORT

**AN INVENTORY SURVEY OF  
THE H.C.E.O.C. (OPTION II) PARCEL  
PIIHONUA AHUPUA'A, SOUTH HILO DISTRICT  
HILO, ISLAND OF HAWAII  
[TMK :2-3-32:4]**

by  
**Robert L. Spear, Ph.D.**

September, 1993

Prepared for  
**Stuart/Erickson And Associates**



## INTRODUCTION AND SETTING

At the request of Stuart/Erickson and Associates, an Archaeological Inventory Survey has been conducted by Scientific Consultant Services on approximately five acres located at TMK: 2-3-32:4, Piihonua ahupua'a, South Hilo District, Island of Hawai'i (Figure 1). The purpose of this survey was to determine the presence or absence of cultural remains in the project area. The fieldwork was carried out on August 26, 1993 by David Chaffee (Field Assistant) and Robert L. Spear, Ph.D. (Principal Investigator).

This five acre project area was located in the town of Hilo immediately north of Waianuenue Avenue and was bordered on the north, east and west by Rainbow Road (Figures 2, 3, and 4). Vegetation included California grass, feral sugar cane, shrubby trees, and larger trees such as banyan, African tulip, and Melochia (Figure 5). Other vegetation located in the mauka portion of the project area includes trees such as Macaranga, java plum, guava, Allamanda vines, and various palms (Figure 6).

## HISTORICAL AND ARCHAEOLOGICAL FRAMEWORK

A review of the Land Commission Award (LCA) books found no LCA's within or near the project area (n.d.).

A search of the records at the State Historic Preservation Office found that the recorded sites in the immediate area of the project were post-Contact sites such as Old Hilo Hospital

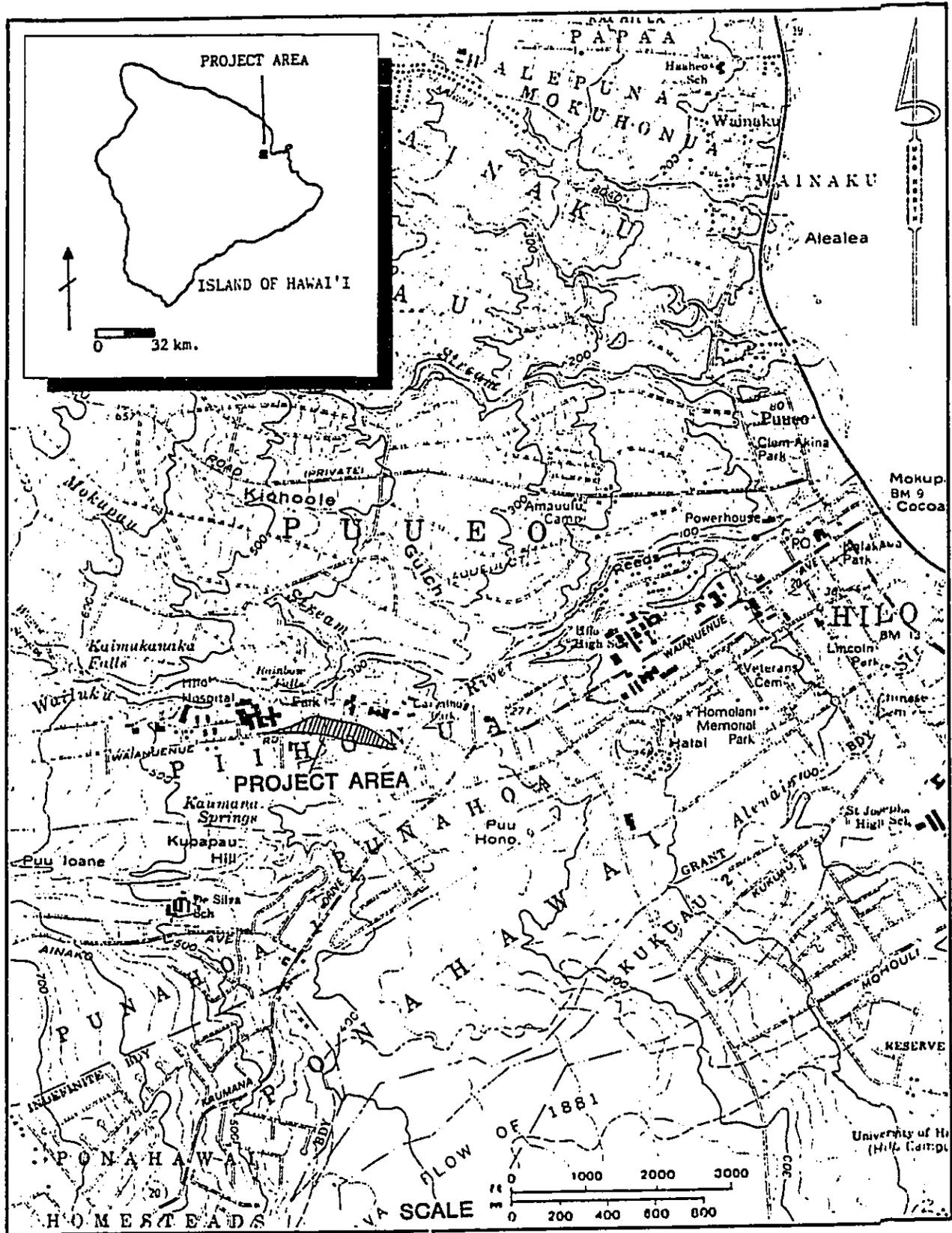


FIGURE 1: USGS HILO QUADRANGLE SHOWING PROJECT AREA (SHADED)

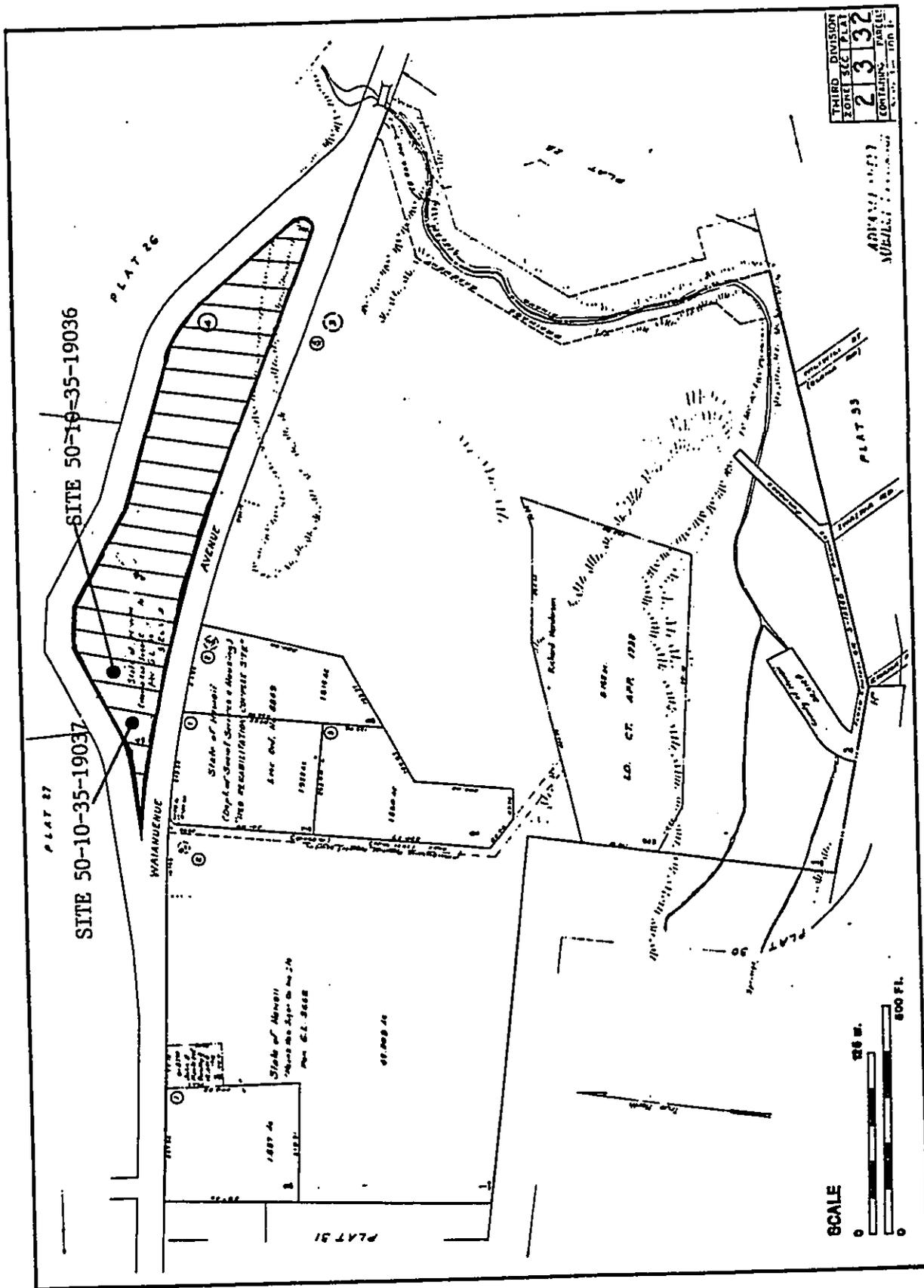


FIGURE 2: PROJECT BOUNDARIES AND THE LOCATION OF IDENTIFIED SITES.



FIGURE 3: MAUKA CORNER OF PROJECT AREA, LOOKING NORTHEAST  
ALONG WAIANUENUE AVENUE.



FIGURE 4: MAKAI CORNER OF PROJECT AREA, LOOKING NORTHWEST  
ALONG WAIANUENUE AVENUE.



FIGURE 5: VIEW OF FERAL CANE AND OTHER VEGETATION IN THE GENERAL PROJECT AREA.



FIGURE 6: VEGETATION IN THE MAUKA PORTION OF THE PROJECT AREA.

(site 7450), a Portuguese oven (site 7482), Hilo County Jail (site 7457), a section of free standing wall associated with sugar cane production (site 18,443), and a short retaining wall also associated with sugar cane production (site 18,444).

No previous archaeological work has been carried out in the project area. The closest previous work to the present project area was done by Spear (1992, 1993). The 1992 work was carried out on a parcel directly south of the present project area, across Waiuanue Road. Spear's work recorded two historic sites. No archaeological sites were discovered during the 1993 project.

Reports have also been generated for work done along nearby Alenaio Stream (Kelly and Athens 1982, Wickler 1990, Wickler and Ward 1992). The work associated with Alenaio Stream found no evidence of pre-Contact cultural deposits during testing and no artifacts earlier than the last quarter of the 19th century.

A broader view of the settlement history of the Hilo area and the archaeological potential of the present project area can be found in McEldowney (1979). McEldowney researched archaeological and historical materials and proposed zones of early historic-period land use. The present project area falls into Zone II, an Upland Agricultural Zone (McEldowney 1979:18-25). This zone contained "Scattered huts, emphasized by adjacent garden plots and small groves of economically beneficial trees species, dotted this expanse up to 1,500 ft elevation" (McEldowney 1979:18). Dry-land taro was planted more extensively in the upland zone than on the coast and bananas were more numerous. Wet-land taro occurred along small streams, tributaries, and rivers (McEldowney 1979:19). Thus, we

might expect pre-Contact archaeological features to include agricultural and habitation features.

However, historic period alterations of the environment and settlement patterns, especially those caused by sugar cane production and managed cattle ranches have greatly affected the preservation of pre-Contact archaeological features in the Hilo area.

Hudson, who carried out the earliest archaeological survey of the Hilo region, noted that no archaeological remains were to be found in the city (Hudson 1932:226). Goodfellow and Fager found that Hudson's statement was generally supported by archaeological field work undertaken in the South Hilo District during the last decade (Goodfellow and Fager 1992:4).

Due to the extensive historic alterations in the Hilo area it is more likely that remains of post-Contact archaeological features would be encountered in the project area.

#### METHODOLOGY

The purpose of this inventory survey was to complete a surface reconnaissance of the project area and identify and test any likely subsurface deposits. The surface survey was conducted by walking transects across the project area with the surveyors no more than 5.0 m apart because of the difficulty in viewing the ground.

Records were kept through the use of a black and white photo record and the appropriate fieldnotes. All project materials are stored at the office of Scientific Consultant Services, Kaneohe, Hawai'i.

Identification of bottles and bottle fragments was provided by Jack Morin (Pers. Comm.) and identification of ceramic pieces was by Susan Lebo (Pers Comm.).

#### FIELDWORK RESULTS

Two archaeological sites were located during the surface survey. Neither of these sites required subsurface testing nor were any other locations identified that required excavations.

#### Site 50-10-35-19036

Site 50-10-35-19036, Feature 1, consisted of the remains of an old Portuguese oven (Figures 7 and 8). The oven was comprised of three sub-features (1a, 1b, and 1c). Feature 1a consisted of a low platform upon which the oven was constructed. It measured 2.90 m east/west and 2.75 m north/south. The height of this platform was 0.25 m.

Feature 1b was a platform which is placed on top of Feature 1a. Feature 1b measured 1.90 m east/west and 1.90 m north/south. The height of this second platform was 0.55 m. In the northeast corner of Feature 1b were the remains of the dome that initially enclosed the oven. Only a small portion of this dome remains intact.

Feature 1c was an opening constructed into the north face of Feature 1b. This opening measured 0.36 m wide, 0.43 m high, and 0.26 m deep. There is an opening that extends from the top of Feature 1c through Feature 1b to the top of Feature 1b.



FIGURE 7: PORTUGUESE OVEN, FEATURE 1, FOUND AT SITE 50-10-35-19036. VIEW TO WEST.



FIGURE 8: VIEW OF FEATURE 1c, AN OPENING, AND THE REMAINS OF A DOME (PARTIAL) AT SITE 50-10-35-19063. VIEW TO SOUTHEAST.

The oven was constructed with basalt cobbles and small boulders which have been cemented together. The southeast corner of Feature 1b has collapsed and tumbled over Feature 1a.

Several historic artifacts were found in association with Feature 1. These include three glass artifacts, and four ceramic shards (Figure 9). Also, a charcoal heated clothes iron was found resting on feature 1b (Figure 10).

Of the glass found at this site, a nearly whole wine bottle (artifact # 19036-1) of olive green blackglass was removed from within feature 1c. It is a turned-in-the-mold variety with an applied rim indicative of late 1800's bottle manufacturing technique. Artifact # 19036-2 is a clear culinary bottle with a continuous thread and an applied lip. The continuous thread, applied lip combination suggests that this bottle was made between 1907 and 1924. Artifact # 19036-3 is the clear base of a large square-sided bottle. The most likely function of this bottle was to hold liquor.

Ceramic remains found at this site include a partial bowl of white ceramic bottom stamped "Noritake" (artifact # 19036-4). This type of bowl was commonly referred to as hotelware manufactured for the Euro-American market. The construction of this bowl is less delicate than that of fine china and is indicative of the utilitarian type of bowl used in commercial service. Another partial cup was recovered from this site, artifact # 19036-5. It has a white porcelain core with a green wash around the rim and a polychrome rose decal overglaze. It also has gold gilding. This type of cup was common in the late 19th century. Two additional ceramic shards (artifacts # 190036-6 and 19036-7) were undiagnostic.

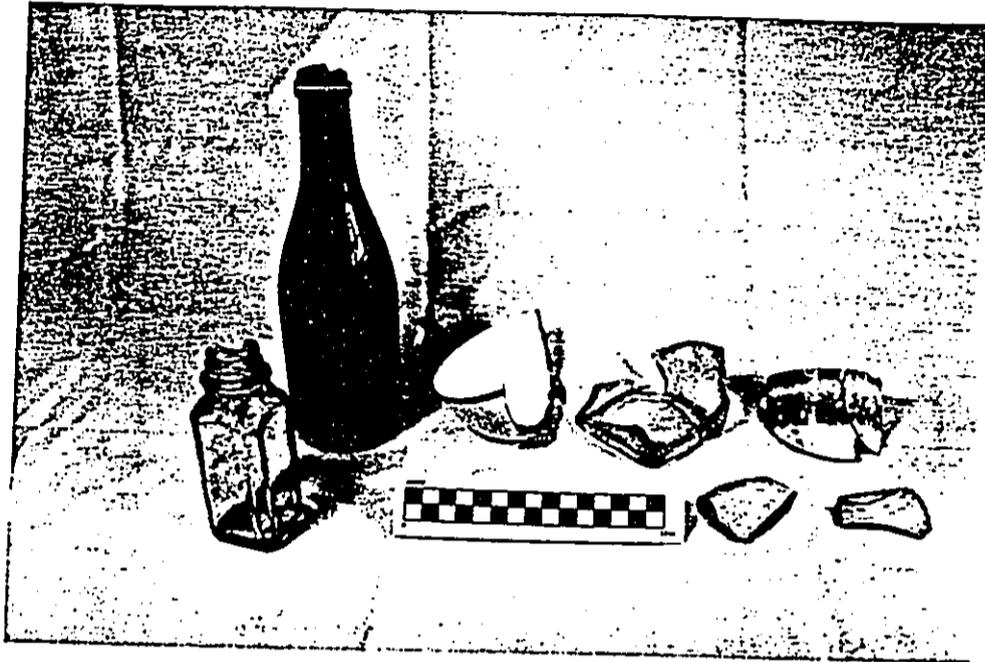


FIGURE 9: GLASS AND CERAMIC ARTIFACTS FROM SITE 50-10-35-19036.



FIGURE 10: REMAINS OF A CHARCOAL HEATED CLOTHES IRON RESTING ON FEATURE 1b AT SITE 50-10-35-19036.

#### Site 50-10-35-19037

Site 50-10-35-19037 consisted of an historic dump comprised of bottles, bottle fragments and glass, ceramics, and rusted metal (Figure 11). The dump measured 2.40 m north/south and 1.00 m east/west. A sub-surface probe supported the observation that the dump was only a surface feature.

Only type examples of artifacts were collected and these are described in Table 1.

Thirteen bottles and bottle fragments were collected at this site. Six of the bottles and bottle fragments are aqua colored, three are of green varieties, two are olive green blackglass, and one is made of cobalt colored glass (Figures 12 and 13).

Only one bottle, artifact # 19037-2, had a bottom stamp. The stamp is A & DHC and belongs to Chambers Glass Co. out of Pennsylvania. This bottle is pint sized suggesting a later rather than earlier date of manufacture. Artifact # 19037-13, a partial torpedo soda bottle, has the tightest age range of all collected type samples. Elliott and Gould (1988) list this bottle type as one of three varieties that Tahiti Lemonade Works used in 1886, 1887, and 1888.

Figure 14 shows ceramic shard artifacts # 19037-14 through # 19037-20 as being spongeware, their designs having been applied with a sponge stamp. These seven pieces come from two different design patterns and from at least two different vessels (one pattern may have been on more than one ceramic piece). Artifacts # 19037-14, 15, and 16, are patterned with an aqua green design on the interior surface of what was probably a bowl. Artifacts # 19037-17 through



FIGURE 11: GENERAL VIEW OF SURFACE BOTTLE DEPOSIT AT SITE 50-10-35-19037. VIEW TO EAST.



FIGURE 12: GLASS ARTIFACTS 19037-1 THROUGH 19037-4 AT SITE 50-10-35-19037, LEFT TO RIGHT.

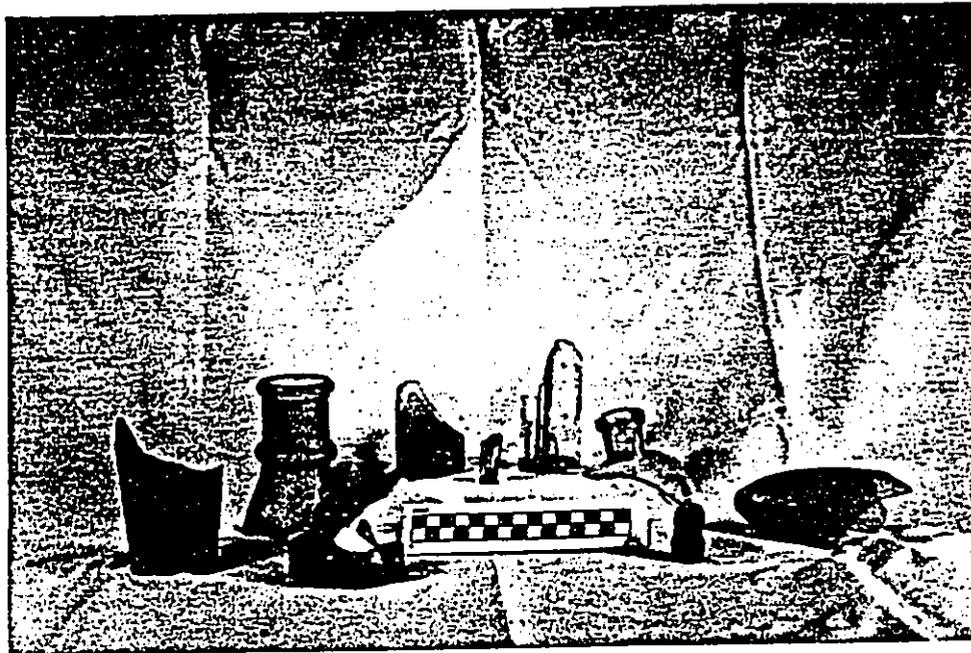


FIGURE 13: GLASS ARTIFACTS NUMBER 10937-5 THROUGH 10937-13 AT SITE 50-10-35-19037. LEFT TO RIGHT.



FIGURE 14: CERAMIC ARTIFACTS NUMBER 10937-14 THROUGH 10937-20 AT SITE 50-10-35-19037.

20 exhibit a blue pattern on the exterior of their rims. These ceramic pieces are of European manufacture. Pieces of a yellow-ware bowl of 19th century manufacture make up artifacts # 19037-21, 22, and 23. A bowl foot of indeterminate age and three additional ceramic shards, each exhibiting a line of blue glaze at the rim comprise artifacts # 19037-24, 25, 26, and 27 (Figure 15).

Artifact # 19037-28 was the only ceramic piece from this site with a diagnostic bottom stamp which was Thomas Furnival and Sons (Figure 16). Research shows that this trade mark originates in England and was manufactured in the period 1871-1890 (Godden 1964, p.263).

The vast bulk of the recovered artifacts have age ranges for these artifacts of 20-30 years beginning in the 1880's. As determined, the ceramic dates of manufacture and the dates for the bottles and glass artifacts mesh nicely.

#### DISCUSSION

The project area falls into McEldowney's Upland Agricultural Zone. Pre-Contact features that were felt to be possible included agricultural and habitation features. No such features were identified in the project area. Post-Contact alterations of the landscape included the growing of sugar cane and the use of the area in modern times as a informal dumping ground for people's trash.

The two sites recorded are typed as an oven and an historic trash dump. Bottles associated with the oven (site 50-10-35-19036) suggest that it functioned around 1900. The historic items that



FIGURE 15: CERAMIC ARTIFACTS NUMBER 19037-21 THROUGH 19037-28 AT SITE 50-10-35-19037.



FIGURE 16: CLOSE UP OF CERAMIC ARTIFACT 19037-28 SHOWING BOTTOM STAMP OF THOMAS FURNIVAL & SONS.

comprise the dump (site 19037) indicate that it was deposited around the early 1900's. There is no way to tell if the two sites are related.

Both sites are clearly post-Contact in age and may be associated with either the sugar cane industry or the managed cattle ranching discussed by McEldowney (1979:37-42).

Both sites are significant under Criterion D because of their informational content. However, because sufficient information has been collected from both sites they can be evaluated as no longer significant. As such, future development of this project area will have no effect on any significant historic sites.

Based on the results of this project it is recommended that no further archaeological work be required at this location.

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Table 1: Description of Bottles at Site 50-10-35-19037  
(All bottles found on the surface)

Number	Color	Type	Completeness	Manufacture Method	Date Range	Comments
1	Olive Green Blackglass	Liquor	Whole	Turned in Mold	1887-1910	None
2	Amber	Beer	Almost Whole No Lip	2-piece Mold	1870's- Early 1900's	Bottom Stamp A & DHC is Chambers Glass out of Pittsburgh, Penn.
3	Light Green	Beer	Almost Whole No Lip	Blown in Mold	1880-1910	None
4	Aqua	Wine	Almost Whole Broken Base	Blown in Mold Applied Ring	1880-1910	Lightness of glass suggests a late date of manufacture
5	Olive Green Blackglass	Case Gin	Base Only	Blown in Mold	Late 1800's	Probable European Import
6	Aqua	Carboy	Neck and Lip	Applied Lip	Unknown	A Large Bottle of Indeterminate Use
7	Apple Green	Wine	Base only W/ Pontil	Unknown	Late 1800's	None
8	Medium Green	Medicinal	Base only	Automatic Bottle Machine (ABM)	1907-1920	Oval Cross-section
9	Aqua	Opium	Base Only	Hand Blown	Unknown	Probably Chinese
10	Aqua	Medicinal	Base and Partial Panel	Blown in Mold	1880-1910	Rectangular Cross-section
11	Aqua	Chemical	Neck and Lip	Blown in Mold Applied Rim	1880-1900's	None
12	Cobalt Blue	Medicinal	Neck and Lip	Applied Lip	1880-1910	None
13	Aqua	Torpedo Soda Codd Bottle	Base Only	Unknown	1886-1888	If this bottle is of Hawaiian origin, it would be a Tahiti Lemonade Works made by Dan Rylands under the Reliance Patent