



EXECUTIVE CHAMBERS

HONOLULU

GEORGE R. ARIYOSHI
GOVERNOR

October 29, 1980

Mr. Donald A. Bremner, Chairman
Environmental Quality Commission
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813

Dear Mr. Bremner:

Subject: Environmental Impact Statement for the Prince Kuhio
Plaza, Hilo, Hawaii

Based upon the recommendation of the Office of Environmental Quality Control, I am pleased to accept the subject document as satisfactory fulfillment of the requirements of Chapter 343, Hawaii Revised Statutes. This environmental impact statement will be a useful tool in the process of deciding whether or not the action described therein should or should not be allowed to proceed. My acceptance of the statement is an affirmation of the adequacy of that statement under the applicable laws, and does not constitute an endorsement of the proposed action.

When the decision is made regarding the proposed action itself, I expect the proposing agency to weigh carefully whether the societal benefits justify the environmental impacts which will likely occur. These impacts are adequately described in the statement, and, together with the comments made by reviewers, provide a useful analysis of alternatives to the proposed action.

With warm personal regards, I remain,

Yours very truly,


George R. Ariyoshi

cc: Honorable Georgiana K. Padeken

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THE PRINCE KUHIO PLAZA

ENVIRONMENTAL IMPACT STATEMENT

Environmental Quality Commission
Office Of The Governor
550 Halekauwila Street
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JUNE 1980

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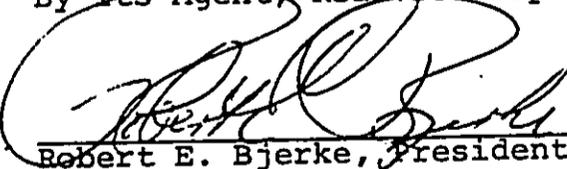
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THE PRINCE KUHIO PLAZA
a 39-acre regional shopping center
Hilo, Hawaii

ENVIRONMENTAL
IMPACT
STATEMENT
June, 1980

Orchid Isle Group
By its Agent, Redevo Properties, Inc.


Robert E. Bjerke, President
Redevo Properties, Inc.


Richard E. Fahrenwald, Vice President
Redevo Properties, Inc.

CREDITS

This Environmental Impact Statement was prepared for Orchid Isle Group, the applicant, through its agent, Redevo Properties, Inc., by the Hilo firm of Walt Southward: Public Relations, with the assistance and cooperation of the following consultants:

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INTRODUCTION AND SUMMARY

A. PURPOSE OF DOCUMENT

There has been a substantial amount of discussion regarding the necessity of an Environmental Impact Statement for this project. Many of the primary decisions in conjunction with the project have already been made.

The lease has been put up for auction, bid upon, approved and signed. The General Plan of the County of Hawaii has been amended to permit the project. The zoning for the specific site has been changed from Industrial to Commercial to allow the development of the proposed shopping center.

A grubbing permit has been issued by the County of Hawaii, and the land in question has been grubbed and cleared to allow topographic studies and survey work.

However, it is the decision of the land owner, the Department of Hawaiian Home Lands, and the lessee, Orchid Isle Group, through its agent, Redevco Properties, Inc., that an Environmental Impact Study should be completed.

It must be noted, from a philosophic view, that the EIS will probably satisfy neither the strong opponents nor the strong supporters of the proposed center. The opponents, by and large, are a class of people who may be economically impacted by the creation of a large, new shopping center, offering competitive shopping in a community that has seen little new retail facilities opened in the past decade. The supporters are those who want competitive shopping, additional jobs, additional tax income to the County, additional lease income to Hawaiian Homes, additional construction opportunities and the greater opportunity to deal in an open marketplace.

The quality of the EIS, and the depth of the research and review involved, will probably have little impact on either side of the controversy.

Those who strongly oppose the shopping center will probably continue to do so. Those who support it will probably not change their position.

It is being completed, therefore, in the interest of satisfying the continuing demands for it from opposing sources, as well as complying with the spirit of Chapter 343 of the Hawaii Revised Statutes.

The specific requirement involved in the decision to complete an EIS is the fact that the lands in question are owned by the Department of Hawaiian Home Lands, and thus are

deemed to be State lands. Were the land owned by a private owner, the other requirements for an EIS would not come into effect in this instance; i.e., the land is not a conservation district; the land is not within the shoreline area; the land is not within a historic site and the land is not within the Waikiki-Diamond Head area of Oahu.

B. NECESSARY APPROVALS

The primary approvals have already been granted for this project.

The Department of Hawaiian Home Lands has held a property auction, the results of that auction were approved by the Hawaiian Home Lands Commission, the lease has been executed, the General Plan of the County of Hawaii has been amended to permit the project and the zoning has been changed from industrial to commercial to allow the project.

Still remaining is plan approval by the Hawaiian Homes Commission, and the County of Hawaii, as required in the lease, and the issuance of a building permit by the County of Hawaii.

C. PROJECT DESCRIPTION SUMMARY

The project in question is a 39-acre shopping center development, to be known as the Prince Kuhio Plaza.

It will include three "anchor" stores, large department stores, with from 55,000 to 60,000 square feet of space each, as well as some 240,000 additional square feet of other shopping, food, commercial and similar usage. Parking will be provided for some 2,150 vehicles.

The property is located at the intersection of Kanoelehua Avenue and Puainako Street in Hilo, with residential property to the south, commercial property to the southwest, industrial property to the west and north, and vacant industrial-zoned property to the east.

D. DEVELOPMENT JUSTIFICATION SUMMARY

By all available indicators, the East Hawaii portion of the County of Hawaii is drastically lacking in modern shopping facilities.

For purposes of this study, we are assuming that the area from Ka'u to Hamakua can be considered the basic shopping area for the proposed Prince Kuhio Plaza.

According to the State Data Book, 1979, the population of the districts of the Big Island as of July 1, 1978, was:

Ka'u	4,000
Puna	8,300
South Hilo	41,000
North Hilo	2,000
Hamakua	<u>5,400</u>
Total	60,700

Primary shopping center space in the area consisted of two major centers, plus a number of small neighborhood shopping centers.

The primary shopping centers are Kaiko'o Mall, with 190,000 square feet of leasable floor space, and the Hilo Shopping Center, with 78,000 square feet of floor space, a total of 268,000 square feet of shopping area.

This can be contrasted to the Island of Maui, which had a population of 52,900 as of July 1, 1978, 7,800 less than the Ka'u to Hamakua area selected as the shopping target area for the proposed center.

Maui, with only 87 percent of the population of the East Hawaii shopping area, had three primary shopping centers, all located in Kahului, with a total of 530,000 square feet of shopping area.

Thus it can be seen that Maui, with 87 percent of the population, has 177 percent more shopping space.

The project justification can be seen in more than just sheer numbers.

It can also be seen in community support, and in the continuing demand of the people of the Big Island for the shopping center.

Subsequent to the announcement of plans for the shopping center, a number of groups endorsed the proposal, including the

Hawaii Island Chamber of Commerce, the Kanoelehua Industrial Area Association, the Associated Students of the University of Hawaii Hilo College, Operating Engineers Local #3 and other labor groups, the Hilo Contractors' Association, and others.

The developers followed the proposed outline for processing their application as recommended by the Planning Director of the County of Hawaii. After the project had been the subject of a number of hearings by the Planning Department and the Planning Commission, it was approved by the Planning Commission and then sent to the Hawaii County Council for final approval. At that stage, the Hawaii County Corporation Counsel issued an opinion that the Planning Commission did not have the power to initiate an amendment to the General Plan, thus removing the item from the agenda of the County Council.

Rather than return to the beginning of the application and hearing process, which had already taken more than a year and a half, the applicants decided to pursue the initiative procedure provided in the Hawaii County Charter.

Despite the fact that the initiative procedure had never been used before in the history of the County, in just 28 days more than 6,400 signatures were received on the petition.

It must be noted that this was a very formal petition, as required by the Charter, including a signature, a printed, readable name and address and could only be signed by registered voters.

The ability to acquire more than 225 signatures a day, for 28 days, must be indicative of the substantial public demand for the project.

The developers have often referred to the fact that the project is indeed a "project of the people," noting that only the continuing public demand has made the success registered to date possible.

Once the initiative petition had been certified as valid by the Clerk of the County of Hawaii, the County Council then approved it, changing the General Plan and rezoning the land, by a 6-3 vote on two readings, and then, also by a 6-3 vote, overrode a mayoral veto.

Three factors, then, help to justify the proposed project:

- * Lack of existing shopping facilities.
- * Continuing intensive public support.
- * Approvals by the County of Hawaii Planning Commission and the County Council.

E. SUMMARY OF PROJECT IMPACTS

1. BENEFICIAL IMPACTS

The beneficial impacts of the Prince Kuhio Plaza will be improved shopping opportunities in a community where little new retailing has been recorded in recent years, the creation of a substantial number of new jobs, greater income to the State and County governments as well as to the Department of Hawaiian Home Lands, the creation of a number of extensive construction contracts and utilization of an urban parcel of land that presently goes unused.

2. POTENTIALLY NEGATIVE IMPACTS

The primary potentially negative impact is on businesses presently existing within the community, and it is from that source that most of the opposition has come.

The existing commercial establishments fear that competition will cause them to lose business, perhaps to the point of necessitating the closing of some businesses. There is a fear of competition within the economic market place for labor, and the possibility that the success of the Prince Kuhio Plaza will cause other commercial developments or districts to be economically blighted.

SECTION I
PROJECT DESCRIPTION

A. DEVELOPMENT CONCEPT

The applicant proposes to develop a 420,000 square foot shopping center on a 39-acre parcel of land at the Kanoelehua and Puainako intersection in Hilo. Parking will be provided for a minimum of 2,150 cars. Most of the shopping center buildings will be one-story in height. There may be a small amount of second-story space.

The development plans indicate three major department stores of approximately 60,000 square feet each, along with an enclosed air conditioned mall with amenities, landscaped parking areas, customer service areas and similar other considerations incidental to a first class regional shopping facility. The developer will construct extensions of both Makaala Street and Ohuohu Street and because of the requirements of the shopping center, the applicant has offered to build the extension of Puainako Street, from Kanoelehua Avenue to Ohuohu Street.

B. PROJECT HISTORY

The concept of establishing a center of the type contemplated dates back to the early 1970's after the opening of the Hilo Mall in the Kaiko'o Redevelopment Project. Robert Bjerke, a partner in Redevco, developed the Hilo Mall in conjunction with Takeshi Yokono of Honolulu, and managed it from its opening in July of 1970 until its sale to Harry Weinberg in June 1976.

During the years 1972 and 1973, management of the Hilo Mall received requests for over 400,000 square feet of space in the Mall from national, regional and local tenants. Though there had been a turn-over in some of the square footage of Hilo Mall spaces, there had not been a vacancy since the Center became fully occupied in 1971.

Because of the enormous retail interest, a study of possible expansion of the Mall was undertaken. This study was made early in 1974. After a thorough check of the economics it was determined that expansion, which would require extensive decking, would be economically unfeasible. Efforts therefore, were discontinued.

To the best knowledge of those involved in the management of Redevco, the national, regional and local merchants who expressed interest in locating in the Hilo Mall in the early

1970's have not yet found a location in the Hilo area. Commencing in 1974 and continuing until Orchid Isle Group signed a lease with the Department of Hawaiian Home Lands in October 1977, many prospective locations throughout the community were considered. For a variety of reasons none seemed to meet the requirements of a dominant retail complex or were not available at the time.

In September 1977 the property was listed for auction by the Department of Hawaiian Home Lands. The auction was authorized by Section 204.2 of the Hawaiian Homes Commission Act of 1920, as amended, which authorizes the Department to lease any available land as may not be immediately needed for the purpose of the Act. The land classification at that time was light industrial. The purpose as listed in the notice of sale was for industrial use or, in the event a zoning change permits commercial use, then commercial use. The term of the option was 53 years, beginning October 1, 1977 and ending September 30 in the year 2030. The upset rental was \$157,500 per annum with reopenings in 1980, 1990, 2000, 2010 and 2020.

Several shopping center developers picked up auction packets. The only bidder at the auction was Orchid Island Group, which secured the option at the upset price.

A subsequent legal battle regarding rezoning of the property then ensued. Because the property was listed as industrial in both the General Plan and the Zoning Maps of the County of Hawaii, it was necessary to create both a General Plan Amendment and a rezoning. Redevo, which was retained as an agent of Orchid Isle Group, pursued the General Plan Amendment in conjunction with advice given by the Director of Planning of the County of Hawaii. During the course of this effort Redevo participated in public meetings and public hearings all over the Island of Hawaii.

After extensive debate and discussion, the Planning Commission of the County of Hawaii, in November 1978, approved the project and sent it to the County Council for final approval. The County Council, after a delay of several months before the subject was officially placed on the Council agenda, received an opinion from the County Corporation Counsel indicating in essence that the Council could not vote on the action, and that only the Planning Director had the right to initiate amendments to the General Plan.

Subsequently, an initiative petition was circulated, signed by the required number of voters, certified and submitted to the County Council and approved in October 1979 by the County Council on final reading. The final approval overrode a veto by the Mayor of the County of Hawaii.

C. PROJECT JUSTIFICATION

Two studies have been completed on the market and marketability of the proposed shopping center. The first study was made by John Child & Company, Inc. for Redevco. The study analyzed basic data and suggested that the proposed shopping center meets or exceeds the locational criteria for a regional shopping center as set forth by the Urban Land Institute. The study went on to say, "In terms of size, shape and location relative to population growth, future highway improvement and surrounding land uses the site enjoys major advantages." The John Child study went on to say that there would be a need in Hilo for additional retail space totalling approximately 509,700 square feet in 1980, 493,800 square feet more in 1985 and an additional 498,200 square feet in 1990. In another section the study said, "If the proposed shopping center begins operation in early 1981, there will be sufficient retail space demand to support the center without significantly detracting from the other existing or proposed retail establishments in Hilo area."

The County of Hawaii prepared a study entitled "High Density Urban Alternatives for Hilo" in August 1978. That study in projecting additional retail floor demand for Hilo indicated a need in 1980 for 360,300 square feet; in 1985 for 803,400 and in 1990 for 1,289,100 square feet. The proposed shopping center will be located in the area of the greatest increasing density within the city of Hilo. This was borne out by the County of Hawaii study which indicates increasing density within the Waiakea Houselots and Waiakea Homesteads area, since 1960.

The review of income variations within the city also indicates higher income households are more prevalent in the newly developing areas within the city. The upper Waiakea area accounts for one-third of the residential units in Hilo and is the area of greatest growth within the city. This market also has the greatest spending power per household. The study goes on to indicate that the Puna area has grown faster than any sub-area within Hilo during the period of 1970 to 1976.

Philosophically, there has been great discussion by planners about the propriety of locating new shopping centers on the outskirts of communities. In this instance the shopping center is being located close to the center of the community and thus is not being located in a rural out-of-the-way area causing urban sprawl. The urban development has already occurred and the residential units are now located close to the shopping area that is proposed.

According to the County study, from the standpoint of sheer centrality within the context of the urban designation of Hilo, the best location for a shopping center would probably be right on the University of Hawaii at Hilo Campus. That location, of course, is not available.

The County study points out the proposed site has the advantages of being well situated with respect to developing Puna and upper Waiakea areas. As we noted earlier, Redevco partner Robert Bjerke found that many businesses wanted to come to the Big Island but have not done so. One of the reasons has been the lack of available commercial space. This project would make available that space which is needed to accommodate retail operators wishing to come to Hilo.

D. DEVELOPMENT INCREMENTS

It is the intention of the developer to proceed with the entire project at one time, completing the entire 39-acres and completing the building of the commercial structures at the same time.

E. SUPPORT FACILITIES

1. UTILITIES

All utilities for the proposed shopping center are available and easily accessible. Electricity for the Big Island is produced by Hawaii Electric Light Co., Inc., (HELCO), a subsidiary of the Hawaiian Electric Co., Inc. In 1978, electricity sales totaled 393.5 million kilowatt hours, an increase of 4.4 percent over 1977. A total 161.2 million KWH were sold for residential use and 232.3 million KWH were sold for commercial use. The main power plant for the Hawaii Electric Light Co., Inc., the Kaneohe Power Plant, is located 2,000 yards north of the shopping center site.

Water for the County of Hawaii is provided by the County Department of Water Supply. Hilo traditionally has an abundance of water, due in part to the average rainfall of 133 inches per year. An 18-inch main is located on Kaneohe Avenue, bordering the property on the west side.

Hilo Gas Co., a subsidiary of Gasco, Inc., provides both piped gas and bulk gas on the Big Island. The nearest available gas line is on Kilauea Avenue, approximately one block from the shopping center site. It is anticipated that bulk gas will be used in the operation of the shopping center, inasmuch as usage would not be sufficient to justify extension of the existing lines at the present time.

Telephone service is available from the Hawaiian Telephone Co., which in 1978 had a total of 58,661 telephones in service on the Big Island. Switching centers are located within two miles of the proposed shopping center site.

2. ROAD ACCESS

The proposed shopping center site is advantageously located in reference to adjacent roads and highways. It is at the intersection of Kanoelehua Avenue and Puainako Street.

Kanoelehua Avenue is a four-lane, modern highway that serves as one of the major cross-island arterials (State Highway 11). Turning lanes are built into Kanoelehua Avenue at Puainako and Makaala Streets, the two ends of the shopping center property.

The Puainako-Kanoelehua intersection is equipped with modern, traffic-activated intersection lights.

Puaniako is a lesser State Highway (State Highway 123) but is earmarked for future expansion as a connector to the Saddle Road. It presently connects with Komohana Street, Kinoole Street and Kilauea Avenue, all primary cross-town arterials.

It is the plan of the developer to extend Puainako Street in the east direction to join with Makaala Street and Ohuohu Street, both of which will also be completed by the developer, to create a boundary of roads around the shopping center.

Long range road development plans also call for Puainako to be completed in the east direction to become the entrance highway for the Hilo Airport.

3. SECURITY

Security for the proposed shopping center would be provided by two means: first, the Hawaii County Police Department, and, in addition, a private security firm hired by the developer.

The Hawaii County Police Department has its Hilo District offices 2.2 miles from the shopping center site, with 117 sworn officers, including patrol officers, investigative officers and sworn administrative staff, on the Hilo staff, and a total of 266 sworn officers and 28 civilian full time employees island wide.

Three protective security firms are presently working on the Island of Hawaii. It is anticipated that it will not be difficult to arrange for security services from any one of the three firms. In fact, it is expected that the firms will be eager for the contract.

4. SEWERAGE SYSTEM

The developer will provide an underground treatment facility with the necessary underground disposal of treated effluent. The sewerage system will be designed to meet the requirements of the State Department of Health Rules and Regulations, Chapter 38, and will be approved by the State Department of Health. The system will be privately operated and maintained.

SECTION II
DESCRIPTION OF ENVIRONMENTAL SETTING

A. LOCATION

1. AREA DESCRIPTION

The State of Hawaii consists of eight major and 124 minor islands having a total land area of 6,425 square miles. Hawaii County, the Island of Hawaii, has an area of approximately 4,038 square miles, and contains 62.8 per cent of the total State land area.

The island is divided into nine judicial districts: North and South Kohala, North and South Kona, Hamakua, Ka'u, Puna and North and South Hilo. The magnitude of the island, and the wide range of topography and climate, offer an environment more diverse than that of any of the other islands within the chain.

The subject property is located within the urban area of South Hilo, a community that serves as the primary seat of government and commerce for the County. The population of the County of Hawaii* as of July 1, 1978, was 80,900. The population of the South Hilo District was 41,000, or 50.67 percent of the total. The population of the adjacent district of Puna was 8,300, and the population of the adjacent district of North Hilo was 2,000, giving a total population as of July 1, 1978, the most recent figures available, 51,300, or 63.41 percent of the population of the island as a whole.

Over the eight year period from April 1, 1970, to July 1, 1978, the population of the island of Hawaii as a whole increased by 27.4 percent; the population of the Puna District increased by 61.9 percent; the population of the South Hilo District increased by 20.9 percent and the population of the North Hilo District increased by 4.6 percent.

The primary industries within the area are sugar, tourism, trade and manufacturing. The State, County, and Federal Governments are major sources of employment. Hilo has the primary deep water harbor on the island, and has the island's only airport large enough to handle direct flights to and from the U.S. Mainland. The prevalence of tradewinds from the northeast accounts for an annual average rainfall of 133 inches.

* Source: Hawaii State Census Statistical Areas Committee, Estimated Population of Hawaii by Districts, 1978 (Report CTC-42, August 30, 1979).

in the Hilo area per year. The average annual temperature at Hilo is 73° F. The Island of Hawaii is subject to earthquakes of strong intensity, and from 1960 through 1978 a total of 18 earthquakes of Magnitude Five or greater on the Richter Scale were recorded as occurring in or near the Island of Hawaii.

The Island of Hawaii also is subject to tsunamis, and in the years from 1818 to 1978, ten tsunamis with run-up in excess of 6.6 feet were recorded in the Hilo area. The majority of these tsunamis originated from earthquakes in Chile or Alaska, and wave height reached 55.8 feet (1946) and 34.4 feet (1960). The 1946 wave, generated in the Aleutians, killed 159 people in Hawaii and caused \$26 million damage. The 1960 wave, generated in Chile, killed 61 people and caused \$23 million damage.

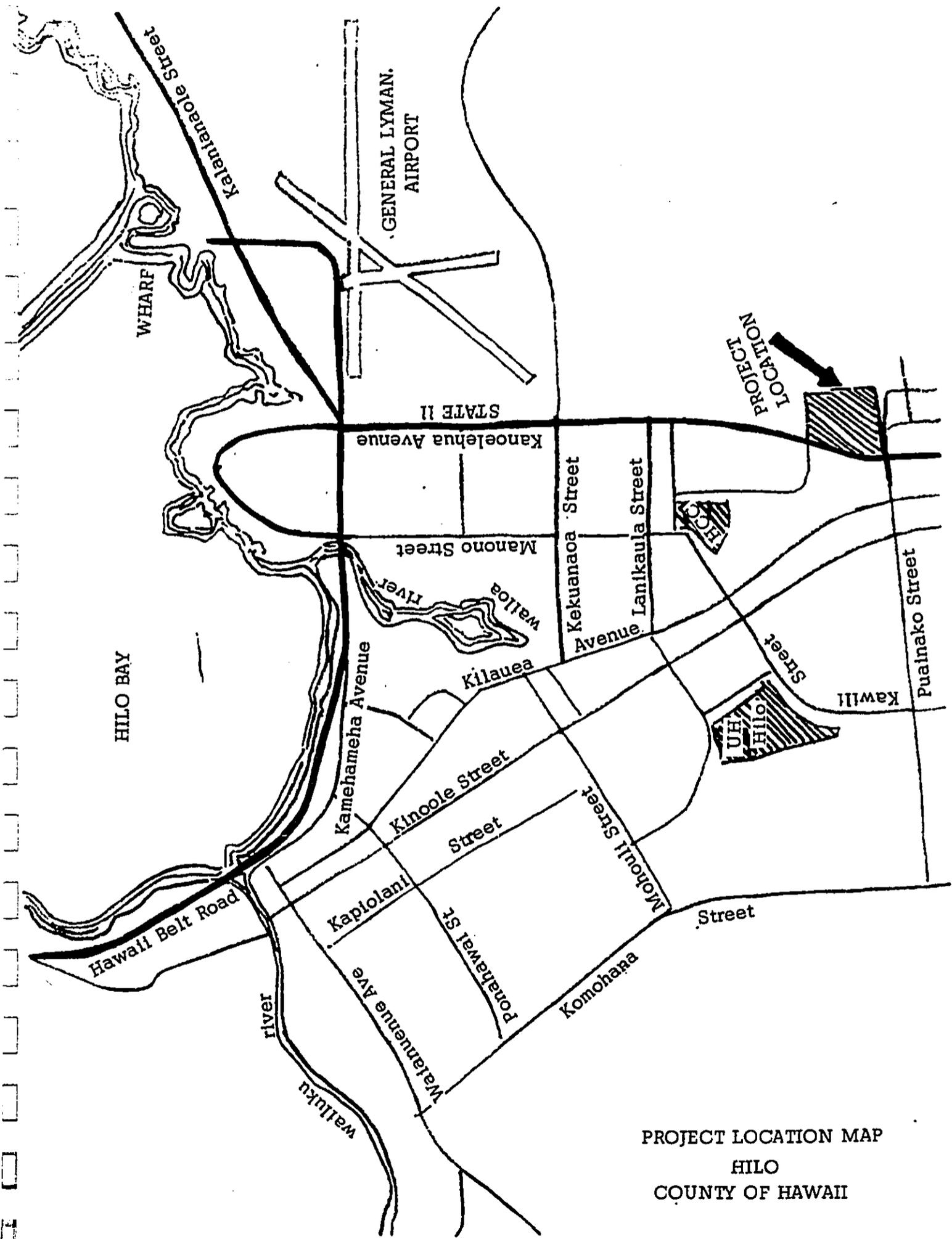
Hilo's roads are, for the most part, modern and well equipped. Hilo serves as the central point for most Big Island Highways. State Highway 11, which leads to Puna, the Volcano, Ka'u and Kona, starts at Hilo's Bayfront area where it intersects with State Highway 19, which leads to Hamakua, South Kohala and Kona. The two highways meet at Kailua-Kona, and are the primary around-the-island thoroughfares. The Saddle Road, State Highway 20, begins at the Downtown Hilo area and crosses through the Saddle area between Mauna Loa and Mauna Kea to a point 11 miles South of the ranching community of Waimea, where it intersects with State Route 190.

2. PROPERTY DESCRIPTION

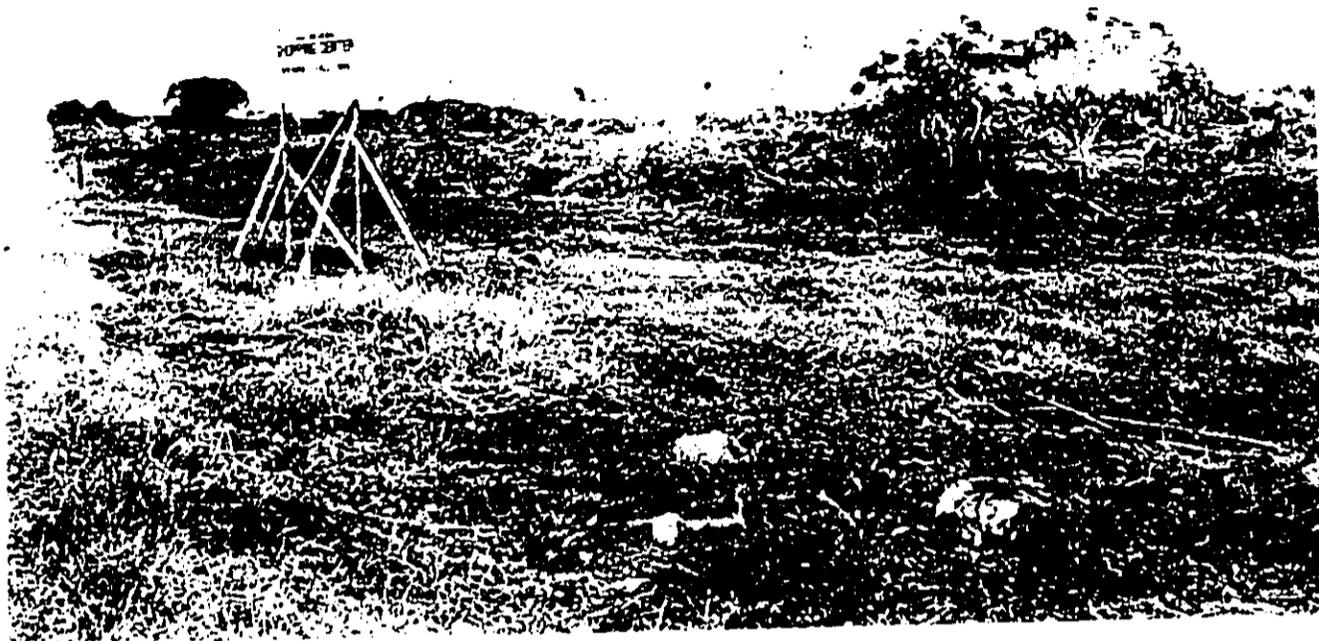
The property in question is located at the intersection of Puainako Street and Kanoelehua Avenue in Hilo. It is 39 acres in size, and is part of the lands deeded to the Department of Hawaiian Home Lands when that department was created by an Act of Congress in July, 1921.

The property has not been used for any viable purpose in recorded history. A small portion was leased for pasturage use in the mid-1950's and 1960's, but has not been in that use for several years.

It is located between the Kanoelehua Industrial Area, the primary industrial section of Hilo, and the Panaewa Hawaiian Homes Community, a development of some 76 acres of land with a current total of 141 residences, a community developed for the use of Hawaiian homesteaders on 99-year leases, in 1966.



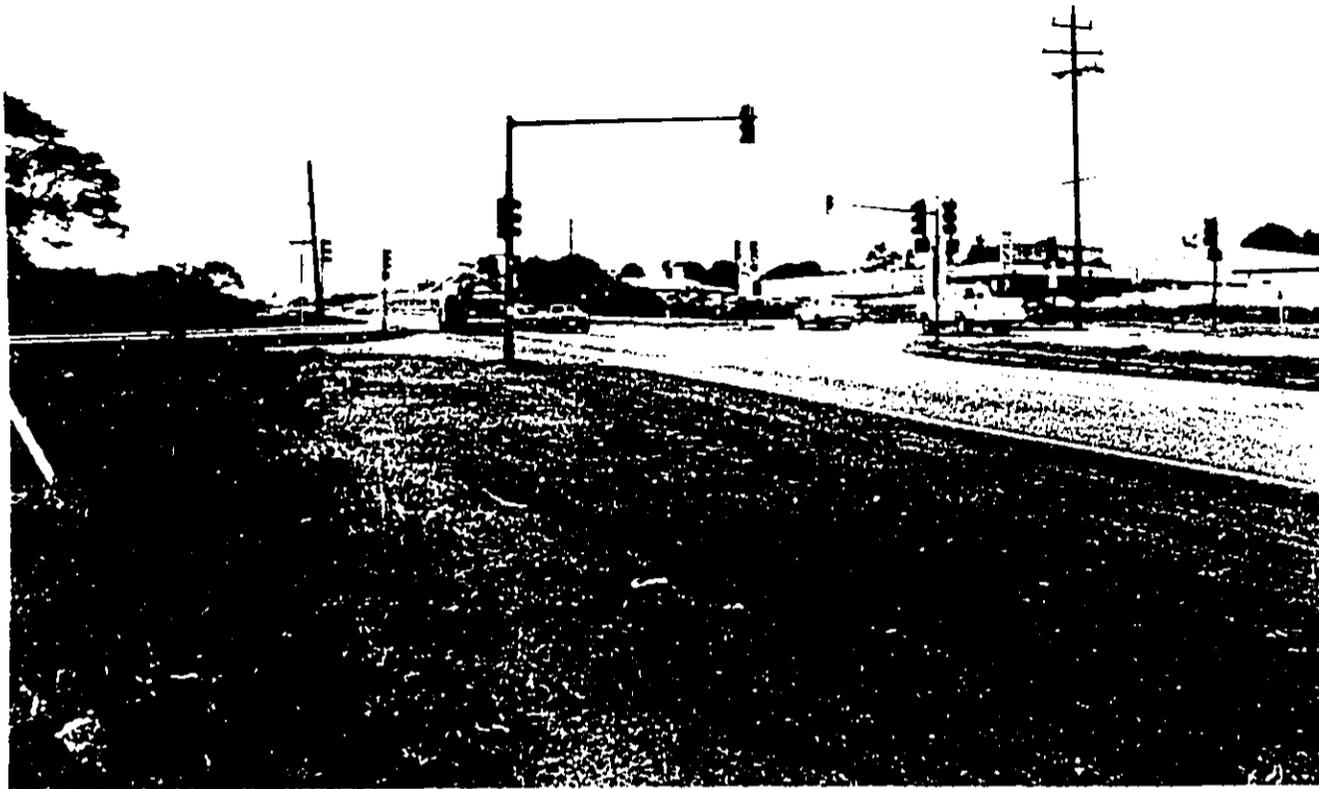
PROJECT LOCATION MAP
HILO
COUNTY OF HAWAII



Interior view of property from southwest corner.



Interior view of property from northwest corner.



View south from property toward intersection and commercial area.



Interior view of property from northeast corner.

The land immediately north and immediately east of the property is vacant but zoned for industrial use.

The land immediately south of the property is in residential use. Kanoelehua Avenue, State Highway 11, borders the property on the west. Across the Highway are industrial developments and vacant land.

Diagonally across the highway from the property, on the south west side, are two neighborhood commercial centers covering a total of 16.2 acres of land. Included are a major drug-variety store, two supermarkets, and a number of other smaller retail establishments.

Public utilities are generally available throughout the urban Hilo area. Most single family residences are served by cesspools, but a municipal sewerage system serves some parts of Downtown Hilo, the Waiakea Houselots, Keaukaha and the Banyan Drive area.

3. PROPERTY DATA

The property in question was among the lands set aside for the Hawaiian Homes Commission in the Hawaiian Homes Commission Act, 1920, (Act of July 9, 1921, C 42, State 108), which amended Hawaiian Organic Act. With exception of some six-acre pasturage use in the 1950's and 1960's, there has been no recorded leasing or usage of this property. There was some bagasse dumping on the property in the 1950's, but that usage was not recorded. An archaeological study showed no evidence of habitat usage. The property was placed for auction by the Department of Hawaiian Home Lands in September, 1977. Several shopping center developers picked up auction packets, but Orchid Isle Group, an investment hui of Oahuans and Big Islanders, was the only bidder in the auction, held in Hilo on September 29, 1977.

The lease for the property was signed by the Department of Hawaiian Home Lands and Orchid Isle Group on October 28, 1977.

The lease was authorized under the provisions of the Hawaiian Homes Commission Act, Section 204, which provides in part:

"In the management of any retained available lands not required for leasing under Section 207 (A), the department may dispose of such lands to the public, including native Hawaiians, on the same

terms, conditions, restrictions and uses applicable to the disposition of public lands as provided in Chapter 171; provided, that the department may not sell or dispose of such lands in fee simple except as authorized under Section 205 of this Act." (underscoring ours.)

B. THE PHYSICAL ENVIRONMENT

1. GEOLOGY, TOPOGRAPHY, SOILS

The parcel of land is predominantly pahoehoe lava with some scattered outcroppings of a'a lava. Soils are primarily decomposed bagasse dumped on the site in the late 1950's and other minor decomposed matter. Approximately seven percent of the parcel is covered with soil. The remainder is lava.

Nearly two-thirds of the 29 acre parcel is fairly flat, with a gentle slope from south to north, or mauka to makai. The one-third of the parcel fronting on Kanoelehua Avenue, the west boundary, is irregular with numerous mounds and depressions.

The high point of the property is a knoll of 90 feet above sea level near the southeast corner. The low point is 56 feet above sea level fronting Kanoelehua near the southwest corner.

2. RAINFALL RUNOFF

The city of Hilo receives an average of 133 inches of rain per year. The peak months are traditionally December, with a mean of 15.11 inches and November, with 14.19 inches.

There are two 24" culverts across Puainako Street, on the south boundary of the property, to carry flood water emanating from the Waiakea Uka area into ponds located within the drainage easement on the northwest corner of the property. During very heavy rainstorms, flood water overflows across Kanoelehua Avenue onto a depression within vacant Hawaiian Homes property.

During the unusually heavy 1979 rainfall, which exceeded the 100 year frequency, three feet of water crossed Kanoelehua Avenue. That same flood left standing water in excess of three feet on many Hilo streets and parking areas.

It is the plan of the developer to leave a drainage easement of 2.5 acres at the northwest corner of the property undeveloped.

The County of Hawaii is in the process of developing the Waiakea-Uka Flood Control System. Construction plans for both the Palai Stream Diversion, an underground system, and the Panaewa open channel, have been completed, and the County has acquired 90 to 95 percent of the needed rights-of-way. However, both projects need additional funding and will probably not be completed for five to ten years. When completed, the two projects would greatly reduce storm flow to the shopping center site to such an extent that drainage problems at the site would be purely local in nature.

Within the paved area of the shopping center itself, the developer plans a series of dry wells to handle site and street runoff. These would be constructed to the standards of, and approved by, the County of Hawaii Department of Public Works.

3. BIOLOGICAL

Prior to the grubbing of the property, Hajime Tanaka, a registered landscape engineer, surveyed the property for endangered plant and wildlife species.

On site flora included ohia, mango, octopus trees, a banyan tree, Alexander palms, and various forms of common ground cover.

Wild life on the property included mongoose, rats and common birds.

There were no examples of endangered plants, trees or wild life species seen on the property.

An attempt will be made to retain some of the major remaining trees on the property in the overall landscape scheme. Additional trees and plants will be brought to the site to complete the landscaping of the project.

C. HISTORIC SETTING

With the exception of some limited pasturage use in the 1950's and 1960's, there has been no recorded use of the property in question. A check of the State of Hawaii tax maps

and the records of the Department of Hawaiian Home Lands shows no recorded use. During World War II, there were some military units quartered nearby, but not on the property in question.

Prior to the grubbing of the property in December, 1979, Redevco retained William J. Bonk, professor of anthropology of the University of Hawaii at Hilo, to carry out an archaeological survey. Professor Bonk did so, in November, 1979, and reported finding no archaeological artifacts, structures or other remains of significance in the study area.*

D. SOCIO-ECONOMIC SETTING

In the days when Captain James Cook visited Hawaii, the Big Island of Hawaii was the most populous in the island chain. It is estimated that, in 1778, the population of the island was between 120,000 and 150,000.

From that time until 1866, the Island of Hawaii had the greater population. From 1878 on, however, the Island of Oahu became the most populous, and increased to the point where Oahu today has more than nine times the population of the Island of Hawaii.

Following the arrival of Captain Cook, the population of the Island of Hawaii decreased drastically, as a result of disease and wars, reaching a low of 16,000 in 1872. Then an increase was recorded, until 1930, when a high of 73,325 was recorded.

The population then decreased, reaching 59,400 in 1962. It remained relatively static for the next five years, and began in the late 60's to increase steadily.

The 1960 census showed 61,332, the 1970 census showed 63,468, and the estimated population on July 1, 1978, was 80,900.

The State Department of Planning and Economic Development, in its "Revised Population and Economic Projections, 1975-2000," projected a population for the Island of Hawaii of 84,700 in 1980, 95,200 in 1985, 105,100 in 1990, 115,000 in 1995 and 123,300 in the year 2000.

* See Appendix, Bonk report.

The population of the South Hilo District, that section from Hakalau to the Puna Boundary, was 31,553 in 1960, 33,915 in 1970, and was estimated at 41,000 in July, 1978.

The primary market area for the proposed Prince Kuhio Plaza is considered to be the Districts of Ka'u, Puna, North and South Hilo and Hamakua. The districts of North and South Kohala, and North and South Kona, are considered secondary market areas. Population changes for the primary market area are shown in the TABLE I.

TABLE I
Resident Population of Primary Market Area, 1960 to 1978

District	1960 April 1	1970 April 1	1978 July 1
Puna	5,030	5,154	8,300
South Hilo	31,553	33,915	41,000
North Hilo	2,493	1,881	2,000
Hamakua	5,221	4,648	5,400
Ka'u	<u>3,368</u>	<u>3,398</u>	<u>4,000</u>
Total	47,665	48,996	60,700

(The figures for April 1, 1960, and April 1, 1970, are from the U.S. Census. The figures for July 1, 1978, are revised preliminary estimates from the County of Hawaii Data Book, 1979.)

From Table I, it can be seen that the rural districts of Hamakua, North Hilo and Ka'u are relatively stable in population, while the district of South Hilo has shown a 20.8 percent increase from 1970 to 1978, and the district of Puna has shown a 61 percent increase from 1970 to 1978.

The median age of the population of the County of Hawaii in 1975 was 28 years. In the 1970 census, 37.5

percent of the people of the County of Hawaii were of Japanese ethnic stock: 28.8 were Caucasian, 16.5 were Filipino, 12.3 were Hawaiian, 2.9 were Chinese and 2.0 were "other."

The per capita income in the County of Hawaii in 1977 was \$6,266, the lowest figure in the State. Per capita income for the counties is show in Table II.

TABLE II

Per Capita Income, by Counties, 1977

State of Hawaii	City and County of Honolulu	County of Hawaii	County of Kauai	County of Maui
\$ 7,704	7,950	6,266	6,738	7,209

SOURCE: County of Hawaii Data Book, 1979.

Despite the relatively low per capita income, as compared to other counties, the Big Island, and the Hilo area in particular, have shown a dramatic increase in disposable income in the period from 1970 to 1978.

Marketing Economics Institute, Ltd., estimates that there was \$388,386,000 in disposable income on the Island of Hawaii in 1978. (Source: 1978 Market Guide, p.115) Disposable income is that amount consumers have to spend after deducting taxes from gross income. Disposable income may be saved, spent on consumer goods or services, or used in other ways.

In the period from 1970 and 1978, disposable income in the County of Hawaii increased by approximately 86.6 percent, or \$180,256,000. For the Hilo area, an increase of 87.3 percent, to total disposable income base of \$178,785,000, has been recorded. The growth in population, and the growth in per capita income, have been responsible for this increase. (Source, 1978 Market Guide, p. 115)

A study undertaken by the University of Hawaii at Hilo's Business Administration Department and Small Business Institute entitled "The Big Island of Hawaii: A Consumer Market in Transition," published

in September, 1979, is the most recent compilation of marketing trends and consumer interest on the Big Island.

In its study of frequency of shopping trips by Big Island residents, it shows that 54.4 percent of the Hilo area residents surveyed shop in Kona at least once a year, and 46.2 percent of the Hiloans shop in Waimea at least once a year.

It further shows that 73 percent of the Hilo area residents shop on Oahu at least once a year, and 4.1 percent of the Hilo area residents surveyed shop on Oahu at least once a month.

The study also showed the willingness of rural residents to come to Hilo for shopping trips. The study indicated that 9.8 percent of the Kona residents and 26.3 percent of the Waimea residents shop at least once a week in Hilo, and 37.5 percent of the Kona residents and 86.8 percent of the Waimea residents shop at least once a month in Hilo.

In its summary, the study says:

"This study has indicated several shopping patterns and dissatisfaction levels that point to the changing needs and tastes of the Big Island consumer.

"These trends become evident as customers demonstrate their selectivity by shopping on Oahu or by traveling to trade areas some distance from their homes.

"Furthermore, Hilo customers especially have been quite willing to verbalize specific product availability complaints and their dissatisfaction with the lack of specific services on the Island. Many consumers believe that entrepreneurs within their trade areas do not inventory adequate selections of clothing, home furnishings and sporting goods, as well as provide sufficient movie theaters, night clubs and other leisure time activities."

E. PUBLIC FACILITIES

1. PROTECTIVE SERVICES

The Hawaii County Police Department has its central station and island headquarters located 2.2

miles from the shopping center site. The department has an authorized strength of 266 sworn officers and 38 civilian full time employees. The Hilo District has 117 sworn officers, including patrol officers, investigative officers and sworn administrative staff.

Protective services on site will also be available from private security firms, and at least three such firms are currently operating on the Island of Hawaii. It is the intention of the developer to hire a private security firm for the shopping center.

Fire service is available from the County of Hawaii Fire Department. Three fire stations are located less than 2.5 miles from the shopping center site, with the Kawailani Fire Station 2.0 miles away, the Central Fire State Station 2.2 miles away and the Waiakea Fire Station 2.3 miles away. Fire call work load for all three stations was relatively light in the period from November, 1978 to October, 1979. The Central Station averaged .3 fire calls per day, the Kawailani Station averaged .2 fire calls per day, and the Waiakea station averaged .1 fire calls per day. The normal, on duty station complement for Central Station is seven men, the Kawailani station complement is four men, and Waiakea Station complement is five men. In the event of serious fire problems, back up support is available from the Keauu Fire Station and the Kaumana Fire Station, each of which has an on-duty complement of four men.

2. TRANSPORTATION AND TRAFFIC

The site of the Prince Kuhio Plaza is advantageously located in reference to adjacent roads and highways. It is at the intersection of Kanoelehua Avenue and Puainako Street.

Kanoelehua Avenue is a four-lane, divided highway with 125 feet of right of way and 48 feet of paved area. It serves as one of the major cross-island arterials (State Highway 11). Turning lanes are built into Kanoelehua Avenue at Puainako and Makaala Streets, the two ends of the shopping center property.

The Puainako-Kanoelehua intersection is equipped with modern, traffic-activated intersection lights.

Puainako is a lesser State Highway (State Highway 123) but is earmarked for future expansion as a connector to the Saddle Road. It presently connects with Komohana Street, Kinoole Street and Kilauea Avenue, all primary cross-town arterials.

It is the plan of the developer to extend Puainako Street in the east direction to join with Makaala Street and Ohuohu Street, both of which will also be completed by the developer, to create a boundary of roads around the shopping center.

A recent Traffic Impact Statement completed by Henry Tuck Au, consulting engineer (see Appendix) indicated that "Kanoelehua Avenue and Puainako Street will have sufficient capacity to accommodate the additional traffic volumes generated by the proposed project."

Public bus transportation on the Big Island is provided by the County of Hawaii-operated Hele-On Bus System. At the present time, several bus routes pass the project site, including two Pahoa to Hilo runs, a Ka'u to Hilo route, two Hilo to Pahoa routes and a Hilo to Ka'u route. Several other major routes come very close to the property, including the two primary cross-town routes, the Papaikou to Waiakea Uka route, which is one block away from the property 18 times a day, and the Kaumana to Keaukaha route, which passes within one mile of the proposed shopping center site.

In the opinion of Dennis Jakahi, manager of the Transit Agency, the two cross-town routes are close enough to the Prince Kuhio Plaza site to be easily diverted to include the shopping center if there is sufficient public demand and if such a move would be economically feasible.¹

It should be noted, however, that the transit agency has proposed that some route alteration be made in the 1980-81 fiscal year because of declining usage. That question has been presented to the County Council, and no determination has been made of the disposition of the existing routes and schedules.

3. OTHER GOVERNMENTAL SERVICES

The City of Hilo is the primary center of government activities for the County of Hawaii. Both County and State offices have their Big Island headquarters in Hilo, and all are within five miles of the proposed site.

1. Interview conducted with Dennis Jakahi, April 8, 1980, prior to his untimely disappearance while on a hunting trip in the Volcano area.

There are very few governmental services that are required that are not easily accessible to the management, patrons and employees of the shopping center.

Hilo Hospital is located approximately 6 miles away, and is the largest and best equipped hospital facility on the Island of Hawaii. Emergency medical service is available through a modern, well-trained group of mobile intensive care technicians (MICT) and emergency medical technician-paramedics (EMT-P). The nearest emergency station is the Central Fire Station, located 2.2 miles from the project site.

Libraries and schools are available within a few miles of the property, the cargo section of the Hilo Airport is just over a mile from the site, and the Hilo Harbor is located approximately two miles from the property site.

All necessary government services are located within easy access of the site.

F. PUBLIC UTILITIES

1. WATER

Water for the shopping center is available from an 18 inch main of the County of Hawaii Department of Water Supply located on Kanoelehua Avenue, bordering the property on the West side. Water from the Panaewa Well system of the department flows through the 18 inch main.

In the opinion of Edmund Hohu, acting manager of the Department of Water Supply, "We can accommodate the shopping center without any problems for our system. Commercial usage is traditionally smaller than other forms of use."²

2. ELECTRIC

The Hawaii Electric Light Co., has its Kanoelehua power plant located about 2,000 yards north of the shopping center site.

² Based on an interview with Edmund Hohu, deputy manager, Department of Water Supply, County of Hawaii.

Power transmission lines are located along Kanoelehua Avenue and along Railroad Avenue.

Hawaii Electric Light Co., is capable of delivering all required power for the shopping center as proposed. Jitsuo Niwao, manager of the engineering division of Hawaii Electric Light Co., indicated that there will be no problem with power transmission, because of the proximity of the development to their generation facilities. Niwao said the Hawaii Electric Light Co., has sufficient generating capacity to handle the needs of a 420,00 square foot shopping center.³

3. GAS

The nearest available natural gas line is located on Kilauea Avenue, approximately one block from the project site. In the opinion of Richard Yorioka, manager of the Hawaii Division of Gasco, demand from the shopping center site would not be sufficient to justify an extension of the existing pipeline to the site.

However, sufficient gas service can be provided through the Gas Company's tank gas division, Yorioka said, without adverse impact on the operations of the company.⁴

4. TELEPHONE

Telephone service in the area of the shopping center site is available from switching centers at Kawaiilani and Hilo, and the Hawaiian Telephone Co., considers the development of the shopping center within the capabilities of "normal load development." Plans of the telephone company are to provide service from the Kawaiilani switching center. In the opinion of Tom Yamada, manager of Hawaiian Telephone Co., for the Big Island, the development of the shopping center "would have no impact" on the telephone company's normal operations.⁵

3. Based on an interview with Jitsuo Niwao, manager, Engineering Department, Hawaii Electric Light Co.

4. Based on an interview with Richard Yorioka, manager, Hawaii Division, Gasco.

5. Based on interviews with Tom Yamada, manager, and Hisashi Enomoto, supervising engineer, Hawaiian Telephone Co.

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SECTION III

THE RELATIONSHIP OF THE PROPOSED ACTION TO LAND USE PLANS,
POLICIES AND CONTROLS FOR THE AREA

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

A. LAND USE PLANS

1. THE STATE GENERAL PLAN

The Hawaii State Plan, which was signed into law on May 22, 1978, provides general direction for the State of Hawaii.

As such, it covers mostly broad-scope concepts rather than individual land usage or development suggestions.

The general objectives of the State Plan are:

1) Increased and diversified employment opportunities to achieve full employment, increased income and job choice and improved living standards for Hawaii's people.

2) A growing and diversified economic base that is not dependent on a few industries.

Among the policies of the State Plan are:

"Promote economic activities, especially those which benefit areas with substantial unemployment problems."

It would appear that the development of a shopping center in Hilo, with the creation of some 1200 full time and part time jobs, would contribute to the general objectives of the State Plan and would contribute to the fulfillment of the policies of that plan.

2. STATE LAND USE DISTRICTS

The 39-acre parcel of land designated as the site of the Prince Kuhio Plaza is listed in the "urban" classification by the State of Hawaii Land Use Commission.

In this category, permitted land usage is dependent on the zoning of the appropriate county in which the land is located.

3. THE COUNTY OF HAWAII GENERAL PLAN

In the section on Commercial Development, the County of Hawaii General Plan provides only one goal:

"To provide for commercial developments that maximize convenience to users."

The section on Commercial Development also notes, in its Introduction and Analysis:

"Evident in many of the existing commercial developments are the problems of facilities being in poor or dilapidated condition and the inadequacy of vehicular and pedestrian systems. Strip development of commercial facilities has occurred and commercial zoned lands have not been utilized for their intended purpose."

In the list of policies for Commercial Development, the General Plan includes:

*In an effort to assist existing commercial developments, urban renewal, rehabilitation and/or redevelopment programs shall be undertaken in cooperation with communities and businesses.

*Commercial facilities shall be developed in areas adequately served by necessary services, such as water, utilities, sewers and transportation systems.

*Distribution of commercial areas shall be such as to best meet the demands of neighborhood, community and regional needs.

In the portion of the section on Commercial Development devoted to Standards, the General Plan lists three basic types of shopping centers, including Neighborhood Centers, of 5 to 15 shops and 5 to 10 acres; Community Centers, of 20 to 40 shops and 10 to 30 acres, and Regional Centers, with 40 shops and no listed indication of size in acres. By the standards established in the General Plan, a Neighborhood Center would serve an approximate market of 3,000 people, a Community Center would serve a market of 15,000 people and a regional center would serve a market of 50,000 people.

On the Land Use Allocation Map of the General Plan for the South Hilo District as originally passed in 1971, the parcel in question was listed as Industrial. In October, 1979, the County Council of the County of Hawaii overrode a mayoral veto to give final approval to Ordinance No. 475 of the County of Hawaii, which changed the Land Use Allocation from Industrial to High Density Urban.

4. COUNTY OF HAWAII ZONING

The County Council of the County of Hawaii, in October, 1979, overrode a mayoral veto and gave final approval to Ordinance No. 476, which established the zoning of the parcel in question as "General Commercial."

Article 12 of the County Zoning Code, Regulations for CG, General Commercial Districts, includes among its permitted uses:

All retail uses that are conducted entirely within a building.
Art galleries.
Personal service uses.
Banks, lending agencies and financial institutions.
Tour, travel and ticket agencies.
Automobile service stations or garages.
Bakeries.
Commercial amusement establishments.

There was, during the rezoning process, much discussion about the fact that the land in question was not zoned commercial.

One source, the Urban Land Institute, had these comments in ULI Technical Bulletin #60 "Shopping Center Zoning:"*

"Ordinarily, suitable sites for shopping centers are not zoned in advance of development, nor should they be. Prezoned, mapped commercial strips are not shopping center locations."

5. THE HILO COMMUNITY DEVELOPMENT PLAN

The Hilo Community Development Plan was prepared in 1973 and 1974 and was adopted as a document of the Planning Commission of the County of Hawaii in May, 1975.

*"Shopping Center Zoning, " ULI Technical Bulletin 60, by J. Ross McKeever, Washington, D.C., 1973.

There would appear to be a conflict between the Hilo Community Development Plan and the Prince Kuhio Plaza plans, inasmuch as the Hilo Community Development Plan recommends that no commercial development be permitted outside of the existing city center.

It should be noted, however, that the Hilo Community Development Plan also makes a strong presentation for the implementation of the Hilo Downtown Development Plan, action that to date has not been taken.

The apparent conflict between the Hilo Community Development Plan and the plans for the development of the Prince Kuhio Plaza would appear to be mitigated by the action of the Planning Commission in 1978 to approve the General Plan amendment to permit the development of the Prince Kuhio Plaza.

6. THE HILO DOWNTOWN DEVELOPMENT PLAN

The Hilo Downtown Development Plan was prepared in 1972 and 1973, approved by the Hawaii County Planning Commission in May, 1974, and adopted by the County Council in August, 1974.

Despite the period of time that has elapsed since its passage, few of the steps outlined in the Development Plan or the Implementation Program have been completed.

Ten steps were included in the Public Improvements section of the Implementation Program, and only one step, the implementation of a one-way street system, has actually been adopted.

It must be noted, however, that the one way system that was adopted is in direct conflict with the one recommended by the plan.

Given the apparent lack of interest in the implementation of the Hilo Downtown Development Plan, and the time that has passed since its adoption, one can only assume that the development of the Prince Kuhio Plaza will have little or no effect on the Hilo Downtown Development Plan.

It should also be noted that the Planning Commission and the Hawaii County Council, the two bodies which originally approved the Hilo Downtown Development Plan, have subsequently voted to approve the General Plan amendment to permit the Prince Kuhio Plaza.

7. THE MASTER PLAN FOR HAWAIIAN HOME LANDS

The Master Plan for Hawaiian Home Lands, approved by the Governor of the State of Hawaii on April 14, 1976 designates the land in question for commercial/industrial use.

The proposed use would be in conformity with that designation.

B. POLICIES AND CONTROLS

1. SOLID WASTE CONTROL

It is the policy of the County of Hawaii that sanitary landfill sites for refuse disposal shall be established in accordance with the needs of the community. Such a site has been developed in the National Guard area of Hilo, off Leilani Street, on State-owned land.

This site is approximately three miles from the proposed shopping center site. The County of Hawaii is presently working with the State of Hawaii to acquire additional land for land fill development.

In the opinion of Chief Engineer Edward Harada of the County Public Works Department, the existing facility can accommodate the solid waste generated by the shopping center.

2. HISTORIC PRESERVATION

It is the policy of the County of Hawaii that historic sites need to be evaluated and protected.

It was determined, by an archeological study by a recognized consultant, that no historic sites exist on the shopping center site. There is no mention of the site on any County, State or Federal lists or registers of historic sites.

Thus development of the site would not have any relationship to the County's policy on historic sites.

3. FLOOD DISASTER PROTECTION

It is the policy of the County of Hawaii to establish flood districts and to properly guide, through regulations, the use of flood plains. It is also the policy of the County that "It is the responsibility of governmental agencies to maintain drainage systems as well as to assist in developing comprehensive flood damage prevention programs and in the construction of flood control features."

Both policies have an impact on the proposed shopping center site. A parcel of land some 2.5 acres in size at the southwest end of the property has been designated a drainage area inasmuch as runoff from the Palai Stream and the Four Mile Creek is funneled along Kanoelehua Avenue into the shopping center site. The result is ponding water on the 2.5 acre parcel during heavy storms, and in unusually heavy storms, some runoff water across Kanoelehua Avenue.

It is the plan of the developer to leave the 2.5 acre flood plain area untouched, so that it can continue to serve as a drainage area for residential developments located several miles from the project site.

However, a flood control project which is presently partially developed by the County of Hawaii is expected to alleviate some of the flooding.

The project consists of a ponding basin, which has been completed, a drainage channel, which has been partially completed, and the final portion of the drainage channel, which has been advertised for bid opening in April, 1980.

A problem exists with the letting of the bid because of bond interest rates, and at the time of this writing it was not sure that the contract would actually be let.

If the completion contract is let, the job is scheduled for completion by late 1981.

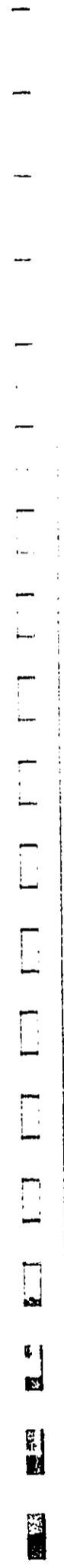
Basically, if the project is completed, it will divert all waters from the Four Mile Creek into the ponding basin.

This will eliminate about fifty percent of the flood waters that presently are channelled onto the shopping center property.

The possibility of eliminating the additional water originating from uncoordinated development in the Hilo Municipal Golf Course area and above it, is being studied by the Corps of Engineers. Any possible action on that area would not be forseen within the next five years, and would cost in excess of \$2 million in today's dollars.

It is the plan of the developer to create a series of dry wells to handle runoff from the developed portions of the property and the adjacent streets. All dry wells will be constructed to County of Hawaii specifications.

Thus, by allowing a portion of the property to remain in undeveloped state, as a drainage area, and by developing dry wells to handle runoff from the developed property, the project will be in conformity with the policy of the County of Hawaii regarding flood disaster protection.



SECTION IV

PROBABLE IMPACT OF THE PROPOSED ACTION ON THE ENVIRONMENT

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A. LAND TRANSFORMATION AND CONSTRUCTION

1. EXTENT OF DEVELOPED AREA

Nearly the entire 39-acre parcel, except for approximately 2.5 acres at the southwest end, will be developed. The 2.5 acres will be a drainage area. The developed area will be approximately 10 to 15 feet higher than the low point of Kanoelehua Avenue. The developed site will be designed to avoid any problems of flood in the event a storm in excess of the 100-year storm returns.

2. EXTENT OF EARTH WORK

There will be extensive relocation of on-site material. Specific details of the relocation will depend on final architectural drawings.

3. IMPORTED SOIL REQUIREMENT

There will be a requirement for some crushed material, for paving base, again depending on final architectural drawings. Top soil will be imported for landscaping. Both top soil and crushed material are available within the local community.

4. OTHER REQUIRED CONSTRUCTION MATERIALS

Depending on final architectural drawings it is anticipated the project will require asphaltic concrete, concrete, wood and steel. All of these are typical building materials used in island construction and are available either within the local market or by shipment from other areas.

B. IMPACT ON WATER RESOURCES

1. DOMESTIC WATER SUPPLY

The Prince Kuhio Plaza site has two 18-inch water mains located on two sides of the property, one on Kanoelehua Avenue and the other on Puainako Street.

Using current estimates available, it is estimated that the Prince Kuhio Plaza will use approximately 30,000 gallons of water a day, or 900,000 gallons of water per month.

The Hilo District currently uses some 4.6 million gallons of water a day, and has a water service capacity of approximately 10 million gallons a day.

The development of the shopping center should have little impact on the ability of the Department of Water Supply of the County of Hawaii to provide water service within the Hilo district, and should have minimum impact on the water resources available within the Hilo district.

C. AIRBORNE EMISSIONS*

The proposed Prince Kuhio Plaza project can be expected to produce direct air pollutant emissions in the form of fugitive dust and construction equipment exhausts and indirect emissions from increased traffic and power generation requirements.

The construction emissions will be of a short term nature and adequate control measures exist to insure that such emissions do not become a problem to nearby residents.

Increased motor vehicle traffic in the project area will cause increases in carbon monoxide, hydrocarbons, and nitrogen oxides. Of these, carbon monoxide emissions are likely to present the most significant impact. A detailed carbon monoxide analysis indicates that allowable State of Hawaii Air Quality Standards at some critical receptor sites in the project area could be exceeded under a worst case combination of traffic flow and meteorological dispersion conditions in the years shortly after project completion. By the year 2000, however, projected Federal limits on vehicular emissions should reduce expected worst case carbon monoxide levels to within allowable limits at all sites within the project area in spite of a nearly doubling in traffic levels expected by that time. All Federal Air Quality Standards are likely to be met for both the short and long term whether the project is undertaken as planned or not.

Under adverse meteorological conditions, sulfur dioxide concentrations at the proposed project site resulting from stack emissions from a nearby power plant

*Prepared by Barry D. Root, Air Pollutant Consultant, June 1980. See also Appendix.

may currently be in excess of allowable State of Hawaii Standards. Any additional power demands generated by the project could exacerbate this situation, but a 40 percent increase in fuel usage at the power plant would be required to create expected sulfur dioxide levels over allowable Federal limits.

The planned project incorporates a number of features designed to mitigate potential air pollution problems. These include central air conditioning of shopping areas, provision of parking lot access routes that do not conflict with traffic flow on major roadways, and landscaping which can serve an air pollutant removal function in certain strategic locations. The detailed carbon monoxide analysis carried out in this study indicates that installation of a traffic signal at the Kanoelehua Avenue/Makaala Street intersection could also serve to slightly reduce expected pollutant levels at the receptor sites considered.

It is important to note that calculations performed in this study do not consider the possibility that future gasoline shortages and economic considerations could hasten design of vehicular propulsion systems that produce few or none of the pollutants of major concern in this report.

D. NOISE GENERATION

The proposed shopping center will generate additional noise in two ways: first, the actual construction on the site, and second, the vehicular noise created by automobiles coming to and from the shopping center when it is opened.

The initial noise will come from bulldozers and other ground clearing and leveling equipment during leveling and foundation work on the site. Heavy equipment of a variety of types will be in use on the site for various periods of time, ranging from a few weeks to a year.

After the heavy earth moving portion of the construction phase is completed, the actual building construction will also continue to create on-site noise.

The nearest cluster of residents to the shopping center is located in the Hawaiian Homes community of Panaewa, less than 1,000 feet south of the property, although one residence is located directly across Puainako Street from the project site.

Compliance with State noise regulations that limit heavy vehicle noise to 86 dBA between 6 a.m. and 6 p.m., 84 dBA from 6 to 10 p.m. and 73 dBA between 10 p.m. and 6 a.m. will effectively limit construction to the daylight hours.

Normal construction activities during these periods will generate a certain amount of unavoidable noise. The contractor will be advised, especially when working on the southern portions of the property, to hold down noise to the greatest degree possible.

During the actual operation of the shopping center, the air-conditioned buildings will effectively limit noise in the surrounding area to that of cars and trucks visiting the center.

Although a buffer zone of tree and shrub planting around the perimeter of the property will help to reduce the impact of the traffic noise, it will be noticeable in the residential area south of the property site.

It should be noted, however, that the permitted use under County of Hawaii zoning regulations prior to the General Plan amendment to allow the shopping center was limited industrial, which would have permitted such uses as service stations, contractors' yards, electrical shops, lumber yards, sheetmetal shops, machine shops, transportation terminals, stone cutting, junk yards and public dumps, all uses which would have generated more noise than the operation of a shopping center.

E. ANTICIPATED BIOLOGICAL IMPACTS

1. IMPACT ON WILD LIFE

Because the subject property is located adjacent to residential and industrial lands, it has no notable wild life, with the exception of mongooses, rats, some wild domestic cats and common birds such as mynah and sparrows.

The development of the shopping center will dislocate some of these forms of wild life, and force them to seek other habitats. Some, particularly the common birds, may return to the shopping center area upon completion.

2. IMPACT ON PLANT LIFE

No endangered or unusual species of plant life were found on the subject property.

The common ground cover, grasses and small trees and shrubs found on the property were destroyed during the grubbing process. Major trees were allowed to remain, and may be used in the landscaping of the shopping center. Additional plants and trees will be brought to the site to complete the landscaping.

F. VISUAL IMPACT

There will be substantial visual impact created by the new shopping center.

An area that has been basically scrub growth will be transformed into a modern commercial center, with parking lots, buildings and cars.

In order to lessen the impact of the change, the developer will use extensive planting around the outer perimeter of the property, and will use plantings and shrubberies within the parking area and on the sides of the buildings.

Earth tones will be used in the color scheme of the actual buildings, and the overall appearance, although drastically changed from the wild growth of the past, will be subdued in nature to avoid any offensive appearance.

G. ECONOMIC IMPACT

1. IMPACT ON EMPLOYMENT

The County of Hawaii has traditionally had the greatest percentatge of unemployment in the State of Hawaii. In 1977, it was recorded at 9.2 percent; in 1978, it was 10.2 percent. (Table III shows a breakdown by county of unemployment in Hawaii.)

Table III

Unemployment Status, Annual Averages, 1977 and 1978, by County

County	1977 Number	Percent	1978 Number	Percent
Honolulu	23,200	7.3	23,800	7.6
Hawaii	3,350	9.2	3,600	10.2
Kauai	1,150	6.5	1,200	6.9
Maui	2,300	7.4	2,350	7.6

Source: State of Hawaii Data Book, 1979, p. 183

As of March 31, 1980, the State Department of Employment Services Hilo office had a working list of 4,500 people who were unemployed or seeking other employment. The Hilo office, covers Hilo, Puna, Ka'u and North Hilo.

It has been estimated (John Child & Co. Study, 1978) that the proposed shopping center will create 1,275 new jobs. Although enlargement of the center plans has taken place since that time, the figure of 1,275 will be used for this study.

It represents the potential for a drastic decrease in the amount of unemployed and under-employed in East Hawaii.

Roy Kagawa, director of the State Department of Employment Service office in Hilo, said, (Interview, Hilo, April 8, 1980) that there was sufficient work force available in East Hawaii to handle the proposed shopping center.

The employees for the center, he felt, would come from the following groups of workers:

1. The present unemployed persons in East Hawaii who are presently seeking employment.
2. A substantial work force of persons who consider themselves "under-employed" who are

looking for opportunities to change their employment and perhaps increase their level of responsibility.

3. Housewives who are presently not members of the work force, but who are interested in returning to the labor market.

4. Graduating high school and college students who are presently forced to leave the local marketplace because of the lack of availability of suitable employment.

5. Big Island natives who have left for Oahu or the Mainland who would like to return should suitable employment be available.

It has been suggested that many of the employees of the center will be "transfers," persons who are presently employed in the Hilo market area, but who choose to try for new jobs in the hope of greater pay or improved status.

It is quite possible that this will occur. It is also probable that the positions that are presently filled in the job market will be re-filled, although perhaps not on a one-to-one basis.

Even if, at the worst possible scenario, every one of the 1275 jobs was a transfer from within the existing business community, and if only 50 percent of the existing jobs were re-filled, it would result in more than 600 new hires in the community.

2. CONSTRUCTION AND INDIRECT JOBS

The construction of the Prince Kuhio Plaza should require a total of 400 to 500 workers, according to estimates within the industry, but no more than 125 of them at any one time.

After consulting with national and local construction officials, it can be safely assumed that the local labor pool should be sufficient to handle all of the necessary manpower, with the overall general contractor importing only a few key management workers, perhaps six at the most, in top level supervisory positions.

The construction industry on the Island of Hawaii is cyclic in nature, with high and low periods. Most

industry sources queried felt that a project of the size of the Prince Kuhio Plaza would be able to be completed with little or no need for imported labor.

In addition to the direct employment predicted for the shopping center and for the construction project, a number of other jobs will be created in the Hilo District. A normal industry multiplier is five jobs outside the industry for every one created in the industry, which would indicate that the Prince Kuhio Plaza would be responsible for the creation of some 50 to 60 indirect jobs.

This could be handled without serious problems within the local job market.

It must be stressed that these estimates are only approximate and must be treated as such. Particularly in the case of indirect jobs, it is often difficult to measure the number of new positions that will be created.

3. CHARACTERISTICS OF EMPLOYMENT

The 1200 employees hired by the various stores and shops in the Prince Kuhio Plaza will cover the entire spectrum of retail workers, ranging from clerks, supervisors, stock workers and bookkeepers to managers, personnel workers and similar employees. In addition, there will be custodial workers, security personnel, center management personnel and such related employees.

In addition, indirect employment will include warehousing and cargo shipping handling.

During the construction phase, the primary employment will be in the various construction trades.

It is anticipated that the pay scale for the employees will range from the entry level, at minimum wage levels, to higher management classifications.

Many of the major chains that have expressed a desire to locate in the Prince Kuhio Plaza have attractive wage and fringe benefit packages that should make them very competitive within the local labor market.

The employment basically will be indoor, of a light-duty type. It will frequently require long periods of standing, and extensive customer contact.

Some work, such as accounting, warehousing and stocking, will not require customer contact but will require the ability to carry large parcels and the ability to open, sort and place items of merchandise on shelves, or specialized bookkeeping skills.

4. NEED FOR IN-MIGRATION

It is estimated that most of the new companies locating in the Prince Kuhio Plaza, and those companies who are already located in Hilo but who choose to relocate their operations or open branch outlets in the new development, will require few in-migrants.

Major national chains will want to bring in some top management personnel, and perhaps some supervisory personnel, but the bulk of the hiring will be done within the local community.

Estimates from the State Department of Labor would indicate that sufficient personnel are available within the local labor market to handle the anticipated new jobs.

Such in-migration as is necessary would probably consist of top management personnel or former Big Islanders who wish to relocate to the Hilo area.

Unless the substantial number of people who are presently unemployed in the Hilo area are not actually interested in employment, there should be little need for in-migration.

5. IMPACT ON INCOME

In the preceding sections, we have shown that an estimated 1200 new jobs will be created with the completion of the Prince Kuhio Plaza, not including indirect employment.

We have also shown that there will be some impact on other employment in the community, and some shifting of personnel from existing jobs to the new jobs. There is at present no accurate way of determining how many of the existing jobs that are vacated by employees moving to new positions will be filled in the future, and there is also no way of determining what the wage scale for those replacement personnel will be.

Thus we will use two opposite ends of the scale in determining the net income impact of the Prince Kuhio Plaza, estimating that a net total of only 600 new jobs will be created, which is the lowest possible standard, and estimating that a net total of 1000 new jobs will be created, which is probably closer to reality.

According to the County of Hawaii Data Book, a sales clerk in 1978 in Hawaii County was paid a median wage of \$3.65 an hour, or figuring a 40-hour week and a 52-week year, \$7,592 a year. A cashier was paid a median wage of \$9,816 a year, and a customer service clerk was paid a median wage of \$10,212 a year.

Based on these figures, and based on a minimum wage of \$3.35 as of July, 1981, we have anticipated an average wage of \$9,000 for full-time employees of the Prince Kuhio Plaza at the time of its opening in early 1982.

Should the net new job effect of the shopping center be 1,000 new jobs, this will create some \$9 million in new income within the community. Should the net new job effect be at the lower end of the scale, with only 600 new jobs being created, it would result in some \$5.4 million in new income within the community.

6. NEW HOUSING DEMAND

Based on the assumption that less than 10 percent of the new employees of the shopping center would be in-migrants from Oahu, other islands or the Mainland, the demand for new housing in the Hilo/Puna area should be relatively minimal, and should be satisfied within the local economy.

A review of classified advertising in the pages of the Hawaii Tribune Herald on Monday, April 14, not considered a "heavy" advertising day, indicated a total of 96 housing units being advertised in the Hilo and Puna areas.

Included were 10 rooms for rent, 21 apartments for rent, 30 houses for rent, three condominium apartments for sale and 32 houses for sale.

Price ranges on rooms for rent was \$105 to \$200; the range on rental apartments was \$200 to \$600; the range on houses for rent was \$200 to \$650; the range on condominiums for sale was \$60,000 to \$72,000 and the range on houses for sale was \$44,000 to \$275,000.

7. IMPACT ON POPULATION

a. Impact On Residential Population

There should be limited impact on the residential population, with the exception of perhaps 100 to 150 new families settling in Hilo, or in Puna. There is sufficient rental housing, and vacant buildable homesites, available to handle such an influx.

In fact, an influx of new residents such as this could provide an additional positive impact on the construction industry.

b. Impact On Visitor Population

The proposed Prince Kuhio Plaza should have little or no impact on the visitor population on the Island of Hawaii.

Visitors do enjoy shopping, however, and the presence of modern, convenient, mall-type shopping facilities in the community would give long-term visitors who have some free time an opportunity to enjoy another aspect of their visit to Hawaii.

One of the primary visitor satisfaction complaints about the Hilo area is the lack of visitor activities, and, while shopping is not the traditional visitor activity, it does provide an outlet for a certain type of visitor.

Overall, however, the impact of the shopping center on the visitor population is expected to be minimal.

8. IMPACT ON REVENUES TO GOVERNMENT

a. Hawaiian Homes Department

The lease between Orchid Isle Group and the Department of Hawaiian Home Lands, General Lease No. 202, provides for the payment of an annual rent of \$157,500 per annum, with a clause that, if a commercial development is built, the rent will be 9 percent of the adjusted gross income from the commercial development, or \$157,500, whichever is greater.

In October of 1980 there is a 10 percent reopening step-up in the basic lease rent; in 1990 a 30 percent step-up, and in 2000 a 30 percent step-up. Reopening in 2010 and 2020 are by appraisal.

The developer's estimate is that there will be a payment in excess of \$440,000 per annum once the shopping center is actually opened.

The payment is based on an estimate of rental income.

Prior to the lease of the property to Orchid Island Group, total revenues to the Department of Hawaiian Home Lands for the property in question were \$15 per year.

Georgiana K. Padeken, chairman of the Department of Hawaiian Home Lands, said, in a Memorandum on Feb. 13, 1980, "The Department of Hawaiian Home Lands is the largest single owner of vacant industrial lands in the Hilo area. Because the department lacks the funds for the development of these lands, this lease is extremely important in that it will not only open up our other vacant lands in the Panaewa area for development by providing interior roadways, but will also enhance their value."

b. County of Hawaii, Real Property Tax

In 1978, officials of the State Department of Taxation estimated for Redevco Properties the amount of real property tax that would be collected as a result of the completion of the Prince Kuhio Plaza.

It must be stressed that this was strictly an estimate, based on anticipated construction costs at that time and projections of the project at that time.

That estimate, using standard appraisal methodology of the State Department of Taxation, was that \$268,000 in annual real property tax revenues would accrue to the County of Hawaii as a direct result of the development of the Prince Kuhio Plaza.

In fiscal year 1978, the County of Hawaii received some \$19,363,791 in real property taxes.

An increase of \$268,000 in this amount would reflect approximately a 1.3 percent increase in the amount of real property taxes collected on behalf of the County of Hawaii.

c. State of Hawaii-Excise Tax

The developers estimate an average of \$119 in sales per square foot of leasable space in the first year of operation. Using the base figure of 420,000 square feet of space, this would result in \$49,980,000 of sales in the first full year of operation.

The State 4 percent excise tax on that amount would mean additional tax revenue to the State of Hawaii of \$1,999,200.

State excise tax revenues for fiscal year 1978 were \$367,660,000.

The increase in State excise tax revenues of an estimated \$2 million dollars by 1982 will be a substantial addition to the excise tax income realized annually by the State of Hawaii.

d. State of Hawaii Income Tax

In Section IV-G-5, we see that the estimated net new income in payroll to the community as a result of the new shopping center should range between \$5.4 million dollars and \$9 million dollars, depending on whether or not many of the jobs that are vacated by persons moving to work in the new shopping center are re-filled.

Using a figure of 7.5 percent for State income tax, which is appropriate at the salary level of most of the workers for the shopping center, it can be seen that State Income Tax revenues will range between \$405,000 and \$675,000 per year.

This tabulation considers only direct employment and does not take into consideration construction employment or indirect employment.

State revenue receipts from income tax in fiscal year 1978 were \$227,216,000.

H. SOCIAL IMPACTS

1. GENERATED EMPLOYMENT

Generated employment by the Prince Kuhio Plaza is estimated to be in the neighborhood of 1200 jobs.

The people who fill these jobs will come from the following categories:

- a. Those presently employed who are looking for new opportunities or new challenges.
- b. Those presently unemployed who seek to enter the job market.

- c. New entrants into the job market, either from the ranks of high school, community college and college graduates or from the ranks of housewives and others who have not been actively seeking employment until the present time.
- d. In-migrants, either those brought in by their companies or those who are attracted to the Big Island to seek employment at the shopping center.

The primary social impact will come from those presently employed who seek out new jobs in an attempt to better their professional careers or who seek upward mobility within the job market.

This group of workers will vacate existing jobs, thus causing existing employers to be faced with the need to compete in the job market for new hires. Given the Big Island's present unemployment rate, this should not be difficult, but the high unemployment rate in past years has created somewhat of a "buyer's market" when it came to employment, and many of the existing employers have not had to compete in the job market in recent years. This may have a traumatic effect on the employer ranks and may make it difficult for some of them to find adequate replacements at a wage and fringe level that they are accustomed to paying.

Those unemployed who become employed as a result of the opening of the Prince Kuhio Plaza should have a positive impact on the social welfare of the community.

Taking persons off of the unemployment rolls reduces the need for unemployment compensation, welfare and other public expenditures.

Employment reduces the economic burdens within the family and restores family stability, and reduces the idleness typically associated with unemployment. In many instances, prolonged periods of worker idleness have been directly related to increased crime, juvenile delinquency and other social disorders.

The new entrants into the job market would primarily be graduates of the high schools, community college and UH-Hilo who presently find it difficult to gain employment within the community.

Other new entrants into the job market would be housewives, who have indicated a desire to return to

the employment picture after prolonged lack of employment, mostly because of personal reasons such as child raising or homemaking.

The providing of new jobs for recent high school and college graduates would help stem the on-going out-migration that has marked most Neighbor Island communities, and would ease the social effects of family disruption.

The return to the job market of previously unemployed housewives can on occasion have disruptive impact on family lifestyles, but also allows the family greater disposable income and a better standard of living.

In-migrants, within the scope of this study, will consist primarily of those executive level personnel moved to the new shopping center by their employers. The in-migrants would be at a social and economic level to make an overall contribution to the community.

Some in-migration will consist of former Big Island residents who will take advantage of the opportunity to return to this island from more urban settings. This should promote family togetherness on the Big Island and should have an overall positive impact.

2. INCREASED SHOPPING OPPORTUNITIES

There is a general level of dissatisfaction registered by Big Island residents at the shopping opportunities available on the Island of Hawaii.

This can be seen in a study undertaken by the University of Hawaii at Hilo's Business Administration Department and Small Business Institute entitled "The Big Island of Hawaii: A Consumer Market in Transition," published in September, 1979.

It is the most recent compilation of marketing trends and consumer interest on the Big Island.

In a study of frequency of shopping trips by Big Island residents, 54.4 percent of the Hilo area residents surveyed shop in Kona at least once a year, and that 46.2 percent of the Hiloans surveyed shop in Waimea at least once a year.

It further shows that 73 percent of the Hilo area residents shop on Oahu at least once a year, and that

4.1 percent of the Hilo area residents surveyed shop on Oahu at least once a month.

At the present time, many consumer goods are available in Hilo in limited selection, or from only one to two establishments. The creation of the Prince Kuhio Plaza, and its attraction of a variety of new, modern shopping lines and displays, should create additional competitive shopping opportunities for the Big Island consumer.

Under normal circumstances, competitive shopping leads to lower prices and an overall benefit to the consumer both in economics as well as variety of selection.

3. EFFECT ON EXISTING STORES AND BUSINESSES

There is no question that the creation of the Prince Kuhio Plaza will have an impact on existing stores and businesses within the community.

This same impact was of concern in most of the major shopping trend developments registered in the Hilo area in the past 20 years.

When Sen. W.H. (Doc) Hill's Realty Investment Co. opened the Hilo Shopping Center, in the early 1960's, there were cries within the business community that this could spell the end of Downtown Hilo, particularly in the light of the devastating impact of the 1960 tsunami on much of Downtown Hilo.

When the K. Taniguchi enterprises opened their large super market and adjacent business establishments on commercial land diagonally across the street from the proposed Prince Kuhio Plaza, similar words of concern were heard within the Downtown community on the impact of moving shopping in a southerly direction.

When the Hawaii Redevelopment Agency's Project Kaiko'o came to fruition in the late 1960's, capped with the opening of the Kaiko'o Mall in 1970, the opening of Longs Drug, in 1970, and the movement of the primary State and County offices from Downtown to Kaiko'o, in the mid-60's, there were cries that this could mean the end of Downtown business.

In each instance, there was an element of truth to the allegations that the new developments would force existing enterprises to go out of business.

In some cases, businesses in downtown Hilo closed up in anticipation of the coming of the Kaiko'o Mall, taking the attitude that they would rather close than compete.

Other Big Island businesses, forced by modern competition to upgrade their offerings and merchandise on a competitive level, have continued in business and have grown during this period.

The opening of the Prince Kuhio Plaza will put existing merchants at a certain disadvantage in competing for labor, since many of the new stores will offer better salary levels and greater fringe packages than some businesses in Hilo presently offer.

There will also be the impact of the combined advertising dollar, and a subsequent mushroom effect of joint promotions and large scale consumer attractions.

Traditionally, businesses located near a large shopping center development have prospered, so the development of the Prince Kuhio Plaza could serve to improve business for those establishments located in the adjacent commercial land, particularly the Taniguchi and Foodland developments.

It is anticipated, however, that there will be some business failure as a result of the opening of the shopping center, and there will be a need for existing businesses to learn to be more competitive.

One must note, that, despite the allegedly traumatic impact of the various shopping developments on the Downtown business area, very little, if any, commercial street-front property is available for rent or lease in Downtown Hilo at the time of this writing (May, 1980), and in recent months, every commercial location that has been placed on the market has been quickly filled.

The County of Hawaii General Plan Revision Program Study entitled "High Density Urban Alternatives for Hilo," also makes a note of the potential impact by saying "The retail implications of the proposed shopping center are anticipated to go beyond the shopping center itself. Taken as a whole this area (the Prince Kuhio Plaza) is likely to dominate retail activities within the City of Hilo."

In a later portion, the County study says:

"The immediate implications for Downtown Hilo are felt to be minor. Currently, downtown is not the principal retail area in the city, yet it continues to supply primary good (sic) through variety stores, small speciality stores, secondary goods such as furnitures and appliances, convenience goods and services and office uses.

"Although there will be hesitancy in further downtown investment, the area should experience limited revitalization over the long run provided that the public improvements proposed are implement (sic). Downtown Hilo should continue to receive the small speciality type shops that have opened there recently, and additional office uses."

4. EFFECT ON VISITOR POPULATION

Although shopping is not always considered a major visitor attraction, a simple tour through a major shopping complex, such as the Ala Moana Center on Oahu, will quickly show that visitors to Hawaii can and do contribute to Hawaii's economy through shopping expeditions.

A study by the Hawaii Visitors Bureau, 1977 Visitor Expenditure Survey, indicated that westbound visitors while on the Neighbor Islands spent an average of \$2.32 per day for clothing and \$3.55 per day for gifts and souvenirs.

The proposed Prince Kuhio Plaza is located on the primary route (State Route 11) to the major visitor attraction on the Island of Hawaii, the Hawaii Volcanoes National Park and should be in excellent position to attract some visitors who have rental vehicles, inasmuch as many of these visitors will pass the shopping center on their way to or from the Volcano, Puna and other visitor attractions.

During 1978, a total of 2,321,980 persons visited the Hawaii Volcanoes National Park. A major portion of these people passed the site of the Prince Kuhio Plaza, and are part of the potential shopping audience that the center would attract.

A frequent complaint in visitor industry circles is the lack of sufficient tourist attractions in the Hilo area. While a shopping center of itself is not normally considered a tourist attraction, it will provide an additional experience for visitors to the islands who have the time to shop while on the Big Island.

5. HOUSING NEEDS

Based on the assumption that less than 10 percent of the new employees of the shopping center would be in-migrants, the impact on housing needs in the Hilo area should be minimal.

Indications from current issues of the Hawaii Tribune-Herald, as well as the Multiple Listing Service of the Hawaii Board of Realtors, are that the demand for 100 or more new homes in the general area of Hilo could be handled without severe disruption of the economy.

Future housing demand will probably come from those who presently live in housing that they would like to upgrade, or from those who presently live with parents or other relatives, and who are made financially able to improve their housing standard.

This housing mobility is commonplace within any economic model, and should help keep the construction industry viable in coming years.

I. IMPACT ON PUBLIC FACILITIES

1. IMPACT ON FIRE PROTECTION*

Fire protection for the property is provided by three stations within less than 2.5 miles, the Kawailani, Central and Waiakea Fire Stations.

A limited impact on overall fire protection for the entire district will be felt as a result of increased traffic throughout the immediate area as a result of the shopping center.

The actual fire fighting problems at the shopping center itself, given the modern commercial construction of masonry and steel, will be minimal.

*Source: Fire Chief Donald Thompson, County of Hawaii

2. IMPACT ON POLICE PROTECTION*

The impact on police protection will come in two areas: Theft and traffic control.

Such theft as is recorded will be basically "transferred" theft, minor shoplifting and similar crimes which might have occurred in other shops and stores but which will be instead transferred to the new shopping center because of greater selection and more modern merchandise. In-house security measures will be the primary factor in controlling this type of theft, and police involvement will primarily be after apprehension by store personnel.

Some additional traffic impact is expected, but because of the modern design of the adjacent highway, it is anticipated that the impact will be minimal and within the range of available services.

3. PUBLIC ROADS

The impact of the Prince Kuhio Plaza on public roads should be minimal, according to a Traffic Impact Statement completed by consulting engineer Henry Tuck Au. (see appendix.)

Points made by Tuck Au in his summary include:

"Kanoelehua Avenue and Puainako Street (the two primary streets at the project site) will have sufficient capacity to accommodate the additional traffic volumes generated by the proposed project."

"Analyzing the various factors, it may be concluded that the proposed project will provide a service to the community with a minimum disruption of environmental activities. The highway network will be able to accommodate the traffic generated by the shopping complex at an acceptable level of service even to the year 2000."

It must be also noted that the proposed project site is closer to the actual bulk of the population than most existing shopping areas. The net effect of the development of the shopping center, then, will be to reduce the amount of driving necessary to get to shopping opportunities for residents of the area.

*Source: Police Chief Guy A. Paul, County of Hawaii

This is borne out by the County of Hawaii study, "High Density Urban Alternatives for Hilo," which said, "Geographically, the (existing) commercial core is not central with respect to the residential pattern. Further, the southerly expansion area contains the higher income households that are most distant from the existing commercial core."

4. SOLID WASTE DISPOSAL

A sanitary landfill is located approximately three miles from the proposed shopping center site, accessible by public roads.

In the opinion of Chief Engineer Edward Harada of the Department of Public Works of the County of Hawaii, the existing facility can accommodate the solid waste generated by the shopping center.

In addition to the existing site, the County of Hawaii is presently negotiating with the State of Hawaii to acquire additional land for land fill use.

J. IMPACT ON PUBLIC UTILITIES

1. DOMESTIC WATER

Two 18-inch water mains run alongside the Prince Kuhio Plaza site, one on Kanoelehua Avenue and one on Puainako Street.

The usage of 30,000 gallons of water per day, which is the estimated amount that a shopping center of the size proposed will use, will have minimum impact on the County of Hawaii Department of Water Supply, inasmuch as the department presently provides some 4.6 million gallons of water a day in the Hilo area and has the capacity of providing 10 million gallons of water a day in the area.

Using rates established for the period beginning July 1, 1980, it is estimated that the Prince Kuhio Plaza will have an annual water billing charge of approximately \$9,000. There will be virtually no capital outlay necessary on the part of the County of Hawaii Department of Water Supply for the acquisition of this income, inasmuch as service is presently available on the property site.

2. SEWERAGE

There will be no impact on the existing sewerage system operated by the County of Hawaii, inasmuch as the developer will operate a private sewerage system.

3. ELECTRICAL POWER

Electricity for the Big Island is produced by Hawaii Electric Light Co., Inc., (HELCO), a subsidiary of the Hawaiian Electric Co., Inc. In 1978, electricity sales totaled 393.5 million kilowatt hours, an increase of 4.4 percent over 1977.

A total of 161.2 million KWH were sold for residential use and 232.3 million KWH were sold for commercial use

The main power plant for the Hawaii Electric Light Co., Inc., the Kanoelehua Power Plant, is located approximately 2,000 yards north of the shopping center site. Power transmission lines are located along Kanoelehua Avenue and Railroad Avenue.

It is the opinion of Jitsuo Niwao, manager of the engineering division of Hawaii Electric Light Co., Inc., that the utility is capable of delivering all required power for the shopping center as proposed.

Niwao said the firm has sufficient generating capacity to handle the needs of a 420,000 square foot shopping center.

4. TELEPHONE

The Hawaiian Telephone Co. in 1978 had a total of 58,661 telephones on the Big Island. Switching centers are located within two miles of the proposed shopping center site.

In the opinions of Tom Yamada, manager of Hawaiian Telephone Co. for the Big Island, and Hisashi Enomoto, supervising engineer, the development of the shopping center would have "no impact" on the telephone company's ability to service customers on the Big Island.

5. GAS

The Hawaii Division of Gasco, Inc., provides both piped gas and bulk gas on the Big Island.

The nearest available natural gas line is located on Kilauea Avenue, approximately one block from the project site. In the opinion of Richard Yorioka, manager of the Hawaii Division of GasCo., demand from the shopping center site would not be sufficient to justify an extension of the existing pipeline to the site.

Sufficient gas service can be provided through the firm's tank gas division without adverse impact on the company's operations, Yorioka said.

K. IMPACT ON LAND USE

1. OVERALL LAND USE PATTERN FOR THE HILO REGION

The development of the Prince Kuhio Plaza should have relatively limited impact on the overall land use pattern for the Hilo area.

There presently is sufficient industrial-zoned land and residential-zoned land to accommodate any necessary increase needed to provide warehousing or additional housing units in the community.

There should be no need for additional commercial zoning once the shopping center is completed, because the Prince Kuhio Plaza should be able to handle those income retail outlets which prefer a shopping center location, and because there is sufficient commercial zoned lands in Hilo to accommodate those retail interests which would prefer a free-standing location.

It must be noted that the Hilo area is governed by two specific sets of government regulations, the General Plan of the County of Hawaii, which is such a specific general plan as to define varying uses on different sides of certain Hilo streets, and the zoning ordinances of the County of Hawaii.

The Council of the County of Hawaii is the policy setting body of the County. It will have the power to regulate land usage in the Hilo area that does not conform to the existing zoning or General Plan.

Thus there should be little impact of the shopping center; such impact as there is can be guided and channeled by the governmental power to regulate.

2. COMMERCIAL LAND USE

The creation of the Prince Kuhio Plaza will probably diminish the need for additional commercial land in the Hilo area for at least 10 years, depending on population trends. The addition of more than 400,000 square feet of commercial space should take up the existing lack of commercial space, allow businesses that have wanted to come to the Big Island an opportunity to do so and allow businesses already located here who have wanted an opportunity to expand the chance for expansion.

There are, at present, more than 40 acres of existing commercial-zoned lands in the urban core of Hilo. Most of the land is in small parcels, much of it has non-conforming uses or is under-utilized and much of it is not on the market at present.

Should there be additional demand for small parcels of commercial space once the Prince Kuhio Plaza is opened, it is expected that the existing unused or under-utilized commercial land will satisfy that demand.

There should be little or no demand on government for the creation of additional commercial zoning in the Hilo area in the next decade, unless there is an unexpectedly large population surge.

3. INDUSTRIAL LAND USE

The creation of the Prince Kuhio Plaza will help fill some of the existing vacant industrial land in the Hilo area.

Some 228 acres of zoned industrial land is presently vacant in Hilo, including land on the north and east of the shopping center parcel. Much of this land is owned either by the Department of Hawaiian Home Lands or by the State of Hawaii, and is available only on a lease basis.

There has been a number of presentations regarding the lack of fee simple industrial land in Hilo. This project will have little impact on that need, except to perhaps increase the demand for fee simple industrial land.

Sufficient lease land, zoned industrial, is available in the Hilo area to satisfy the needs of the

existing business development and any anticipated business development in the next 10 years, should those wishing industrial lands be willing to settle for lease land.

It is anticipated that there will be a continuing demand for fee simple industrial land. This problem has not been satisfied in recent years, and does not appear to be headed for solution.

The creation of the new shopping center will cause the development of additional warehouse and trucking space, and this will use up some of the existing unused industrial land. The total impact, given the amount of available industrial land, will be minimal.

Georgiana K. Padeken, chairman of the Department of Hawaiian Home Lands, said in a memorandum dated Feb. 13, 1980, "... the department has held two separate public auctions in the last four years involving eight industrial lots in our Kaei Hana I industrial subdivision which is located directly across the highway from the proposed shopping center. Only three parcels were leased at the two auctions for the upset prices. The remaining five parcels are still vacant. The shopping center development will increase the need for warehousing in the area and should allow future development of other vacant industrial properties which the Department owns."

4. RESIDENTIAL LAND USE

The creation of the Prince Kuhio Plaza will have little impact on residential land use. The number of in-migrants to the community will be small enough to be absorbed within the existing available housing market.

The land in question was previously zoned industrial, and now is zoned commercial, so it has not removed any residential land from the marketplace. Most of the adjacent residential area is in the Panaewa Community of the Department of Hawaiian Home Lands, and residents of that community have testified that they would prefer commercial to industrial use in an area adjacent to their homes.

It has been estimated that the number of in-migrants would be between 100 to 150 for the total shopping center, and it is believed that such an influx would be absorbed in the existing real estate marketplace.

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SECTION V
ALTERNATIVES

A. ALTERNATE USES

1. DO NOTHING

The option of doing nothing with the property would deny the Department of Hawaiian Home Lands the additional lease income, would deny the County of Hawaii the additional real property tax income and would deny the community greater shopping opportunities. It would also frustrate the many people who have worked, through public hearings, the initiative process and other means, to insure that the project is approved, and would further damage the attitudes of the public toward government.

This alternate would be most pleasing to the existing businesses, who oppose the project because of a fear of competition. The parcel in question is one of the largest conveniently located pieces of property in Hilo, with outstanding access, no conflicting adjoining use patterns, good topography and market availability.

To do nothing with the parcel of land would be to deny the Department of Hawaiian Home Lands income from the land, and would not be the highest and best use of the property.

2. DEVELOP INDUSTRIAL PARK

The property in question was zoned industrial prior to the action which changed that zoning to commercial. It is not ideally situated for industrial use because of the presence of the Panaewa community of the Department of Hawaiian Home Lands, on the south boundary of the project site.

A number of residents of the Panaewa community have testified that they do not want an industrial development on property adjacent to their homes. Even the use of a wide road and the expansion of a buffer area between the residential use and the industrial property would not be sufficient to reduce noise, exhaust fumes, heavy vehicle traffic, and similar problems associated with an industrial park.

In addition, industrial use is not the highest and best use of the property in question, and would deny the Department of Hawaiian Home Lands the possible increased income from the proposed commercial development.

There is presently no shortage of industrial-zoned land in Hilo. In early 1979, a survey indicated that some 228 acres of zoned, unused industrial land existed in Hilo, not including the 39 acre shopping center site.

However, nearly all of this land is on Hawaiian Homes or State of Hawaii land, and is available only on lease, and not in fee simple. There is demand in Hilo for additional fee simple industrial land, but that demand is not affected by the decision to develop the shopping center on Hawaiian Homes Lease land.

3. RESIDENTIAL SUBDIVISION

It would be possible for the Department of Hawaiian Home Lands to develop the property in question as an expansion of the existing Panaewa residential community which is adjacent on the south. However, such a development would not conform with the master plan for Hawaiian Home Lands, which calls for industrial or commercial use of the lands in question.

Because Hawaiian Homes Land is leased to eligible applicants for \$1 a parcel a year, there is virtually no income generated from land used for home sites. The Department of Hawaiian Home Lands has sufficient residential land available, but is forced to lease land better suited for industrial or commercial use to the public to bring in sufficient income to permit the development of other land for homesite use.

The Department of Hawaiian Homes does not have a shortage of land for residential homesites. It does have a shortage of money for the development of homesites, and through the lease of potential industrial and commercial lands for income-producing use, sufficient funds can be raised to insure that homesite development continues.

4. PUBLIC USE

There is little need nor demand for land for public use in the area, and should such demand arise, there is sufficient land available to satisfy it. There are sufficient schools, colleges and park sites within a short distance of the property, and there is a substantial amount of Hawaiian Home Lands property not in use should there be additional demand for public use facilities.

There is a large public park, with pavilion and ball fields, in the Panaewa Community, and lighted ball park, playground and gymnasium at Andrews Field, adjacent to the Waiakea Waena School at the intersection of Kilauea and Kawailani, approximately two miles from the project site.

Both the Hawaii Community College and the University of Hawaii at Hilo are located within two miles, as are the Waiakea High School, Waiakea Intermediate School and Waiakea Elementary School.

There would appear to be little need nor justification for public use of the property in question. Such public use would also cause double strain on government funds; first by costing upkeep and maintenance fees for whatever use was devised, and secondly by reducing the lease income and real property tax income that will be derived from the property.

B. ALTERNATE TIME FRAMES

Because of the availability of the land in question, and because of the drastic need for additional shopping facilities in Hilo, the only time frame that appeared logical would be the immediate development of the project.

Delay in development causes an increase in construction cost estimated at one percent per month.

In fact, the delay caused since the letting of the original lease in October, 1977, has caused the cost of the project to increase by about 50 percent.

Delay in construction causes increased costs. Increased costs to construct mean the necessity of increased lease rental for commercial tenants.

Increased lease rentals for commercial tenants mean an increase in the cost of sales for the retail outlets. An increase in the cost of sales will cause an increase in the total price, thus penalizing the consumer.

Many of the opponents of the project have said, both privately and publicly, that their strategy is to delay the completion of the shopping center as long as possible, in the anticipation that rising construction costs and increased

interest rates would make the project unfeasible. This would allow the present quasi-monopolistic retailing practices of the community to continue.

C. ALTERNATIVE SITES

In the development of this project, Robert Bjerke and Richard Fahrenwald of Redevco Properties, Inc., looked at a number of potential sites in the Hilo area.

They included the Komohana area, Keaau, the Richardson Estate Property, Downtown Hilo, Pepeekeo, the old Hilo Airport terminal and other commercial sites in the urban core of Hilo.

None of the sites were found to be adequate for a regional shopping center.

The General Plan of the County of Hawaii describes a regional shopping center as providing a full range of merchandise and services, with a full size department store as the major shop. The description indicates that the regional shopping center will have 40 shops and serve a market of 50,000 people. It does not indicate acreage for such a facility, but notes that a smaller center, labeled a community center, with 20 to 40 shops, should be 10 to 30 acres in size and should serve a market of 15,000. From the comparison of those two descriptions, we can thus assume that a regional shopping center should be in excess of 30 acres.

In the study of the project completed by John Child & Co., Inc., one of the conclusions reached was that "The subject site for the proposed development meets or exceeds the locational criteria for a regional shopping center as set forth by the Urban Land Institute. In terms of size, shape and location relative to population growth, future highway improvement and surrounding land uses, the site enjoys major advantages."

In reviewing other sites available in the area, it is easy to pinpoint serious deficiencies in each of them.

These shortcomings of alternative sites included:

Komohana Street: Sufficient property was available along Komohana Street, west of the property in question. There were some problems with excessive flooding noted in the area, but a more serious problem was that of limited access. Komohana Street is a heavily used thoroughfare

with only two lanes, and all of the connecting streets, Puainako, Mohouli, Kukuau and Ponahawai, are all heavily used arterials with only two lanes.

Keaau was also considered, inasmuch as a properly sized parcel of land was available, on good traffic access. It was dismissed from consideration, however, because it remains a substantial distance from the heart of the population of Hilo.

The Richardson Estate Property, zoned commercial and fronting both Kilauea Avenue and Kinoole Street in the central portion of Hilo, was also considered. At the time the decision was made to proceed with the project, however, the property was not on the market, and the owners were disagreeing as to the possible methods of disposal. Subsequently, they came to agreement, after the Orchid Isle Group had signed the lease on the property in question, and the Richardson estate property was sold in fee simple to a group of Hilo investors.

Although some 20 acres are zoned for commercial use, the property would have a number of shortcomings should it be developed for shopping center use. The commercial area is divided by a major thoroughfare, Kinoole Street, and there are serious traffic problems in the area surrounding the Richardson property. It did not appear feasible to place a major shopping center in an area where narrow streets would inhibit access.

Downtown Hilo, and particularly the section known as the Ponahawai Block, a parcel of land where government officials hope to see redevelopment, was also researched.

Most of Downtown Hilo is in scattered land ownership, and many of the parcels of land are owned by absentee owners or by various trusts or estates. Land prices are artificially inflated, making it difficult to put together sufficient acreage for a shopping center.

Specific notice of this problem is mentioned in a study completed by the Planning Department of the County of Hawaii, "High Density Urban Alternatives for Hilo," which said (p. 21) "Due to lot size limitations within the existing High Density Urban area, redevelopment would likely entail multiple story retail and parking."

Multiple story retail and parking may be an efficient way to resolve a theoretical planning problem, but it defies the realities of the economic market place.

Two other problems were noted with the Ponohawai Block, and, for that matter, much of the rest of Downtown Hilo.

The first was the tsunami inundation problem, which requires increased elevation of structures and greater building solidarity, basically in the area from Keawe Street and Kilauea Avenue makai.

The portion of the County of Hawaii Building Code dealing with Flood and Tsunami Zone building requirements (Ordinance 384, Article Five) notes that in the area between Kilauea Avenue/Keawe Street and Kamehameha Avenue, which is rated SF-20, it is required that "All new construction or substantial improvement on non-residential structures within the SF District shall have the lowest floor, including basement, elevated to or above the level of the 100-year flood (In this case 20 feet as indicated by the designation SF-20) or together with attendant utility and sanitary facilities, to be waterproofed up to the level of the 100-year flood. This would require extremely solid construction, and would place a developer in a difficult position when dealing or negotiating with lenders, insurance firms, etc.

A related problem in the Downtown Hilo area, and much of the remainder of the urban core of Hilo, is the problem of dislocating tenants. Much of Downtown is filled with retail shops, stores and facilities that have been in place for many years, paying relatively low fixed rents, or retail outlets located in buildings owned by the store owner, who has long ago amortized the initial cost of the store. In addition, in the center of the commercial outer rim of the typical Downtown block are located a number of residential dwelling units, frequently occupied by low income and elderly residents.

The emotional trauma of dislocation, for both the people and the businesses, is a severe one. When viable alternatives are available, it normally makes good business sense to avoid the problem of forcing relocation of long-term residents or businesses.

There also has been discussion of a major commercial center in Pepeekeo, in the rapidly growing village of Kulaimano. While this area has shown substantial growth, in recent years, the distance from Hilo and the unpredictable nature of the sugar industry makes it a questionable site for a regional shopping center.

There were references made during public hearings on the proposed development regarding more than 40 acres of commercial zoned, unused or under-used land, in the urban core of Hilo.

Much of this land, however, was represented by the Richardson Estate property. The remainder was in one-acre, two-acre and sometimes half-acre parcels, scattered about, with no commonality of size, shape or availability.

From the standpoint of providing the access necessary, and from the standpoint of getting a parcel of sufficient size to permit the necessary parking for a regional shopping center, the proposed site appeared to be the best choice available.

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SECTION VI
RELATIONSHIP BETWEEN SHORT TERM AND
LONG TERM PRODUCTIVITY

A. SHORT AND LONG TERM USE OF THE PHYSICAL RESOURCES

The physical resources used would be the good location of the Prince Kuhio Plaza, its ideal setting for commerce, its convenience to the growing population of the Waiakea Homesteads, Waiakea Uka and Puna areas, and its ability to bring a group of new retailing interests to the community where commercial development has been relatively stagnant in recent years.

In the short run, the use of the resources will generate construction money and jobs for the area.

In the long run, the use of the resources will result in additional income to the County of Hawaii, the State of Hawaii and the Department of Hawaiian Home Lands.

In the long run, the advantage of competitive shopping will help those consumers on the Big Island desiring a choice in variety and a choice in price of necessary consumer goods.

The overwhelming support registered by the people of the County of Hawaii, as well as the appointed Planning Commission and the elected County Council, would indicate a determination by the government and the people that it represents that the advantages far outweigh the disadvantages.

The negative environmental effects will be primarily within the construction period.

Long term employment, additional shopping opportunities, reduced outflow of migration because of the lack of job opportunities and a broader economic base will be the primary beneficial results.

B. LAND USE ALTERATION

The 39-acre parcel of land in question will be changed drastically by the creation of the Prince Kuhio Plaza.

What has been until now a vacant, overgrown, unkempt parcel of land that produced no revenue to County or State government and only \$15 a year in lease income to the Department of Hawaiian Home Lands will become a large, paved, landscaped, lighted shopping center.

The transformation will be softened by the use of landscaping, set back areas and architectural effects designed to render the overall project attractive to the eye.

C. POPULATION INCREASES

There has been continuing population increase on the Island of Hawaii in the past 10 years, and the only accurate yardstick, the 1980 Census, has not yet been tabulated.

Most state and County officials indicate that the population has increased in excess of 80,000, and that continuing increase is anticipated.

The creation of the Prince Kuhio Plaza would cause only slight increase in the population, inasmuch as most of the work force would come from within the existing labor market, which has registered unemployment as high as 10 percent in recent years.

SECTION VII

MITIGATION MEASURES PROPOSED TO MINIMIZE IMPACT

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A. NOISE GENERATION

Noise generated from construction activities will be subject to State noise regulations, which establish maximum noise levels during certain times of the day or night.

B. AIR QUALITY CONTROL DURING CONSTRUCTION

Construction officials will be required to use all available methods of dust and particle control during the construction period to minimize impact of construction on passers-by and residents of the area.

C. VISUAL CHARACTER

Efforts will be made during the design phase of the Prince Kuhio Plaza, to include setback areas, planting and landscaping areas and other forms of architectural effect to insure that the dominance of the new facility will be softened.

Where appropriate, natural woods and lava will be used as part of the structural development, or for facing areas, to avoid serious clashes with the surrounding environment.

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SECTION VIII

**ANY IRREVERSIBLE AND IRRETRIEVABLE
COMMITMENTS OF RESOURCES**

For the purposes of this review, we will interpret the term irreversible to refer to acts which are either impossible to reverse, or which, from an economic point of view, are unfeasible to reverse.

The primary irreversible commitment is the alteration of a parcel of unused, overgrown land in an urban area of Hilo, and its subsequent replacement by a large, modern shopping center.

Some non-descript, common trees will be removed as a result. There will be a sizeable amount of earth movement and earth relocation.

Rats and mongooses, stray domestic animals and common birds will lose their habitat. Some, especially the birds, may return to the landscaped areas of the center once construction is completed.

Roads will be widened, at the expense of the developer, and new industrial land in the areas adjacent to the shopping center will be made accessible.

The resources that will be committed to the development of the Prince Kuhio Plaza are basically the parcel of land itself, and the construction materials used therein.

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SECTION IX
OFFSETTING PUBLIC INTERESTS

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While the negative impacts of this development are relatively few, the positive impacts and offsetting public interest would appear to be many.

The development of the Prince Kuhio Plaza would provide competitive shopping and new retail outlets in an area of population growth that has seen a relative stagnation of retailing in recent years.

Additional jobs will be created in a County marked by the highest unemployment rate in the State of Hawaii.

There will be a substantial amount of construction employment during the building phase of the shopping center.

There will be substantial additional revenues to government in the form of new lease rental to the Department of Hawaiian Home Lands, new real property tax revenues to the County of Hawaii, increased amounts of State income tax and increased amounts of State general excise taxes.

An intangible factor, but one which must be weighed in considering public interest, is the factor of the public's faith in government.

There have been a number of public expressions of support for the proposed shopping center.

An informal petition drive, in the fall of 1978, produced more than 9,000 signatures in support of the shopping center.

A very formal petition drive in the initiative process, with the requirement that signators be registered voters, and that they print their name clearly for the purpose of identification, produced more than 6,400 signatures within 30 days in mid-1979.

The Planning Commission of the County of Hawaii voted to change the General Plan of the County to permit the development of the Prince Kuhio Plaza.

The Council of the County of Hawaii, the policy making body of the County, passed the enabling ordinances amending the General Plan and rezoning the property, and then overrode a mayoral veto to enact the ordinances into law.

Should all of these steps, taken by the populace at large as well as an appointed body, the Planning Commission, and an elected body, the County Council, be foiled by the wishes of a demonstrated minority, it would have a serious negative impact on the general public and on the public's understanding of the importance of public input in the governmental decision making process.

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SECTION X
SUMMARY OF UNRESOLVED ISSUES



"Unresolved" is a term that can mean many things to many people.

In this effort to produce a relatively unbiased review of the Prince Kuhio Plaza, it became very evident very early in the process that there will be some issues, in the minds of some of the opponents of the development, that will never be resolved.

The impact on existing businesses is one of these basically unresolved issues. It is difficult to tell, from any vantage point, whether the existing businesses will compete against new businesses, or whether they will decline to compete, and, by their failure to be competitive, become business failures.

One can be fairly sure that some businesses will close. Whether they do so because of competition, because of poor merchandising, poor sales attitudes, lack of promotion and advertising, or other reasons is always difficult to determine.

Also raised in some circles has been the issue of Federal funding for the Downtown Hilo area. If some of the predictions of doom are accurate, there could be a positive impact on Federal funding, should the new shopping center cause the absolute closing of nearly all of the businesses in Downtown Hilo.

From the historic perspective, this simply has not happened in the past. It is doubtful that it will in the future.

An equally relevant question must be considered in this overall exercise, and that is: How much Federal money will be available in coming years, and should it be spent in a tsunami-inundation area such as Hilo's Downtown area?

Of equal importance, in the discussion of impact of the shopping center on Downtown Hilo, must be the role of government in the development of Downtown. Will the necessary funding ever be available for the many improvements proposed for downtown nearly a decade ago?

Will the various steps proposed in the Plan for Downtown Hilo ever be implemented, or will the years that have passed since the creation of that plan cause a complete review, as some have suggested?

There will also be some undefined impact on the existing commercial properties, either unused or used for other purposes, in the Hilo area.

Some property that has been on the market will not sell, or will sell at reduced prices, once competitive shopping center space is available.

Some landowners who have hoped to or wanted to develop new commercial complexes will probably be forced to change or delay those plans.

There will also be an impact on the many acres of vacant industrial land adjacent to the Prince Kuhio Plaza. Some of it will become accessible, some of it will be leased for industrial use, and undoubtedly there will be some pressure on government for rezoning of certain parts of that land for commercial use.

The role of government, in deciding on land usage, is a major one, and it would be difficult to predict, in advance, what pressures will be brought and what decisions will be made in the future.

APPENDIX

APPENDICES

1. An Archaeological Survey of a Portion of Hawaiian Home Lands of Panaewa, Tract 1, Waiakea, South Hilo, Hawaii, by William J. Bonk, University of Hawaii at Hilo.
2. Traffic Impact Statement, Prince Kuhio Plaza, by Henry Tuck Au, Consulting Engineer.
3. Air Quality Impact Analysis, Prince Kuhio Plaza, by Barry D. Root, Air Pollutant Consultant.
4. Written comments received during the consultation period prior to filing this EIS and written responses to those comments. Section 1:41, Regulations.

AN ARCHAEOLOGICAL SURVEY
of a
PORTION OF HAWAIIAN HOME LANDS
of
PANAWEA, TRACT 1, WAIAKEA, SOUTH HILO, HAWAII

by
WILLIAM J. BONK
UNIVERSITY OF HAWAII AT HILO

HILO, HAWAII
December 5, 1979

INTRODUCTION

In late October, 1979 the writer of this report was contacted by Mr. Walt Southward in reference to the carrying out of a "walk-through" archaeological survey. Mr. Southward, in offering this proposal was representing a developers' group having interest in a portion of Hawaiian Home Lands of Panaewa, Waiakea, South Hilo, on the island of Hawaii. Following this contact and with the concurrence of the developers I was asked to take on this survey and report on the findings. The following is the result of that investigation.

The area under consideration in this report is a tract made up of just under 39 acres on the northeast corner of Puainā'ko Street and Kanoelehua Avenue in Hilo, Hawaii. In addition to these two streets on its south and west border, it is bounded on the north by a proposed Makaala Street extension and on the east by a proposed Ohuohu Street extension.

METHODOLOGY

The basic field data collecting technique for this project consisted of a "walk-through" survey with approximately two days used to carry out the field investigation. The area was thoroughly covered, usually moving in from the roads and following a criss-crossing coverage pattern.

Field notes were recorded in a note book and a camera was used for photographs.

REPORT

The study area is in the shape of an unequal-sided rectangle, 38.9753 acres in size. Ground cover consists of a heavy growth of mixed vegetation. Pandanus, guava, palm, *ohia*, *kukui*, rubber tree, azalea and tree fern, amongst others, provide the upper growth, while wild orchid, thimbleberry, ferns, ginger, *ti*, coleus, shrimp plant and a variety of grasses are found beneath or in a few of the more open places (See Figures 1-3.)

Most of the western third and the northern fourth of the study area consists of rough, broken *a'a* lava. Upthrust blocks of lava are interspersed with depressions as well as areas of uneven crumbly *a'a*, while here and there one finds small sections of more level ground. This portion of the tract was very difficult to move about in, for the uneven footing together with the very heavy vegetation cover requires a slow careful traverse.

Two of my students, Miss Victoria Kai and Mrs. Arlene Nakao, went with me on November 29th. when I first examined the southwestern portion of the area. At that time we located a short section of a stone wall about a third of the distance northward from the south border and about equal distance from the west border (See Figures 4 and 5.) In size it ranges between four to six feet wide and from three to four feet in height. It is straight for ten to twelve feet before twisting and turning and straightening again. We followed it for twenty to thirty feet before losing it in the uneven *a'a*. It generally follows a broken wire fence line that runs roughly in an east-west direction. When I followed this old fence line I was able to go as far as its intersection with Kanoelehua Avenue, approximately 400 feet north of the southwestern corner of the study area. I have interpreted the wall and fence line to be of recent origin.

Also running in an east-west direction through the area can be seen the remains of an old road. It is roughly a third of the distance southward from the northern border. Some fifteen to twenty feet wide, its sides are marked by a low rock line of one to two feet in height. In most places the road follows a solid *pahoehoe* base, but here and there a shallow dirt base is to be seen. I was able to follow it from the eastern, Ohuohu Street border to about 100 feet short of its intersection with Kanoelehua Street. At that point it could no longer be seen. Perhaps during the construction of Kanoelehua Avenue bulldozing obliterated the rest of this earlier road.

A fairly large, flat area south of the above mentioned roadway and in the east-central portion of the area consists of solid *pahoehoe* separated by patches of soil. The dominant vegetation here is a ground cover of grass and wild growing azalea. The later reach a height of ten to twelve feet (See Figures 6 and 7.)

The remainder of the study area consists of smaller sections covered

with californian grass (See Figures 8 and 9) and sections of heavier, taller ground cover, similar to that in the southwestern portion of the site.

The field study located no artifacts of prehistoric or significant historic origin. However, throughout the area artifactual debris of recent origin is strewn about, for here, like so many places nearby but "out of sight", our acquisitive oriented culture has created a dumping ground for others to deal with.

RECOMMENDATIONS

This writer is secure in a belief that there are no archaeological artifacts, structures, or other remains of significance in the study area. Therefore, the professional opinion of this writer is such as to point out that there is no archaeological reason to deny the activities of the developer(s) in making whatever use he or they have for the tract designated as the study area.

In short, archaeological clearance to go forward with land displacement by the developer is recommended.



Figure 1



Figure 2



Figure 3



Figure 4



Figure 5



Figure 6



Figure 7



Figure 8



Figure 9

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TRAFFIC IMPACT STATEMENT

PRINCE KUHIO PLAZA

Tax Map Key: 2-2-47: 06 &
Portion of 01

Hilo, Hawaii

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May 1980

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ILLUSTRATIONS

<u>Plate No.</u>	<u>Title</u>
1	Project Location Map
2	Existing Highway System
3	Future Highway System
4	Transportation Plan - Hilo Plan
5	Traffic Station Map - Hilo Urban Area

TABLES

1	Average Daily Traffic & Peak Hour Traffic Volumes, Station 18-G, Kanoelehua Avenue at Puainako Street
2	Average Daily Traffic & Peak Hour Traffic Volume, Station 18-E, Kilauea Avenue at Puainako Street
3	Average Daily Traffic & Peak Hour Traffic Volume, Station 18-Y, Puainako Street at Kinoole Street
4	Average Daily Traffic & Peak Hour Traffic Volume, Station 18-Z, Puainako Street at Komohana Street
5	Average Daily Traffic & Peak Hour Traffic Volume, Station C-18-Q, Kanoelehua Avenue between Puainako and Lanikaula Streets
6	Hourly Distribution of Shopping Trips, Daytime Shopping
7	Hourly Distribution of Shopping Trips, Evening Shopping

SUMMARY

1. The proposed Prince Kuhio Plaza Project, a shopping center complex, is located in Hilo, Hawaii on an approximately 39 acre parcel of land at the intersection of Kanoelehua Avenue and Puainako Street. The property is identified by Tax Map Key 2-2-47: 06 and portion of 01, and will be bounded by Kanoelehua Avenue, proposed Puainako Street extension, proposed Ohuohu Street extension and the proposed Makaala Street extension.
2. The tentative proposal is to provide for the development of a shopping center complex with a total building area of approximately 432,776 square feet, to include 3 major department stores, an enclosed air conditioned mall with amenities, landscaped parking areas, customer service areas and similar other considerations appurtenant to a first class shopping facility.
3. Excluding the traffic volume generated by the proposed project, the projected average daily traffic for the year 2000 will be 38,076 on Kanoelehua Avenue and 18,758 on Puainako Street. Kanoelehua Avenue and Puainako Street will have sufficient capacity to accommodate the additional traffic volumes generated by the proposed project.
4. Typically, the peak commuting hours on a highway are hours of subdued activity at a shopping center. The peak hours at a shopping center occur either during the weekends or evening hours, with the evening peak hours being a higher percentage than the daytime peak hours.
5. Using the highest value of traffic generation rates for shopping centers in the United States at 392 trips per acre of land area, the project will generate 15,288 trips per day during the hours that the shopping center is operating. The peak hour volumes generated by the shopping complex will occur after the morning peak commuting hours and before the afternoon peak commuting hour for daytime shopping.
6. With evening shopping, the peak hour volumes generated by the shopping complex will occur after both the morning and afternoon peak commuting hours.
7. Since highways must be designed to meet peak hour commuting demands, the roadway network will be able to accommodate the traffic generated by the shopping complex at an acceptable level of service.

8. Approximately 2,259 parking spaces will be provided to accommodate the number of cars without depending on curb parking or parking on the adjoining streets. All of the parking will be street level parking. The 2,259 parking spaces represent a ratio of 5.22 spaces per 1000 square feet of gross floor space.
9. Analysis of the parking standard of the zoning ordinance indicates that zoning ordinance calls for a substantially greater amount of parking spaces than is necessary in actual practice.
10. The lowering of the parking standard does not mean that the lesser number of parking spaces will not be able to accommodate the actual demand. What it does point out is that the parking standard of the zoning ordinance is excessive and substantially higher than actual demand.
11. The provision of adequate parking to accommodate absolute peaks in parking demand will not create a traffic congestion problem on any of the approach roads to the project.
12. No attempt was made on mass transportation to reduce the traffic impact of the project. Mass transportation was considered only as a possible mitigating factor which may mitigate in the future the adverse consequences of traffic and improve the traffic flow on the highway and street systems.
13. Analyzing the various factors, it may be concluded that the proposed project will provide a service to the community with a minimum disruption of environmental activities. The highway network will be able to accommodate the traffic generated by the shopping complex at an acceptable level of service even to the year 2000.

DESCRIPTION OF PROJECT

The proposed "Prince Kuhio Plaza" project, a shopping center complex, is located in Hilo, Hawaii on an approximately 39 acre parcel of land at the intersection of Kanoelehua Avenue and Puainako Street. The property is identified by Tax Map Key 2-2-47: 06 and portion of 01, and will be bounded by Kanoelehua Avenue, proposed Puainako Street extension, proposed Ohuohu Street extension and the proposed Makaala Street extension. The project location map, Plate 1, outlines its relationship to the highway system and the neighborhood.

The tentative proposal is to provide for the development of a shopping center complex with a total building area of approximately 432,776 square feet, to include 3 major department stores, an enclosed air-conditioned mall with amenities, landscaped parking areas, customer service areas and similar other considerations appurtenant to a first class shopping facility. Most of the shopping center buildings will be one-story in height and each of the 3 major department stores will occupy approximately 60,000 square feet of floor space. To accommodate these uses, the complex will have street level parking for a total of 2,259 automobiles and 24 loading spaces. To facilitate traffic movement and to minimize traffic congestion, the entrances and exits will be located on Puainako Street extension, Ohuohu Street extension and Makaala Street extension, away from the major highway, Kanoelehua Avenue. There will be no entrance or exit from Kanoelehua Avenue.

The property has been zoned for commercial use by the County of Hawaii and the project, therefore, will conform with the zoning of the property.

INTRODUCTION

Any plan for community development must have sound social and economic objectives. Social, aesthetic and other values play a role in the pattern of development and the physical growth of a community must include improvements to the aesthetic, the general environment and to the social and economic welfare of the area affected by the project.

The impact of traffic on the environment can be severe and is one of the most controversial issues. However, appropriate land use and development patterns make it possible to minimize adverse environmental and traffic effects. With the aid of well-conceived plans, based on sound economic principles and with a high social purpose, a commercial development can be made to enhance the aesthetic, environmental

and economic aspects of the neighborhood and provide a service to the community with a minimum disruption of environmental activities.

The proposed shopping complex will concentrate business uses into a single convenient location in contrast to strip-type developments along major highways. Since the establishments will serve the community at large, they should provide the necessary qualities in stabilizing and strengthening the community.

This report is made to analyze and evaluate the traffic impact of the proposed development on the highway system, the neighborhood and the community.

ENERGY CRISIS AND CHANGES IN THE MODE OF TRAVEL

The energy crisis has contributed to the awareness that there is a limit on energy reserves and that the restraint on supply will bring about changing social patterns. Thus, the rising cost of transportation will restrict the size and use of the automobile and curtail the mobility of the general public.

The impact of change due to the energy situation is mentioned to stress and to call attention to the beneficial effects relative to transportation that may be derived from the energy crisis. However, to assure that a sufficient margin of safety is built into the study and analysis, the future traffic volumes were projected as if no energy crisis existed. Motor vehicle registration and traffic volumes were assumed to continue to increase.

With an energy crisis and the consequent enforced use of other modes of travel and public transportation, the traffic volumes projected for the future will be reduced considerably. The energy crisis, therefore, should mitigate in the future, the adverse consequences of traffic and improve the traffic flow on the highway and street systems.

EXISTING HIGHWAY SYSTEM

The existing highway system serving the project and the Hilo urban area is shown on Plate 2. Local streets primarily for access to abutting properties or intended for local traffic have not been included. The existing highway network is shown without regard to administrative systems (Federal-aid, State or County). The Federal-aid highways

are the more important roadways and are designed primarily to move large volumes of traffic. These arterials have an important role in diverting through traffic from the local streets.

As shown on the plan, the Federal-aid highways are the Hawaii Belt Road FAP 19, Kalaniana'ole Street FAS 137, Kanoelehua Avenue FAP 11 and Puainako Street FAS 200. The other streets are major thoroughfares for travel within the Hilo urban area, for intercommunication between and within the various sections of the County and for interconnection with the Federal-aid highways. These include Komohana Street, Kapiolani Street, Kinoole Street, Kilauea Avenue, Manono Street, Kekuanaoa Street, Lanikaula Street, Kawili Street, Mohouli Street, Ponahawai Street and Waianuenue Avenue.

FUTURE HIGHWAY SYSTEM

The existing highway system is essentially good and in the preparation of the Hilo Community Development Plan, the Planning Department developed the future highway system by the addition of new facilities built onto or added to the existing system and with improvements to the present highways of higher standards and designs for future traffic volumes. Since the projected future traffic volumes determine traffic service deficiencies for the designated land uses, a future highway system was evolved proposing sufficient streets and highways for efficient traffic circulation within the Hilo urban area and for improved intercommunication between and within the various districts of the County.

Plates 3 and 4 show the future highway system, with the existing system incorporated into the plan. The future highway system proposes the improvement of many streets and the extension or construction of additional new facilities. Streets proposed for improvement include Waianuenue Avenue, Ponahawai Street, Mohouli Street, Komohana Street, Kinoole Street, Kilauea Avenue, Manono Street, Kanoelehua Avenue and Kekuanaoa Street. Mohouli Street is proposed to be extended to connect with Ainako Avenue. This connection will provide an intra-city connector which does not carry traffic through the downtown area. Another highway is proposed to connect the Puna Coast with Puainako Street extension mauka of the Hilo Airport. The State is proposing the extension of Puainako Street in the mauka direction to connect with the Saddle Road. However, this proposal is unofficial and, therefore, has not been designated on the future highway system. Some of these streets have since been improved or constructed.

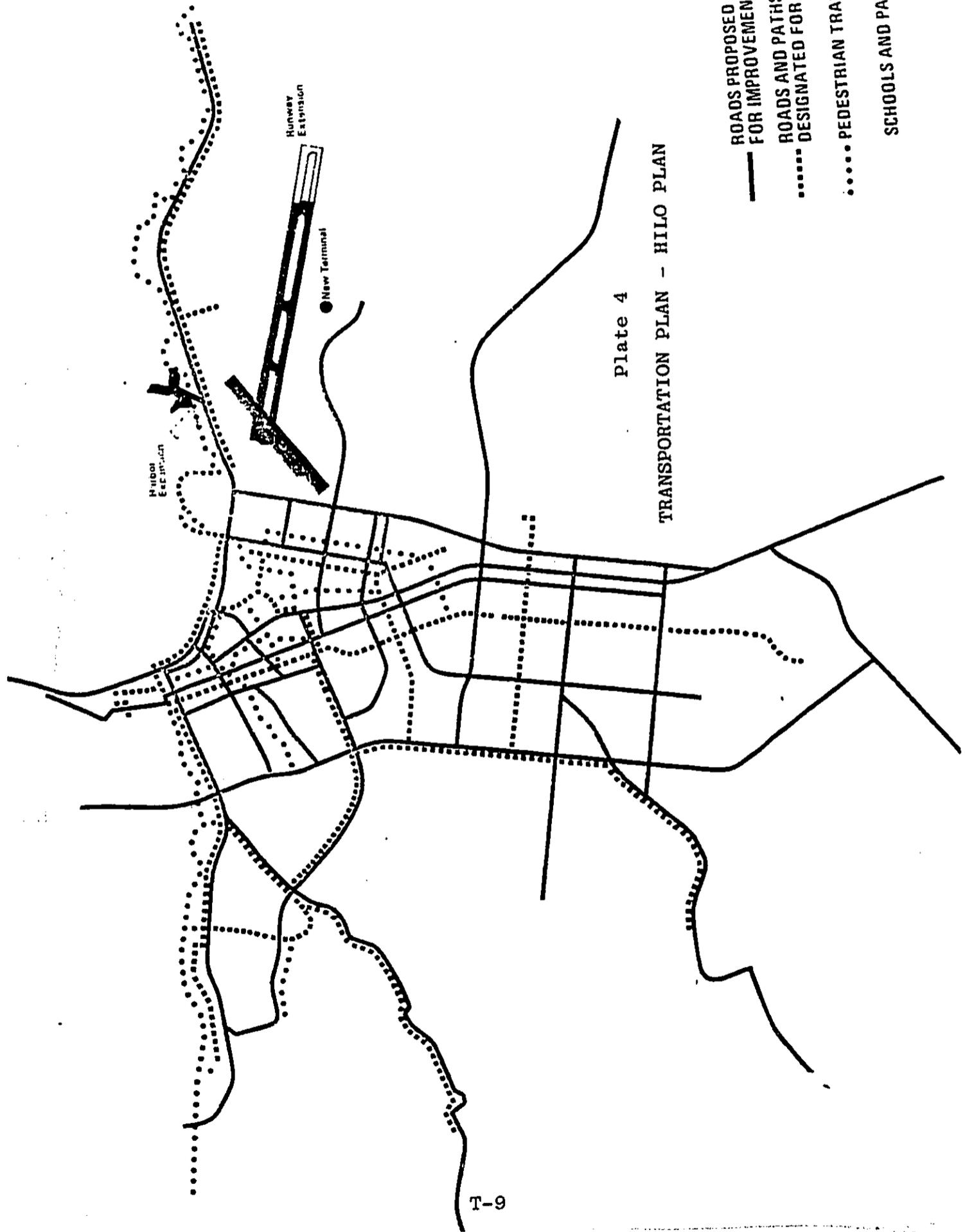


Plate 4

TRANSPORTATION PLAN - HILO PLAN

- ROADS PROPOSED FOR IMPROVEMENT
- ROADS AND PATHS DESIGNATED FOR BICYCLE USE
- PEDESTRIAN TRAIL SYSTEM
- SCHOOLS AND PARKS



TRAFFIC VOLUMES

Traffic volume information and data were obtained from the report "Traffic Summary, Island of Hawaii, 1971" and from the latest traffic counts collected by the State Department of Transportation. The "Traffic Summary" is a digest of current and historical data relative to vehicular traffic and travel, and includes a tabulation of the average daily traffic counts at selected stations. Traffic volumes are collected annually, making it possible to compare and analyze the growth trend of traffic on the various sections of the highway systems.

The past and present traffic volumes for the streets and highways in the vicinity of the project area are summarized in Tables 1 to 5. Table 1 shows the average daily traffic on Kanoelehua Avenue at the intersection of Puainako Street. Kanoelehua Avenue and Puainako Street will be the major approach roads to the shopping center. Prior to 1971, the average daily traffic on Kanoelehua Avenue was very inconsistent. In 1968, the average daily traffic was 9,300. The following year, in 1969, the average daily traffic decreased to 7,857. Then in 1970, the average daily traffic increased to a higher volume of 9,991. In 1971, Kanoelehua Avenue was under construction and the average daily traffic increased only slightly to 10,642.

Similar fluctuations in traffic volumes occur on Kilauea Avenue, Kinoole Street and Puainako Streets. Beginning in 1970, all of these streets and highways experienced a consistent increase in traffic volumes, corresponding to the rapid growth and development of the Puna area during the period of 1970 to 1976. By 1978, the average daily traffic on Kanoelehua Avenue at the Puainako Street intersection increased to 17,477; representing an increase of 74.93 per cent within the 8 year period from 1970 to 1978. Traffic volumes, therefore, have been increasing at the rate of 9.37 per cent per year. On the basis of an increase in traffic volumes at 9.37 per cent per year, the projected future traffic volumes on Kanoelehua Avenue, excluding the traffic generated by the proposed project, should total 19,353 for the year 1980, 28,714 for 1990 and 38,076 for the year 2000.

On Puainako Street at Kanoelehua Avenue, the increase in traffic volumes from 1970 to 1978 has been at the rate of 8.22 per cent per year. At this rate of increase, the projected future traffic volumes should total 10,068 for the year 1980, 14,413 for 1990 and 18,758 for the year 2000.

Since there is the question of whether or not the additional traffic generated by the proposed shopping complex will have adverse effects on the major traffic arteries, it

Table 1

Average Daily Traffic & Peak Hour Traffic Volumes
 Station 18-G
 Kanoelehua Avenue At Puainako Street

Average Daily Traffic

Year	Kanoelehua Ave. North Leg	Kanoelehua Ave. South Leg	Puainako St. West Leg	Puainako St. East Leg
2000*	38,076	33,455	18,758	3,091
1990*	28,714	25,118	14,413	2,314
1980*	19,353	16,782	10,068	1,537
1978	17,477	15,118	9,133	1,382
1977	-	-	-	-
1976	14,737	13,298	7,090	1,373
1975	-	-	-	-
1974	12,032	10,786	5,802	1,200
1973	-	-	-	-
1972	12,163	10,540	5,353	765
1971	10,642	8,587	5,168	838
1970	9,991	8,446	4,557	746
1969	7,857	5,400	5,287	800
1968	9,300	7,705	5,635	853
1967	7,667	6,693	4,082	626
1966	7,381	6,443	4,733	572
1965	5,766	5,634	4,220	-
1964	4,791	4,838	2,697	-
1963	3,490	4,042	2,636	-
1962	4,073	4,397	2,305	-
1961	2,992	3,339	2,177	-
1960	3,342	3,748	2,336	-
1959	2,848	3,042	1,424	-
1958	2,736	3,179	1,882	-

* Projected

Peak Hour Traffic Volume

	<u>1976</u>	<u>1978</u>	<u>1976</u>	<u>1978</u>	<u>1976</u>	<u>1978</u>	<u>1976</u>	<u>1978</u>
A.M. Peak	1,150	1,382	1,275	1,269	617	639	90	80
P.M. Peak	1,437	1,684	1,253	1,369	619	923	115	124

Table 2

Average Daily Traffic & Peak Hour Traffic Volume
 Station 18-E
 Kilauea Avenue At Puainako Street

Average Daily Traffic

Year	Kilauea Ave. North Leg	Kilauea Ave. South Leg	Puainako St. East Leg	Puainako St. West Leg
2000*	17,300	10,650	23,850	16,212
-	-	-	-	-
1990*	13,539	8,576	17,348	12,304
-	-	-	-	-
1980*	9,779	6,502	10,846	8,396
-	-	-	-	-
1978	9,026	6,088	9,544	7,616
1977	-	-	-	-
1976	8,991	5,772	7,090	5,569
1975	-	-	-	-
1974	-	-	-	-
1973	-	-	-	-
1972	7,133	4,698	5,353	4,634
1971	6,395	4,879	4,994	4,879
1970	5,704	7,370	4,269	4,076
1969	3,820	5,334	4,953	4,840
1968	5,017	4,243	5,469	5,156
1967	5,543	3,612	4,038	4,081
1966	5,883	4,176	4,830	4,276
1965	5,355	3,966	4,220	3,488
1964	6,028	4,167	2,745	3,320
1963	4,588	2,727	2,587	2,461
1962	4,787	2,769	2,384	2,313
1961	4,040	2,165	2,197	1,800
1960	4,346	2,646	2,331	1,704
1959	-	-	-	-

* Projected

Peak Hour Traffic Volume

1976

A.M. Peak	1,024	603	-	484
P.M. Peak	816	582	-	456

Table 3

Average Daily Traffic & Peak Hour Traffic Volume
 Station 18-Y
 Puainako Street At Kinoole Street

Average Daily Traffic

Year	Puainako St. East Leg	Puainako St. West Leg	Kinoole St. North Leg	Kinoole St. South Leg
2000	-	-	-	-
-	-	-	-	-
1990	-	-	-	-
-	-	-	-	-
1980	-	-	-	-
-	-	-	-	-
1978	7,616	6,174	5,895	6,539
1977	-	-	-	-
1976	5,569	5,111	6,394	5,566
1975	-	-	-	-
1974	-	-	-	-
1973	-	-	-	-
1972	-	-	-	-
1971	4,464	4,751	5,572	4,130
1970	4,077	4,695	4,810	4,091
1969	4,841	5,487	4,612	4,033
1968	5,156	5,972	4,972	4,031
1967	4,081	5,266	4,348	2,988
1966	4,270	5,920	4,368	3,213
1965	3,494	5,146	3,079	2,197
1964	3,399	4,181	1,930	1,609
1963	2,613	3,531	4,433	2,858
1962	2,253	2,942	4,075	2,932
1961	1,771	1,832	2,848	2,288
1960	1,863	1,628	3,346	3,456
1959	-	-	-	-

Peak Hour Traffic Volume

1976

A.M. Peak	484	729	619	422
P.M. Peak	462	441	551	477

Table 4

Average Daily Traffic & Peak Hour Traffic Volume
 Station 18-Z
 Puainako Street At Komohana Street

Average Daily Traffic

Year	Puainako St. East Leg	Komohana St. North Leg	Komohana St. South Leg
2000	-	-	-
-	-	-	-
1990	-	-	-
-	-	-	-
1980	-	-	-
-	-	-	-
1978	-	-	-
1977	-	-	-
1976	3,231	6,319	6,587
1975	-	-	-
1974	-	-	-
1973	-	-	-
1972	-	-	-
1971	2,450	4,052	3,333
1970	-	-	-
1969	-	-	-
1968	-	-	-
1967	-	-	-
1966	-	-	-
1965	-	-	-
1964	-	-	-
1963	-	-	-
1962	-	-	-
1961	-	-	-
1960	-	-	-
1959	-	-	-

Peak Hour Traffic Volume

1976

A.M. Peak	424	817	789
P.M. Peak	283	550	631

Table 5

Average Daily Traffic & Peak Hour Traffic Volume
 Station C-18-Q
 Kanoelehua Avenue Between Puainako
 And
 Lanikaula Streets

Average Daily Traffic

Year	Kanoelehua Ave.
2000	-
-	-
1990	-
-	-
1980	-
-	-
1978	-
1977	-
1976	-
1975	-
1974	-
1973	-
1972	12,987
1971	8,895
1970	13,199
1969	10,402
1968	12,407
1967	10,229
1966	6,998
1965	5,289
1964	7,353
1963	6,009
1962	5,478
1961	3,348
1960	3,377
1959	2,920
1958	2,682

Peak Hour Traffic Volume

1972

A.M. Peak	1,061
P.M. Peak	1,296

would be appropriate to investigate and determine the additional number of cars that can be accommodated by the highway network. The two major highways which will serve as the major approach roads to the shopping complex are Kanoelehua Avenue and Puainako Street, and the traffic volume capacities of these two highways need be analyzed. As an explanation, the capacity of a highway is a measure of its ability to accommodate traffic and is represented by the maximum number of vehicles that can be carried under prevailing roadway and traffic conditions. It should be emphasized that the capacity of a highway is not directly comparable to the capacity of a container or enclosed space. The capacity is a rate instead of a quantity.

Kanoelehua Avenue has been classified as an expressway and Puainako Street as a minor arterial. Using average values, the capacity of a multi-lane highway such as Kanoelehua Avenue is approximately 1,275 vehicles per lane per hour in one direction at Level of Service C. Under ideal conditions, the capacity of a multi-lane highway or the largest number of vehicles that can pass a point one behind the other in a single lane averages between 1,900 and 2,200 vehicles per lane per hour. The lower capacity figure, however, will be used for design purposes.

Puainako Street is a minor arterial with 4 traffic lanes and has controlled access. Its capacity is equivalent to that of a multi-lane highway and should also be approximately 1,275 vehicles per lane per hour in one direction at Level of Service C. However, since there are several intersecting streets along Puainako Street, it would be valid to assume that Puainako Street would have a lower capacity of 800 vehicles per lane per hour in one direction at Level of Service C.

The calculated capacity figures, however, are conservative when compared to the maximum observed traffic volumes recorded as early as 1961 on similar classifications of highways throughout the United States. On four-lane, two way expressways at grade, the highest reported hourly volumes ranged from 1,107 to 2,236 vehicles per lane per hour as compared to the calculated capacity of 1,275 vehicles per lane per hour for Kanoelehua Avenue. On four-lane, two lane major city streets at grade, the highest reported hourly volumes ranged from 1,152 to 1,742 vehicles per lane per hour as compared to the calculated capacity of 800 vehicles per lane per hour for Puainako Street. The average daily traffic reported for both directions ranged from 26,300 to 75,000 for the expressways and from 32,145 to 45,000 for the major city streets. It would be valid to expect that Kanoelehua Avenue should be able to accommodate an average daily traffic volume within the range

of 26,300 to 75,000 vehicles and for Puainako Street to be able to accommodate an average daily traffic volume within the range of 32,145 to 45,000 vehicles.

Excluding the traffic volume generated by the shopping complex, the projected peak hour volumes in the heavy direction will be 2,347 VPH for Kanoelehua Avenue and 1,159 VPH for Puainako Street, based on the following factors:

	<u>Kanoelehua Avenue</u>	<u>Puainako Street</u>
1) Functional Classification	Expressway	Minor Arterial
2) Average Daily Traffic, 2000	38,076	18,758
3) 8 Hour Volume	22,358	11,015
4) Peak Hour Percentages		
a) A.M. Peak	7.91%	7.00%
b) P.M. Peak	9.63%	10.13%
5) Peak Hour Directional Distribution		
a) A.M. Peak	75%/25%	51%/49%
b) P.M. Peak	36%/64%	39%/61%
6) Peak Hour Volumes		
a) A.M. Peak		
1) Heavy Direction	2,259 VPH	670 VPH
2) Both Directions	3,012 VPH	1,313 VPH
b) P.M. Peak		
1) Heavy Direction	2,347 VPH	1,159 VPH
2) Both Directions	3,667 VPH	1,900 VPH
7) Vehicle Type (Percent)		
a) Passenger	79.5%	84.6%
b) Buses	0.3%	0.6%
c) Panel & Pickup	13.9%	10.4%
d) Other Single Unit Trucks	5.4%	3.4%
e) Truck Combinations	0.9%	1.0%

Since both highways have two lanes in each direction, the capacity of each highway in the heavy direction at Level of Service C will be 2,550 (2 x 1,275) vehicles per hour for Kanoelehua Avenue and 1,600 (2 x 800) vehicles per hour for Puainako Street. Since the 2000 peak hour volumes are less than the capacities of the highways, the excess capacity will be 203 VPH for Kanoelehua Avenue and 441 VPH for Puainako Street for a total excess capacity of 644 VPH. The excess capacity will actually be considerably higher than the calculated capacities of the highways as observed on similar classifications of highways throughout the United States. That the calculated capacity is very conservative and its actual capacity will be considerably higher is substantiated by past and present traffic volume counts conducted in the United States and the City and County of Honolulu.

The highest traffic volume generated by the shopping complex during the afternoon peak commuting hour totals 1,491 vehicles as indicated in Table 6. Using a 36 per cent/64 per

cent directional distribution of the traffic generated by the complex, approximately 954 vehicles will be added to the peak hour volumes in the heavy direction of the two major approach roads to the shopping complex. Deducting the excess capacity of 644 VPH, the traffic generated by the complex will exceed the capacities of the highways at Level of Service C by only 310 vehicles under the worst case condition. Both Kanoelehua Avenue and Puainako Street, therefore, will have sufficient capacity to accommodate the additional volumes generated by the proposed project. As a safety factor, the actual capacities of these two approach roads which will be within the range of 2,214 to 4,472 VPH for Kanoelehua Avenue and within the range of 2,304 to 3,484 VPH will be able to accommodate any unexpected future increases in traffic volumes generated by the proposed project.

TRIP GENERATION

Trip generation data or the number of trips generated by the project will make it possible to determine whether significant adverse effects will be produced on the highway system, the neighborhood and the community. The data will also determine how many additional cars can be accommodated by the highway network.

As set forth in the description of the project, the shopping center which will include three major department stores will have a total floor area of approximately 432,776 square feet with supporting parking facilities for 2,259 parking spaces. To assure that a sufficient margin of safety is built into the analysis, higher than normal traffic generation figures will be used so that the traffic projections will still be valid for the future. Accordingly, the highest values of shopping center characteristics will be used to provide a more realistic figure for traffic generation.

Due to its complimentary traffic generation characteristics, the shopping center complex will cause only a mild traffic impact on the highway network during the peak commuting hours. The pattern of hourly activities at a shopping center is quite different from the peak commuting hours on a highway. Typically, the peak commuting hours on a highway are hours of subdued activity at a shopping center. The peak hours at a shopping center occur either during the weekends or evening hours, with the evening peak hours being a higher percentage than the daytime peak hours.

Research studies of shopping centers in the United States indicate that whether or not there is evening shopping, the percentage of all shopping center trips occurring during the normal peak highway hours from 4:00 P.M. to 6:00 P.M. is remarkably constant. For all centers, the average hourly volume of shopping center trips was only 6.6 per cent of the daily total. Their directional flow is opposite to that of the residential land uses so that there is not the competition for highway space and, therefore, less traffic congestion. The expected patterns of hourly distribution of shopping trips for daytime shopping and evening shopping are set forth in Tables 6 and 7.

Table 6
Hourly Distribution of Shopping Trips
Daytime Shopping

<u>Time of Day</u>	<u>Percentage of Total Trips</u>	<u>No. of Trips</u>
7:30 - 8:30 A.M.	1.25%	191
8:30 - 9:30 A.M.	10.25%	1,567
9:30 - 10:30 A.M.	15.00%	2,293
10:30 - 11:30 A.M.	9.25%	1,414
11:30 - 12:30 P.M.	8.50%	1,300
12:30 - 1:30 P.M.	8.75%	1,338
1:30 - 2:30 P.M.	9.75%	1,491
2:30 - 3:30 P.M.	12.00%	1,835
3:30 - 4:30 P.M.	9.75%	1,491
4:30 - 5:30 P.M.	5.50%	841
5:30 - 6:30 P.M.	4.00%	612
6:30 - 7:30 P.M.	5.00%	765
7:30 - 8:30 P.M.	1.00%	153
8:30 - 9:30 P.M.	-	-

Table 7
Hourly Distribution of Shopping Trips
Evening Shopping

Time of Day	Percentage of Total Trips	No. of Trips
7:30 - 8:30 A.M.	0.25%	38
8:30 - 9:30 A.M.	3.25%	497
9:30 - 10:30 A.M.	9.50%	1,452
10:30 - 11:30 A.M.	11.75%	1,796
11:30 - 12:30 P.M.	2.50%	382
12:30 - 1:30 P.M.	8.75%	1,338
1:30 - 2:30 P.M.	10.25%	1,567
2:30 - 3:30 P.M.	6.50%	994
3:30 - 4:30 P.M.	6.75%	1,032
4:30 - 5:30 P.M.	8.25%	1,261
5:30 - 6:30 P.M.	7.25%	1,108
6:30 - 7:30 P.M.	18.75%	2,866
7:30 - 8:30 P.M.	6.00%	917
8:30 - 9:30 P.M.	0.50%	76
9:30 - 10:30 P.M.	-	-

Traffic generation rates for shopping centers in the United States range between 30 and 392 trips per acre of land area, with a mean of 160. At 160 trips per acre, the 39 acres of the project will generate approximately 6,240 trips per day during the hours that the shopping center is operating. The hours of operation of the shopping complex will be from 9:30 A.M. to 5:30 P.M. without evening shopping and from 9:30 A.M. to 9:00 P.M. with evening shopping. Using the highest value of 392 trips per acre, the project will generate 15,288 trips. This value will be used for the traffic impact analysis.

As shown in Tables 6 and 7, the peak hour volumes generated by the shopping complex for daytime shopping will occur in the morning between 9:30 to 10:30 A.M. and in the afternoon between 2:30 to 3:30 P.M., after the morning peak commuting hours and before the afternoon peak commuting hours. With evening shopping, the peak hour volumes generated by the shopping complex will occur in the morning between 10:30 to 11:30 A.M. and in the evening between 6:30 to 7:30 P.M., after both the morning and afternoon peak commuting hours. Thus, it will not be difficult to make a trip to the complex at any time, free from hazards and traffic congestion. Since highways must be designed to meet peak hour commuting demands, the roadway network will be able to accommodate the traffic generated by the shopping complex at an acceptable level of service.

PARKING

Adequate parking will be provided so as to create a minimum of adverse environmental impact and to minimize traffic congestion. There will be approximately 2,259 parking spaces to accommodate the number of cars without depending on curb parking or parking on the adjoining streets. All of the parking will be street level parking.

With a total floor area of approximately 432,776 square feet, the 2,259 parking spaces represent a ratio of 5.22 spaces per 1,000 square feet of gross floor area. As a comparison, modern shopping centers are providing parking spaces at the ratio of approximately 5 spaces per 1,000 square feet of gross leaseable area. A recent study and survey in the United States of shopping center parking lots on the busiest day of the year (before Christmas) showed that the number of parking spaces provided based on this ratio is more than adequate to meet actual demand. This indicates that the zoning ordinance calls for a substantially greater amount of parking spaces than is necessary in actual practice and that it is uneconomical to accommodate the extremely high peaks that may occur only a few hours of the year.

If the parking standard is lowered to one space for each 300 square feet of gross floor area or 3.33 spaces per 1,000 square feet of gross floor area, the provision of parking spaces will total only 1,443 spaces. For the City and County of Honolulu, the standard under the Comprehensive Zoning Code for similar uses as this project is one space for each 400 square feet of floor area or 2.5 spaces per 1,000 square feet of floor area. Applying this standard of 2.5 spaces per 1,000 square feet of floor area to the project, the number of parking spaces will total 1,082 as compared to the 2,259 spaces that are required for the project.

The lowering of the parking standard does not mean that the lesser number of parking spaces will not be able to accommodate the actual demand. What it does point out is that the parking standard of the zoning ordinance is excessive and substantially higher than actual demand.

The provision of adequate parking to accommodate absolute peaks in parking demand, therefore, will not create a traffic congestion problem on any of the approach roads to the project.

MASS TRANSPORTATION

Public mass transportation service, although operating on routes that cover most the city, is not considered adequate. Average headway is more than one hour on the local

routes within the Hilo urban area and even longer on routes to the outlying communities. On nearly all routes, mass transportation service is not available on Saturdays or holidays. The two primary cross-town bus routes, Papaikou to Waiakea and Kaumana to Keaukaha, provide service very close to the project site but does not travel on Kanoelehua Avenue.

A centralized shopping center, such as the proposed shopping complex can be better served by public transportation and will be able to support mass transportation, thereby minimizing traffic and air pollution impacts. There is now increasing dependence on the use of public transportation and due to the energy crisis, it would be reasonable to assume a continuing increase in the use of public transportation. For this reason and for maximum bus utilization, improved bus service eventually could be provided to serve the general public as well as the proposed shopping complex.

Although improved bus service will reduce the peak hour flow on the highways, no reliance was made on mass transportation to reduce the traffic impact of the project. The traffic analysis was based entirely on the use of the automobile for maximum impact and the volumes determined from traffic generation reflect this assumption. With improved mass transportation service, tripmaking by automobile will usually be less than it would otherwise be, especially for work trips by employees.

Mass transportation, therefore, was considered only as a possible mitigating factor which may mitigate in the future the adverse consequences of traffic and improve the traffic flow on the highway and street systems.

CONCLUSION

Analyzing the various factors, it may be concluded that the proposed project will provide a service to the community with a minimum disruption of environmental activities. The highway network will be able to accommodate the traffic generated by the shopping complex at an acceptable level of service even to the year 2000.

AIR QUALITY IMPACT ANALYSIS

PRINCE KUHIO PLAZA
HILO, HAWAII

JUNE, 1980

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I. INTRODUCTION AND PROJECT DESCRIPTION

The proposed project involves construction of a shopping center complex on about 39 acres of land located near the intersection of Kanoelehua Avenue and Puainako Street in Hilo, Hawaii as shown in Figure 1.

Total planned building area is about 432,776 square feet of mostly single-level commercial space in an air-conditioned enclosed mall including three major department stores of about 60,000 square feet each. Parking will be at street level and 2,259 automobiles and 24 loading spaces will be provided.

New roadways surrounding the complex will be constructed as shown in Figure 2 and major access will be via those roads rather than directly from Kanoelehua Avenue.

The site is presently unoccupied and has been zoned for commercial use by the County of Hawaii.

The purpose of this study is to review present air quality standards, to describe the existing air quality environment of the area, and to evaluate the direct and indirect air quality impacts that could occur if the proposed project is completed as planned.

II. AMBIENT AIR QUALITY STANDARDS

State of Hawaii and Federal Ambient Air Quality Standards (AQS) have been established for seven classes of pollutants as shown in Table 1. An AQS is a concentration level not to be exceeded over a specified sampling period. Each of the regulated pollutants has the potential to cause some form of adverse health effect or to produce environmental degradation when present at a sufficiently high ambient concentration. Federal AQS have been set at levels slightly below those at which adverse impacts are known to occur but State of Hawaii AQS are significantly more stringent. The one hour State of Hawaii AQS for carbon monoxide, for example, is four times more stringent than the comparable Federal AQS.

Federal AQS have also been divided into Primary and Secondary levels for some pollutants. Primary AQS refer to concentrations above which adverse health impacts could occur while Secondary AQS refer to concentrations associated with "welfare" impacts such as soiling or reduced visibility. Each Federal AQS is a level not to be exceeded more than once per year, but State of Hawaii AQS are specified as levels not to be exceeded at any time.

The Federal AQS for airborne lead has just recently been adopted. The State of Hawaii has until 1982 to develop and implement a control plan to insure that the AQS can be met by that year and maintained thereafter. For Hawaii, the most likely control strategy will be to assume that Federally-mandated limits on the production of lead-containing products and curbs on new-car leaded-fuel usage will be sufficient to achieve and maintain airborne lead levels below the allowable AQS.

III. EXISTING AMBIENT AIR QUALITY

The State of Hawaii Department of Health has maintained an air pollutant monitoring station in the Hilo urban area since 1974. On July 1, 1979, the sampling location was moved from 191 Kuawa Street (near the airport) to 875 Komohana Street. Both these sampling locations are shown on Figure 1.

A summary of measurements obtained during this time period is presented in Table 2. Measurements for pollutants other than particulate matter, sulfur oxides and nitrogen dioxide have never been made in the Hilo area and nitrogen dioxide sampling was discontinued in 1976.

From the data available, it appears that prevailing levels for the pollutants measured are well within allowable AQS. The isolated cases of elevated particulate and sulfur oxide levels in 1978 are unexplained. They could be related to volcanic activity, but there were no major eruptions that year.

Unfortunately, the pollutants currently being monitored are not those of primary concern in evaluating the potential impact of the proposed project. One of the major impacts of the Prince

Kuhio Plaza will be increased traffic levels in the project area and the primary pollutants generated by this activity are carbon monoxide, hydrocarbons, nitrogen oxides, lead, and ozone. All that can be stated regarding most of these pollutants is that their existing levels in the Hilo area are unknown.

IV. DIRECT AIR QUALITY IMPACT OF PROJECT CONSTRUCTION

As the project site is being cleared and leveled it is inevitable that a certain amount of fugitive dust will be generated. Assuming medium-level activity, moderate soil silt content, and a semi-arid moisture environment it has been estimated from construction of several mainland shopping centers and apartment complexes that such activity generates about 1.2 tons of dust per acre per month.

The proposed project site, however, has already been partially cleared and is fairly level. It is likely that dirt removed from one part of the site can be used as fill elsewhere within the project boundaries so that dirt hauling can be kept to a minimum. Furthermore, the Hilo climate is far from semi-arid and natural wetting down of loose soil is likely to occur at frequent intervals. Applicable control regulations and required control measures to be employed in curbing emissions of airborne dust from construction are discussed later in this report.

It is also expected that on-site construction will emit air pollutants in the form of engine exhausts. Many of the larger construction vehicles are diesel-powered. Individual carbon monoxide emissions from these vehicles are usually less than those from the average automobile, but nitrogen dioxide emission rates can be as much as 15 times greater for diesel construction vehicles than comparable rates for an automobile. Because building plans call for mostly low-rise construction, the need for large diesel-powered cranes should be minimal, however, and in the final analysis, short term emissions from construction vehicles are not likely to be of anything near the magnitude of exhaust emissions

from normal peak-hour traffic operating on roadways adjacent to the project site.

V. INDIRECT AIR QUALITY IMPACT OF INCREASED TRAFFIC

Once construction is finished, the Prince Kuhio Plaza will not in itself constitute a direct source of air pollutant emissions, but by serving as an attraction for motor vehicle traffic, the complex becomes an indirect source of increased air pollutant emissions in the project area.

Motor vehicles, especially those with gasoline-powered internal combustion engines, are the major source of carbon monoxide, hydrocarbons, and nitrogen dioxide in the urban Hilo area. Vehicles operating by the use of fuel which contains lead as an additive are also producers of measurable amounts of airborne lead.

The major control measure designed to reduce vehicular lead emissions is a Federal law requiring the use of unleaded gasoline in most new automobiles. As older cars are gradually removed from the vehicle fleet, lead emissions should be steadily decreasing. Federal regulations also call for increased efficiency in removing carbon monoxide from vehicle exhausts. By 1995, carbon monoxide emissions from the vehicle fleet then operating have been mandated to be almost half the levels now emitted. Substantial decreases in hydrocarbons and nitrogen dioxide are required by the same legislation. With increasing pressure to achieve greater fuel economy and to encourage a healthier U. S. automobile industry, there will be a continuing tendency on the part of the U. S. Congress to relax or eliminate these emission reduction goals and it is thus difficult to forecast future vehicular emission rates with any degree of certainty. It seems logical, however, that even if future emission reduction goals are delayed substantially, present levels of control will serve to gradually achieve overall lowered emission rates because each year's crop of new vehicles is likely to burn less fuel to travel the same distance, and at the same time, older, less efficient vehicles will be steadily disappearing from the roadways.

To gain an overview of the general trends in emissions levels that currently mandated control measures are likely to produce, a mesoscale analysis has been carried out.

A. Mesoscale Emissions Analysis

Results of the vehicular emissions analysis for the Prince Kuhio Plaza project area are shown in Table 3. Two years were selected for analysis, 1982, when the project is likely to be completed and occupied, and 2000, about 20 years later. For this analysis the project area is taken to be a 0.3 mile portion of Kanoelehua Avenue fronting the project site, 0.15 mile sections of the existing Puainako and Makaala Streets, and the 0.05 mile section of Pilipaa Street that runs adjacent to the southern project boundary. After project construction, this section of Pilipaa Street would become the Puainako Street Extension.

Average daily traffic volumes for Kanoelehua Avenue and Puainako Streets are taken from the Traffic Impact Study for the project (1980 volumes are used for 1982). Daily traffic volumes for Makaala and Pilipaa Streets are estimated for 1982 based on peak afternoon traffic volumes counted on April 24 and 25, 1980. It was assumed that the peak hour volume represented 10 per cent of the average daily volume. Forecast traffic volumes for the year 2000 were also obtained from the Traffic Impact Study for Kanoelehua Avenue and Puainako Street and a comparable growth rate was assumed to apply for Makaala Street. Since the subdivision to which Pilipaa Street leads appears to be completed, no increase in traffic volume for that street was expected by 2000 if Prince Kuhio Plaza is not built.

The traffic study predicts an average daily traffic volume of 15,288 trips per day attracted to the proposed project. For calculation purposes, this volume was assumed to occur as early as 1982. The same volume would be expected in the year 2000 since the project would represent no greater an attraction in 2000 than it would when first opened. This assumes no expansion in either commercial area or parking

capacity at Prince Kuhio Plaza through the year 2000. The shopping center trips were allocated to existing roadways as follows: Kanoelehua Avenue - 8918, Puainako Street - 3822, and Makaala Street - 2548.

Emission factors for carbon monoxide, hydrocarbons, and nitrogen dioxide were obtained from a Federal Highway Administration tabulation of the Environmental Protection Agency's computerized Mobile Source Emissions Model (Mobile 1) for low altitude areas.

The vehicle mix in the project area (based on peak hour vehicle counts on April 24, 1980) is as follows: Automobiles - 80 percent, light duty trucks and vans - 17 percent, light duty trucks between 6000 and 8500 gross vehicle weight - 1 percent, heavy duty gas trucks and diesel trucks and buses - 1 percent each. This mix was assumed to persist through the year 2000.

The average vehicle speed on roadways was estimated to be 20 mph, while 10 mph was assumed as the average speed on new roadways in and around the Prince Kuhio Plaza. It was further assumed that each trip to the shopping center would require about two minutes on the average for entering, parking, unparking and exiting from the complex.

Emission factors are given for 60°F and 80°F with 'cold start' percentages of 10 and 20 percent. Automobiles operate less efficiently when they are started up 'cold' after a period of 4 or more hours of sitting idle and thus emit pollutants at a higher rate in the 'cold start' mode. Emission rates are also higher for cooler outside temperatures. Emission factors selected for use in this study were for the conditions of 80°F with a cold start percentage of 20. Emission factors for 60°F with 10 percent cold starts are nearly the same as those used, however, and the results should thus be valid for outside air temperatures from 60°F to 80°F, with from 10 to 20 percent cold starts.

For these conditions, the emission factors for each of the major pollutants in vehicle exhausts are as tabulated below:

		<u>1982</u>	<u>2000</u>
Carbon Monoxide	10 MPH	91.0	26.4
	20 MPH	50.2	15.9
Hydrocarbons	10 MPH	8.4	2.7
	20 MPH	5.3	1.5
Nitrogen Dioxide	10 MPH	2.5	1.4
	20 MPH	2.6	1.7

To account for expected delays in implementing currently mandated emissions reductions, the emission factors for 1982 were based on data for the projected 1980 vehicle mix (1975 projections) and the 2000 emission factors were based on data for 1995.

As can be seen from Table 3, an immediate increase in daily vehicular emissions of carbon monoxide, hydrocarbons and nitrogen dioxide can be expected in the project area after the completion of Prince Kuhio Plaza. By the year 2000, however, expected reductions in emission rates should lower daily carbon monoxide and hydrocarbon emissions to lower levels than those that presently exist in the area without the project.

Table 3 does show a projected long range increase in nitrogen dioxide emissions in the project area from 33.6 KG/day at present to 57.5 KG/day in the year 2000 with the addition of Prince Kuhio Plaza traffic. This represents an increase of about 71 percent over the long term period considered. Data from Table 2 indicates that the highest nitrogen dioxide concentration measured in the Hilo area before sampling was discontinued in 1976 was 29 micrograms per cubic meter. Even if this 24-hour value were to be increased by 71 percent, it would still amount to less than one third of the allowable State of Hawaii AQS of 150 micrograms per cubic meter. Present and future concentrations of nitrogen dioxide in the proposed project area are thus not likely to be a problem.

Since there are no existing hydrocarbon measurements for either the project area or any State of Hawaii long term air monitoring station, it is difficult to relate the hydrocarbon emission values shown in Table 3 to allowable concentration limits. In any case, hydrocarbon emissions are important primarily because of the precursor role that they play in the formation of photochemical oxidants such as ozone. Since the State of Hawaii air quality standard for ozone has not been exceeded at the urban Honolulu long term monitoring station since 1976, it would seem that the decreasing levels of hydrocarbon emissions expected in the less urban Prince Kuhio Plaza project area through the year 2000 should serve to reduce the likelihood that ozone levels in excess of allowable limits will occur at any time through that date.

Although Table 3 shows that there will be a long term decrease in daily carbon monoxide emissions by the year 2000, it is not possible to compare these daily emissions to allowable State and Federal one and eight hour concentrations without carrying out a detailed peak hour analysis that considers worst case conditions regarding both traffic volumes and meteorological conditions.

B. Microscale Carbon Monoxide Analysis

To evaluate potential peak hour worst case carbon monoxide concentrations resulting from project-generated traffic, three critical receptor sites were selected for detailed microscale analysis as indicated on Figure 3.

Receptor Site 1, located southwest of the Kanoelehua Avenue - Puainako Street intersection (about 20 meters due south of Puainako Street, near the Pizza Hut and a service station), was selected to evaluate the carbon monoxide impact of increased traffic at the intersection plus that generated by parking traffic traveling within

the planned Prince Kuhio Plaza complex. For this site the worst case wind direction would be northeast, a relatively common occurrence.

Receptor site 2, located northwest of the Kanoelehua Avenue - Makaala Street intersection (about 8 meters north of Makaala Street, in a used car lot), was selected to evaluate carbon monoxide concentrations from both this intersection and the Prince Kuhio Plaza parking area. For this site the worst case wind direction would be southeast, a less common occurrence.

Receptor site 3, located southeast of the Kanoelehua Avenue - Pilipaa Street intersection (about 48 meters east of Kanoelehua Avenue at a residential house lot) was selected to evaluate carbon monoxide impact at the nearest residence to the proposed project. For this location, the worst case wind direction would be northwest, a very rare occurrence.

Afternoon peak hour volumes on each of the roadways were determined from traffic counts conducted on April 24 and 25, 1980. Since the U. S. economy is just beginning a recession of unknown duration, it was deemed appropriate to assume that traffic levels on roadways in the project area will change very little by 1982 if the Prince Kuhio Plaza is not constructed as planned. The traffic impact statement for the project indicates that for daytime shopping, greatest travel to the shopping center would be between the hours of 9:30 and 10:30 AM when peak volume might reach 2293 trips. During the afternoon rush hours of 3:30 to 4:30 PM, when traffic on the main roadways is at its daily peak, shopping center traffic would be expected to be only 1491 trips. To simulate absolute worst case conditions, it is assumed for this study that the peak volume of approximately 2300 shopping trips could at some time coincide with peak afternoon rush hour. Since 2300 shopping trips represents

a more than 100 percent turnover of the 2283 parking spaces in the proposed Prince Kuhio Plaza (in just one hour), such an event in itself does not seem particularly likely. That such an occurrence would also coincide with peak rush hour on the roadways nearby is even more unlikely, but perhaps on a single day each year, Christmas Eve, such a super rush hour could take place.

The traffic impact statement also indicates that average daily traffic volumes on roadways near the project can be expected to double between 1980 and 2000. Peak hour volumes on roadways near the selected carbon monoxide receptor sites for the year 2000 were thus estimated by doubling present levels.

It was assumed, however, that the 2300 peak hour shopping trips generated by Prince Kuhio Plaza would still be representative for the year 2000 since this volume is determined to a great extent by the planned parking capacity of the complex.

In assigning vehicle trips to roadways near carbon monoxide receptor sites, a 64/36 percent directional split was assumed (with major flow toward the complex).

There is presently a traffic signal at the intersection of Kanoelehua Avenue and Puainako Street. This signal is presently operated by an automatic demand device which yields an average green to cycle ratio of about 60 percent in the Kanoelehua Avenue direction. No change in this ratio was assumed for the year 2000.

The only traffic control at the present Makaala Street/Kanoelehua Avenue intersection is a stop sign on Makaala Street. For this intersection, it is likely that a traffic signal will be installed if the Prince Kuhio Plaza is built as planned. For carbon monoxide calculations, however, two possible traffic control

options were considered. The first option assumes that no traffic signal is installed and that left turns into and out of Prince Kuhio Plaza via the proposed Makaala Street Extension are prohibited. For this option, about 70 percent of the total shopping traffic would be likely to concentrate at the Puainako Street entrance. The second option assumes that a signal is installed, resulting in a 50/50 distribution of shopping traffic between the two major entrances to the complex. The green to cycle ratio of this new signal would be likely to be 70 percent in the Kanoelehua direction.

For the purpose of estimating vehicular emission rates, it was assumed for all situations that vehicle speeds upstream from stop signs or red lights would be 5 MPH. Speeds downstream from signals requiring traffic to stop or turn was assumed to be 15 MPH. Unimpeded flow in unsignalized turn lanes was taken to be at 30 MPH and the speed of unimpeded flow along Kanoelehua Avenue was assumed to be 45 MPH.

Vehicle mix, outdoor ambient temperature and cold start percentages were determined as described in the previous section and vehicular emission rates for each lane of traffic were computed using the Federal Highway Administration's tabulated version of EPA's Mobile 1.

The EPA computer model hiway of the UNAMAP Series was used to estimate resulting carbon monoxide concentrations at the selected receptor sites with or without the proposed project. Stability category D was used for the computations. This category represents the most stable, least favorable, atmospheric dispersion conditions likely to exist in a suburban area such as this one during afternoon peak rush hour conditions. A uniform wind-speed of one meter per second was used to simulate worst case wind flow, but the worst case wind direction was

decided based on the geometry of each receptor area. All values were computed for a breathing level of 1.5 meters.

The contribution to carbon monoxide levels at receptor sites 1 and 2 made by parking traffic moving within the proposed shopping center complex was computed using a standard Gaussian area source model with average vehicle speeds within the parking area taken to be 10 MPH and average time spent per vehicle trip assumed to be two minutes.

Background contributions of carbon monoxide from sources not directly considered in the analysis were assumed to be 1 milligram per cubic meter in 1982 and 0.5 milligram per cubic meter in 2000 (when more stringent emission controls will be in effect).

Results of the computations are shown in Table 4. The likely impact of the proposed project is nearly the same at all three selected receptor sites. Under the worst case conditions considered in the analysis, the present or near future (1982) carbon monoxide concentrations without project construction are slightly below the allowable State of Hawaii AQS of 10 milligrams per cubic meter. Construction and full utilization of the project will result in a near doubling of the computed concentrations with values at all sites rising to levels above the AQS.

This effect can be somewhat mitigated by installation of a new traffic signal at the Makaala Street intersection, but computed values under these worst case conditions will still be in excess of the allowable AQS. For the long term however, implementation of more stringent automobile emission controls will reduce expected concentrations to values within allowable limits with or without the project, even under the worst case conditions considered.

As shown in Table 5, the same results hold for the eight-hour AQS. The estimated concentrations listed in

this table where computed by application of two correction factors to the peak hour values shown in Table 4. The first factor was an adjustment to allow for the fact that during the peak eight hours of the day, the average hourly traffic volume is only 0.8 times the peak hour volume. The second is a meteorological persistence factor of 0.6 recommended in EPA guidelines to provide a rough accounting for the fact that wind speed and direction are likely to be more variable over an eight-hour time period than they are for the one-hour case.

In both Table 4 and Table 5, it is important to note that all computed concentrations are well within the Federal ambient air quality standards for carbon monoxide even under the highly unfavorable conditions considered.

It is also important to realize that the particular combination of peak hour traffic levels, peak hour shopping travel and near stagnant meteorological conditions are not at all likely to occur at the same time as has been postulated here in order to present the worst possible conditions that could be expected in the project area. If, for example, prevailing wind speed were increased to 2 meters per second instead of the value of 1 mps that was used in the analysis, then the computed values would be cut in half. In that case (which is far more likely than the worst case), none of the expected carbon monoxide concentrations would exceed either Federal or State AQS. Furthermore, it must be emphasized that the sites selected for analysis were chosen because they would be likely to experience the greatest impact from project-generated traffic. Prevailing concentrations and project-related increases would be much lower at locations other than those selected. Even at the selected locations, expected concentrations would be much lower for wind directions other than those used in the analysis. At site 3 in particular, the worst case wind direction is a rare

occurrence not at all typical of normal or usual wind flow patterns in the area, and especially unlikely to occur during afternoon rush hour conditions.

VI. INDIRECT AIR POLLUTION IMPACT OF INCREASED ELECTRICAL
POWER DEMAND AND WASTE GENERATION

The main power plant in Hilo is located about 2000 feet northeast of the proposed project. Current air pollutant emissions and estimated maximum concentrations likely to occur at the project site from this source are summarized in Table 6. Emission rates were obtained from the State of Hawaii Air Pollutant Emission Inventory as of 1978.

Potential maximum concentrations for each pollutant were estimated using Figure 3-9 in D.B. Turner's Workbook of Atmospheric Dispersion Estimates.

The stacks at the plant are about 40 meters high and plume rise was calculated to be about 5 meters following the methodology proposed by Briggs. For these calculations outside air temperature was assumed to be 70° and stack gas exit temperature was assumed to be 260°F. Stack diameter was taken to be 124 inches. The effective emission height including stack height and plume rise was thus 45 meters.

For this effective emission height, maximum ground level pollutant concentrations would occur within the project site for atmospheric stability category D. The minimum windspeed usually associated with this category is 3 meters per second. The computation method used yields projected short term maximums for about a ten minute time period. From these values the 3-hour, 24-hour, and annual concentrations were estimated using constants of 0.083, 0.184, and 0.018, respectively, as suggested by Stearns-Roger, Inc., after detailed modeling of emissions from the Kane power plant on Oahu.

A comparison of the estimated pollutant concentrations listed in Table 6 to the allowable Air Quality Standards shown in Table 1 indicates that only sulfur dioxide is likely to be a problem at the project site. For this particular pollutant, estimated maximum values are at, or in exceedence of, allowable State of Hawaii AQS for all sampling periods. The same values, however, are well within allowable Federal limits.

It is clear that any additional demands on this power plant can only serve to increase pollutant levels expected, but an increase in fuel oil consumption on the order of 40 percent would be required to raise expected sulfur dioxide concentrations to levels over allowable Federal limits for this plant and the proposed project will not require an increase of that magnitude.

Trash generated by the proposed project is not likely to create any air pollution problems since it will be collected and buried in a sanitary land fill rather than burned in an incinerator.

VII. MITIGATIVE MEASURES

As stated earlier, construction activities associated with the proposed project would be likely to create airborne particles known as fugitive dust. State of Hawaii Department of Health Rules and Regulations (Chapter 43, Section 10) stipulate control measures that are to be employed to prevent or mitigate this type of emission. The primary control measure consists of frequent wetting down of loose soil areas with water, oil or suitable chemicals. An effective watering program can reduce particulate emissions from construction sites by as much as 50 percent. Other control measures include good housekeeping on the job site and, possibly, erection of dust-catching barriers if nearby residents are being subjected to suspended particulate levels more than 150 micrograms per cubic meter above existing background levels (as measured on a 12-hour basis). In any case, construction emissions should be a short-term phenomenon.

The only potential long-term air pollution problem likely to be created by this project will be vehicular exhaust emissions from increased traffic attracted to the shopping center. Emissions from vehicles operating within the project boundaries and on nearby roadways can be decreased if:

- (1) the emission rate of each vehicle is decreased;
- (2) the total number of vehicles is decreased; or
- (3) the project is designed to permit vehicle movement with as little queuing and engine idling as possible.

Project planners can do little to decrease the rates of pollutant emission from individual vehicles. Reductions of this nature will depend on Federal emission regulations.

It is not likely that any actions would be taken by future project managers to limit automobile traffic to the center

since tenant advertising will all be directed to attracting more people to stores within the complex. Efforts could be made, however, to encourage improvement of the public transportation network serving the project and special bus stops could be provided within the boundaries of the project. All reasonable efforts should be made to increase customer utilization of available bus service since the average diesel-powered bus emits only about half as much carbon monoxide as a single automobile.

In as much as possible, the project has already been designed to avoid creation of traffic bottlenecks that might cause excessive engine idling. Main entry and exit points are located on wide, new extensions to peripheral roadways rather than directly off busy Kanoelehua Avenue. There are no other major destinations of interest along these peripheral roadways so there can be little concern about the cumulative effects of increasing traffic because of later developments downstream from the proposed project.

It is also important to note that vehicular emissions estimates used in this study do not take into account the possibility that future gasoline shortages or economic crises might result in drastic curtailment of private vehicle usage. It also seems likely that future vehicular designs will concentrate on non-gasoline propulsion systems which create few or none of the air pollutants that are presently of concern. In this regard, the use of any alternative-energy, non-polluting vehicles should be actively encouraged by project managers, perhaps by providing exclusive parking areas for them.

Since the main shopping areas will be enclosed and air-conditioned, patrons of the proposed project are not likely to be subjected to any excessive levels of air pollutants while doing their shopping. Outdoors, however, the potentially adverse effects of air pollutant emissions from parking and entry areas can be partially mitigated by the use of dense vegetation. Such vegetation can be effective in removing both particles and carbon monoxide from the air. Landscaping of this nature is already planned for the project, but it is important to select plants that are quick growing and hardy so that their effectiveness as pollutant removers can be established as soon as possible.

VIII. SUMMARY

The proposed Prince Kuhio Plaza project can be expected to produce direct air pollutant emissions in the form of fugitive dust and construction equipment exhausts and indirect emissions from increased traffic and power generation requirements.

The construction emissions will be of a short term nature and adequate control measures exist to insure that such emissions do not become a problem to nearby residents.

Increased motor vehicle traffic in the project area will cause increases in carbon monoxide, hydro carbons, and nitrogen oxides. Of these, carbon monoxide emissions are likely to present the most significant impact. A detailed carbon monoxide analysis indicates that allowable State of Hawaii Air Quality Standards at some critical receptor sites in the project area could be exceeded under a worst case combination of traffic flow and meteorological dispersion conditions in the years shortly after project completion. By the year 2000, however, projected Federal limits on vehicular emissions should reduce expected worst case carbon monoxide levels to within allowable limits at all sites within the project area in spite of a nearly doubling in traffic levels expected by that time. All Federal Air Quality Standards are likely to be met for both the short and long term whether the project is undertaken as planned or not.

Under adverse meteorological conditions, sulfur dioxide concentrations at the proposed project site resulting from stack emissions from a nearby power plant may currently be in excess of allowable State of Hawaii Standards. Any additional power demands generated by the project could exacerbate this situation, but a 40 percent increase in fuel usage at the power plant would be required to create expected sulfur dioxide levels over allowable Federal limits.

The planned project incorporates a number of features designed to mitigate potential air pollution problems. These include central air conditioning of shopping areas, provision of parking lot access routes that do not conflict with traffic flow on major roadways, and landscaping which can serve an air pollutant removal function in certain strategic locations. The detailed carbon monoxide analysis carried out in this study indicates that

installation of a traffic signal at the Kanoelehua Avenue/Makaala Street intersection could also serve to slightly reduce expected pollutant levels at the receptor sites considered.

It is important to note that calculations performed in this study do not consider the possibility that future gasoline shortages and economic considerations could hasten design of vehicular propulsion systems that produce few or none of the pollutants of major concern in this report.

REFERENCES

1. Au, Henry T., Traffic Impact Statement, Prince Kuhio Plaza, May, 1980.
2. U.S. Environmental Protection Agency, Office of Air, Noise and Radiation, User's Guide to MOBILE 1: Mobile Source Emissions Model, August, 1978.
3. Federal Highway Administration, Office of Environmental Quality Control, Noise and Air Quality Branch, Tabulation of Selected Low Altitude Emission Factors Based on EPA's Mobile Source Emission Factor dated March, 1978, September, 1978.
4. U.S. Environmental Protection Agency, National Environmental Research Center, Office of Research and Development, User's Guide for HIWAY, a Highway Air Pollution Model (by John R. Zimmerman and Roger S. Thompson), February, 1975.
5. U.S. Environmental Protection Agency, Office of Air and Waste Management, Guidelines of Air Quality Maintenance Planning and Analysis, Volume 9: Evaluating Indirect Sources, January, 1975.
6. U.S. Public Health Service, Workbook of Atmospheric Dispersion Estimates (by D. Bruce Turuer), 1970.
7. U.S. Environmental Protection Agency, Office of Air Planning and Standards, Compilation of Air Pollutant Emission Factors, August, 1977.
8. Briggs, G.A., Some Recent Analyses of Plume Rise Observation In: Proceedings of the Second International Clean Air Congress, Academic Press, 1971.

REFERENCES (Continued)

9. Stearns-Roger, Inc., Summary of Mathematical and Wind Tunnel Dispersion Modeling, Kane. Plant, Oahu, Hawaii, May, 1978, with addendum, revised June, 1978.

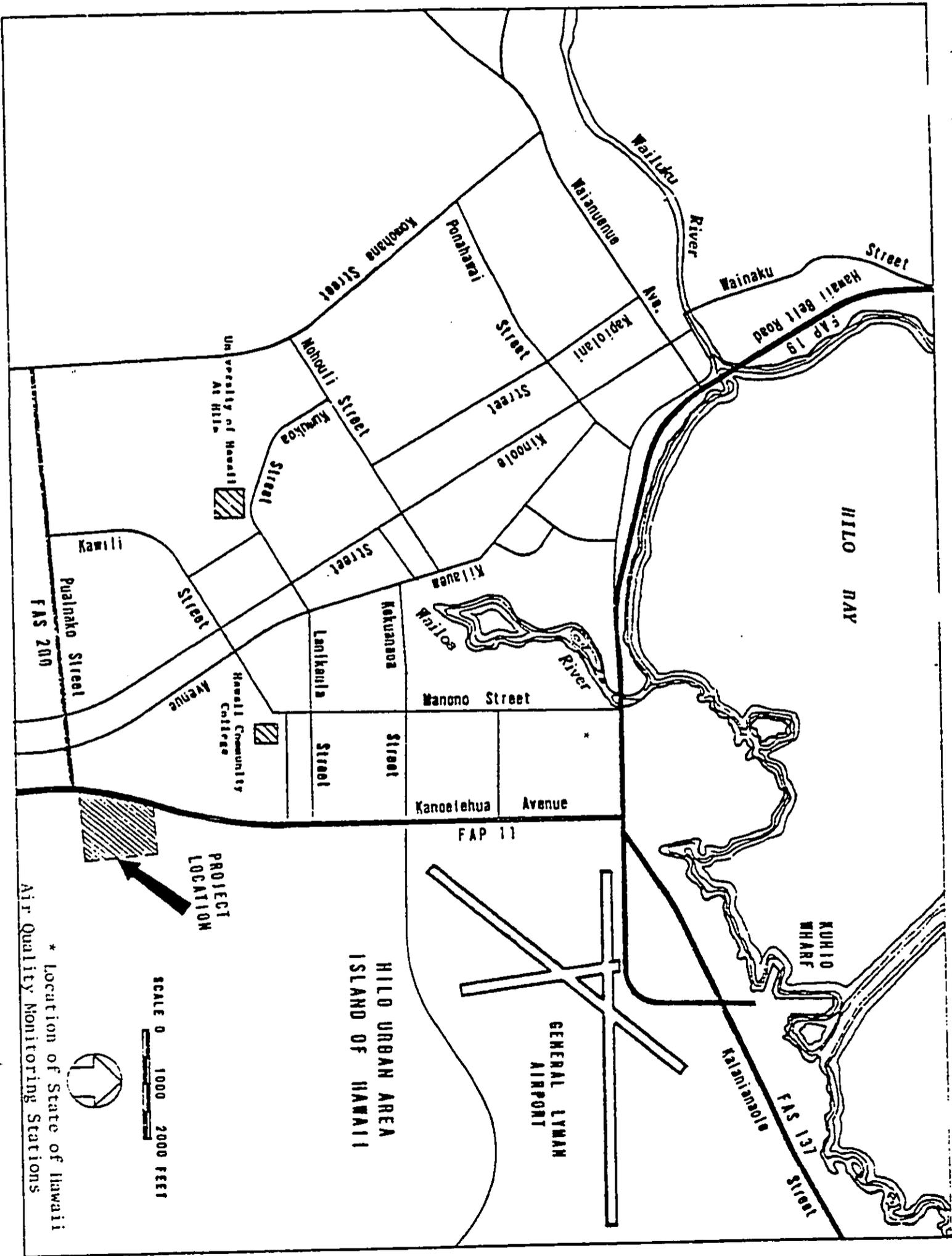
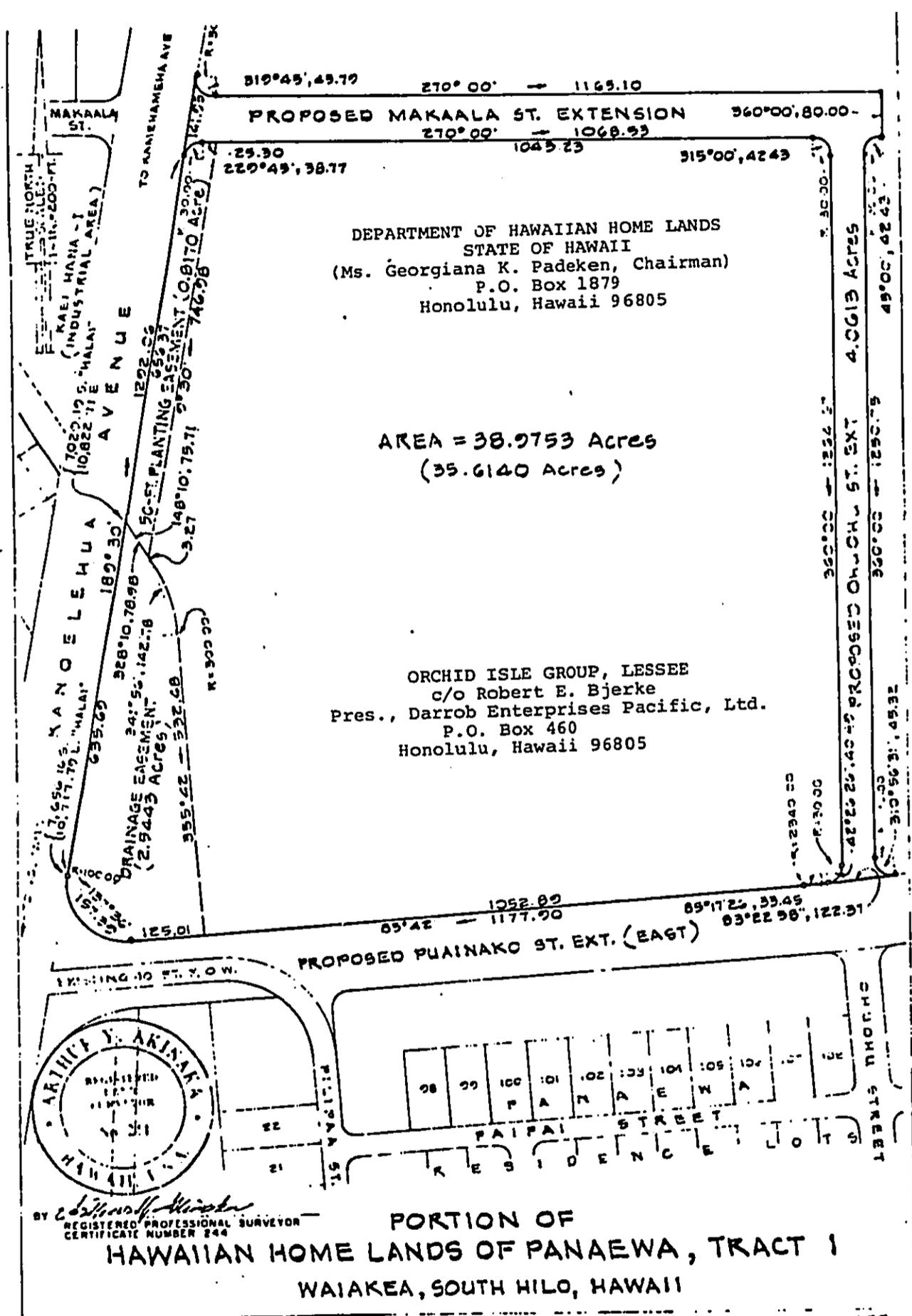


FIGURE 1 PROJECT LOCATION MAP

* Location of State of Hawaii
Air Quality Monitoring Stations

SCALE 0 1000 2000 FEET





DEPARTMENT OF HAWAIIAN HOME LANDS
 STATE OF HAWAII
 (Ms. Georgiana K. Padeken, Chairman)
 P.O. Box 1879
 Honolulu, Hawaii 96805

AREA = 38.9753 Acres
 (35.6140 Acres)

ORCHID ISLE GROUP, LESSEE
 c/o Robert E. Bjerke
 Pres., Darrob Enterprises Pacific, Ltd.
 P.O. Box 460
 Honolulu, Hawaii 96805



BY *Arthur Y. Akinaka*
 REGISTERED PROFESSIONAL SURVEYOR
 CERTIFICATE NUMBER 244

PORTION OF
 HAWAIIAN HOME LANDS OF PANAEWA, TRACT 1
 WAIAKEA, SOUTH HILO, HAWAII

TAX MAP KEY 2-2-47:64 FOR 01
 THIRD DIVISION

ARTHUR Y. AKINAKA, LTD.
 CIVIL ENGINEERS & SURVEYORS
 1179 NO. SCHOOL ST.
 HONOLULU, HAWAII

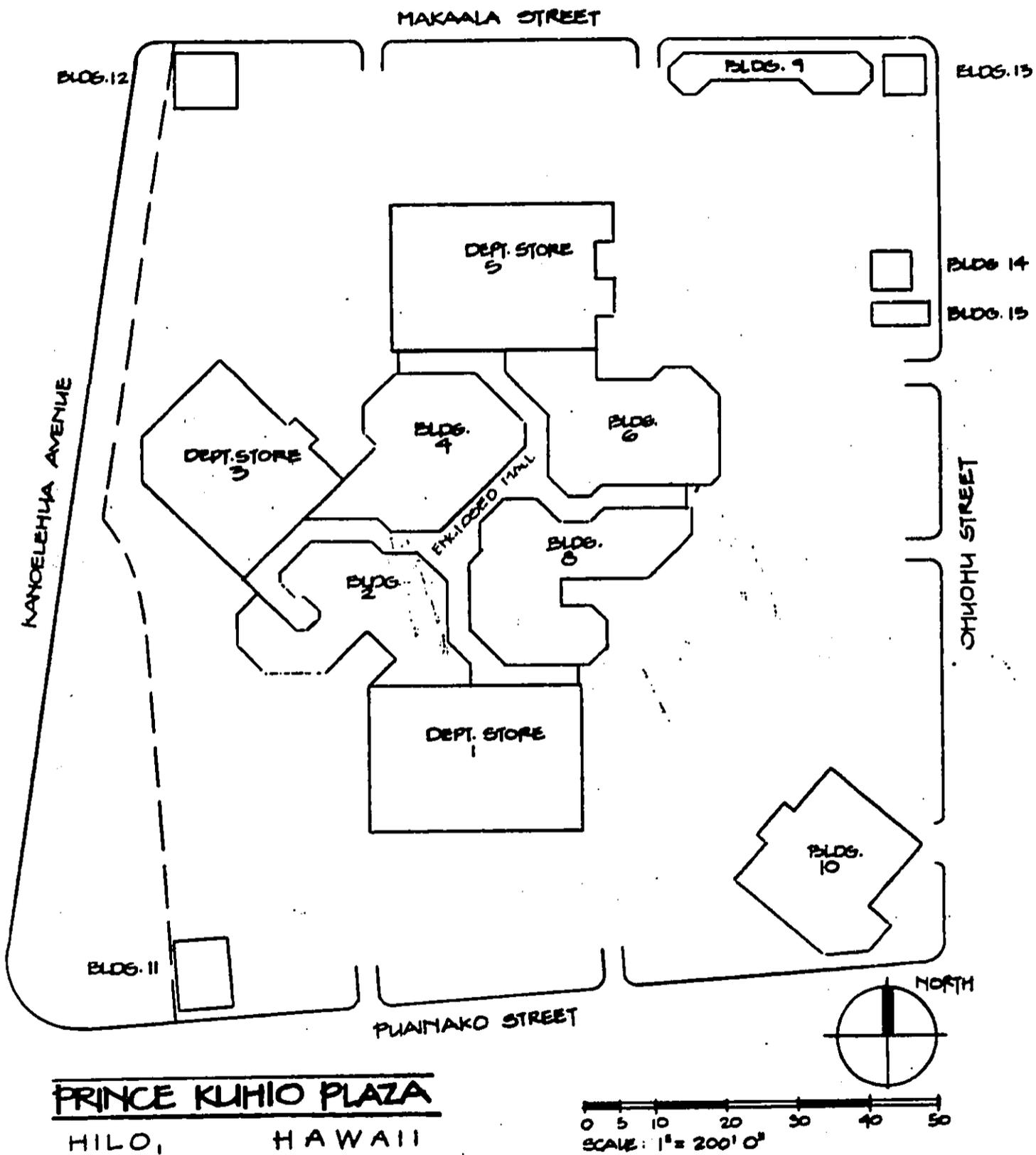
DATE MARCH 24, 1977

FIGURE 2 - SITE MAP



FIGURE 3
AERIAL PHOTO.

EXHIBIT A



PRINCE KUHIO PLAZA
HILO, HAWAII

SITE PLAN

FIGURE 4

TABLE 1
SUMMARY OF
STATE OF HAWAII AND FEDERAL AMBIENT AIR QUALITY STANDARDS

POLLUTANT	SAMPLING PERIOD	FEDERAL STANDARDS		STATE STANDARDS
		PRIMARY	SECONDARY	
1. Suspended particulate matter (micrograms per cubic meter)	Annual Geometric Mean	75	60	-
	Annual Arithmetic Mean	-	-	55
	Maximum Average in any 24 hours	260	150	100
2. Sulfur Dioxide (micrograms per cubic meter)	Annual Arithmetic Mean	80	-	20
	Maximum Average in any 24 hours	365	-	80
	Maximum Average in any 3 hours		1300	400
3. Carbon Monoxide (milligrams per cubic meter)	Maximum Average in any 8 hours		10	5
	Maximum Average in any 1 hour		40	10
4. Hydrocarbons Non-methane (micrograms per cubic meter)	Maximum Average in any 3 hours		160	100
5. Ozone (micrograms per cubic meter)	Maximum Average in any 1 hour		240	100
6. Nitrogen Dioxide (micrograms per cubic meter)	Annual Arithmetic Mean		100	70
	Maximum Average in any 24 hours		-	150
7. Airborne Lead (micrograms per cubic meter)	Average Over 3 Months		1.5	1.5

Source: 40 Code of Federal Regulations, Part 50 and State of Hawaii Public Health Rule and Regulations, Chapter 42.

TABLE 2

SUMMARY OF
AIR POLLUTANT MEASUREMENTS AT HILO MONITORING STATIONS
(Micrograms per Cubic Meter)

POLLUTANT	1974	1975	1976	1977	1978	1979	1979a
PARTICULATE MATTER							
Period of Sampling (Months)	3	12	12	12	12	6	6
No. of Samples (24-hour)	16	80	70	52	54	25	24
Range of Values	20-56	12-89	11-64	15-80	13-169	15-65	8-20
Average of Values	32	30	30	32	34	30	14
No. of times Hawaii AQS Exceeded	0	0	0	0	2	0	0
SULFUR OXIDES							
Period of Sampling (Months)	3	12	12	12	12	6	6
No. of Samples (24-hour)	18	79	65	47	55	25	24
Range of Values	<5-<5	<5-32	<5-<5	<5-<5	<5-45	<5-20	<5-<5
Average of Values	<5	5	<5	<5	<5	<5	<5
No. of times Hawaii AQS Exceeded	0	0	0	0	0	0	0
NITROGEN DIOXIDE							
Period of Sampling (Months)	3	12	3 ^b				
No. of Samples (24-hour)	19	80	20				
Range of Values	<20-22	<5-29	9-29				
Average of Values	<20	16	20				
No. of times Hawaii AQS Exceeded	0	0	0				

a Sampling Station moved from 191 Kuawa Street to 875 Komoehana Street 7/1/79.
b Sampling discontinued 4/1/76.

Source: State of Hawaii Department of Health

TABLE 3
VEHICULAR EMISSIONS ANALYSIS
PRINCE KUHIO PLAZA PROJECT AREA

CONFIGURATION	SOURCE AREA	ROADWAY DISTANCE (MILES)	24-HOUR TRAFFIC VOLUME	CARBON MONOXIDE (KG/DAY)	HYDRO- CARBONS (KG/DAY)	NITROGEN DIOXIDE (KG/DAY)
<u>1982</u>						
Without Project	Kanoelehua Av	.30	36135	544.1	57.5	28.2
	Puainako St	.15	11605	87.4	9.2	4.5
	Makaala St	.15	1840	13.9	1.5	0.7
	Pilipaa St	.05	1700	<u>4.3</u>	<u>0.5</u>	<u>0.2</u>
	Total			649.7	68.7	33.6
With Project	Kanoelehua Av	.30	45053	678.5	71.6	35.1
	Puainako St	.15	15427	116.2	12.3	6.0
	Makaala St	.15	4388	33.0	3.5	1.7
	Puainako St Extension	.05	9344	23.5	2.5	1.2
	Prince Kuhio Plaza Parking	2 Min*	15288	<u>461.4</u>	<u>42.8</u>	<u>12.2</u>
	Total			1312.6	132.7	56.2
<u>2000</u>						
Without Project	Kanoelehua Av	.30	71531	341.2	32.2	36.5
	Puainako St	.15	21849	52.1	4.9	5.6
	Makaala St	.15	3680	8.8	.8	.9
	Pilipaa St	.05	1700	<u>1.4</u>	<u>.1</u>	<u>.1</u>
	Total			403.5	38.0	43.1
With Project	Kanoelehua Av	.30	80449	383.7	36.2	41.0
	Puainako St	.15	25671	61.2	5.8	6.5
	Makaala St	.15	6228	14.9	1.4	1.6
	Puainako St. Extension	.05	9344	7.4	.7	.8
	Prince Kuhio Plaza Parking	2 Min*	15288	<u>134.5</u>	<u>13.8</u>	<u>7.6</u>
	Total			601.7	57.9	57.5

* Assuming 2 minutes of driving time in parking lot or on new roadways surrounding the project per vehicle trip. See text for assumptions and emission factors used.

TABLE 4

RESULTS OF MICROSCALE CARBON MONOXIDE ANALYSIS
 UNDER WORST CASE CONDITIONS AT SELECTED RECEPTOR
 SITES IN THE PRINCE KUHIO PLAZA PROJECT AREA.

SITE	CONFIGURATION	SOURCE	PRESENT	NEW SIGNAL	PRESENT	NEW SIGNAL
			TRAFFIC	AT	TRAFFIC	AT
			SIGNALS	MAKAALA ST	SIGNALS	MAKAALA ST
			<u>1982</u>		<u>2000</u>	
1	Without Project	Kanoelehua Av	4.6		2.7	
		Puainako St	2.5		1.5	
		Background	<u>1.0</u>		<u>.5</u>	
		Total	8.1		4.7	
	With Project	Kanoelehua Av	6.8	5.4	3.4	2.9
		Puainako St	5.5	5.5	2.3	2.3
		Prince Kuhio	2.5	2.5	.7	.7
		Plaza Parking				
		Background	<u>1.0</u>	<u>1.0</u>	<u>.5</u>	<u>.5</u>
		Total	15.8	14.4	6.9	6.4
2	Without Project	Kanoelehua Av	7.2		4.2	
		Makaala St.	1.4		.8	
		Background	<u>1.0</u>		<u>.5</u>	
		Total	9.6		5.5	
	With Project	Kanoelehua Av	9.6	8.1	5.0	4.5
		Makaala St.	3.5	4.6	1.4	1.7
		Prince Kuhio	4.5	4.5	1.3	1.3
		Plaza Parking				
		Background	<u>1.0</u>	<u>1.0</u>	<u>.5</u>	<u>.5</u>
		Total	18.6	18.2	8.2	8.0
3	Without Project	Kanoelehua Av	5.2		3.1	
		Pilipaa St	.7		.4	
		Background	<u>1.0</u>		<u>.5</u>	
		Total	6.9		4.0	
	With Project	Kanoelehua Av	7.0	5.9	3.6	3.3
		Puainako St	5.3	3.9	1.7	1.3
		Extension				
		Background	<u>1.0</u>	<u>1.0</u>	<u>.5</u>	<u>.5</u>
		Total	13.3	10.8	5.8	5.1

Table 4 (Continued)

		<u>1 Hr</u>
State of Hawaii	AQS	10
Federal	AQS	40

NOTE: See Figure 3 for location of receptor sites. All concentrations in milligrams per cubic meter.

TABLE 5

ESTIMATED EIGHT HOUR CARBON MONOXIDE
CONCENTRATIONS BASED ON WORST CASE
PEAK HOUR ANALYSIS.

SITE	CONFIGURATION	1982	2000
1	Without Project	3.9	2.3
	With Project	7.6	3.3
2	Without Project	4.6	2.6
	With Project	8.9	3.9
3	Without Project	3.3	1.9
	With Project	6.4	2.8
		<u>8-Hour</u>	
	State of Hawaii AQS	5	
	Federal AQS	10	

NOTE: All concentrations in milligrams per cubic meter.

TABLE 6

AIR POLLUTANT ANALYSIS FOR HELCO POWER PLAN

	POLLUTANT				
	SULFUR DIOXIDE	NITROGEN DIOXIDE	PARTICULATES	HYDROCARBONS	CARBON MONOXIDE
Emission Rate ^a	5008	2794	400	45	172
Maximum Estimated ^b Concentration at Project Site					
1 Hr					.03
3 Hr	930			9	
24 Hr	206	115	17		
Annual	20	11	2		

- a Emission rates from State of Hawaii air pollutant emission inventory, 1978, in Kilograms per day.
- b See text for description of computation of estimated concentrations. All values in micrograms per cubic meter except carbon monoxide (in milligrams per cubic meter). See Table 1 for comparable State and Federal Air Quality Standards.

Alaka Iwi Fabrenwald Feb. 21, 1980

Please make copies of the Hawaiian
Home Land ELS Repatriation
Notice Available to:

Honorable Mayor Herbert Matsuyoshi
Mayor Hawaii County

Honorable Councilman Stephen Yamashiro
Chairman, Hawaii County Council

Mr. Rodney Luke
Director, Planning Dept
Hawaii County

Mahalo nui loa

Samy A. Kanda

REDEVCO PROPERTIES, INC.

February 25, 1980

Mr. Sonny A. Kaniho
P. O. Box 1566
Kamuela, Hawaii 96743

Dear Mr. Kaniho:

Thank you for your letter dated February 21, 1980. We are glad to know you received the EIS Preparation Notice which we sent to you by certified mail.

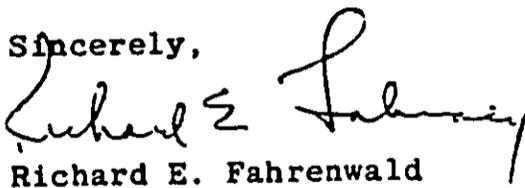
In your letter you asked that copies of the Preparation Notice be made available to Mayor Herbert Matayoshi, Council Chairman Stephen Yamashiro and Mr. Sidney Fuke. Please be informed that, at the time we mailed your notice to you, we made a general mailing to fifty one individuals, agencies and interested parties. This mailing was by certified mail and included our memo announcing our initiation of the consultation period.

The three persons mentioned in your letter were mailed the same materials as those mailed to you. Enclosed is a copy of the receipts for certified mail showing that these documents were mailed on February 7, 1980.

Would you be so kind as to let us know if your request is based on information or statements that these three gentlemen did not receive their copies of our memo and the Preparation Notice.

Thank you again for your letter and your concern. We trust that if you have any comments you will submit them to us in writing by March 10, 1980.

Sincerely,


Richard E. Fahrenwald

REF:dr
Enc.

February 18, 1980

Mr. Richard L. O'Connell
Director
Environment Quality Control
State of Hawaii
550 Halekauwila St.
Rm. 301
Honolulu, HI 96813

Dear Mr. O'Connell:

This letter is in reference to the memo I received from Redevco Properties, Inc. dated February 7, 1980 - Comments on the proposed shopping center project - 39 acre parcel of Hawaiian Home Lands.

We on the Hawaiian Home Lands waitlist^{ing} opposed the use of Hawaiian Home Lands for the shopping center project. The Department of Hawaiian Home Lands is paid to put Native Hawaiians on Hawaiian Home Lands. The continuous existence of the Department of Hawaiian Home Lands is based on the waitlist. This waitlist is 6500 plus and there is still more^{ing} to come. The leasing of Hawaiian Home Lands by the Department for the proposed project without proper hearing by the Department and Commission is a breach of duties. They are the trustees for the heirs of the Hawaiian Homes Commission Act. We are now prepared to call the U. S. Congress to come to Hawaii to conduct an investigation on the State of Hawaii.

In July of 1979, the County of Hawaii Planning Department pointed out to the Department of Hawaiian Home Lands the flooded area in the proposed project. The Department of Hawaiian Home Lands' Environmental Preparation Notice does not indicate any correction of the flooded area. The determination was left to the Agency. We think this was wrong.

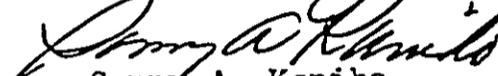
This major impact statement does not indicate any significant impact advantage for the settlement of Native Hawaiians on the land.

The Hawaiian Homes Commission Act provides that the Department of Hawaiian Home Lands, "in the management of any available lands not required for under Section 207(a), the Department may dispose of such lands to the public." The Department of Hawaiian Home Lands did not prove to the waitlist (6500 plus), that the department cannot use

the 39 acre parcel for the settlement of Native Hawaiians nor did the Department meet with the waitlist for a hearing. We are saying that the Department of Hawaiian Home Lands and the Hawaiian Homes Commission acted discriminatingly on their part. This land in question is Hawaiian Home Lands and it must be used for the purpose of the Act when a waitlist still exists.

We ask for your understanding and we humbly ask that you do not approve this proposed project.

Lokahi 'a kupaa, 7


Sonny A. Kaniho

GEORGE R. ARIYOSHI
GOVERNOR



RICHARD O'CONNELL
DIRECTOR
TELEPHONE NO.
548-5915

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
OFFICE OF THE GOVERNOR
550 HALEKAUWILA ST.
ROOM 301
HONOLULU, HAWAII 96813

February 26, 1980

Mr. Sonny A. Kaniho
P.O. Box 1566
Kamuela, Hawaii 96743

Dear Mr. Kaniho,

We have received your comments on the environmental impact statement preparation notice for the proposed shopping center on 39 acres of Hawaiian Home Lands. By copy of this letter we are forwarding your comments to the Department of Hawaiian Home Lands for their attention.

Please note that we do not have approval authority over this project. A fuller understanding of the State's EIS process can be obtained from the "EIS Handbook for Hawaii" which we are sending to you under separate cover.

Sincerely,

A handwritten signature in cursive script, appearing to read "R. O'Connell".

Richard L. O'Connell
Director

cc: DHHL w/attachment

PEDGLO PROPERTIES INC.
SUITE 1816
190 SOUTH KING ST
HONOLULU, HAWAII 96813

MARCH 7, 1980

HONO MR. FAHRENWALD

ENCLOSED IS THE LETTER I SUBMITTED TO
THE ENVIRONMENTAL QUALITY COMMISSION.
YOU WILL NOTE, I DID NOT COMMENT ON
ENVIRONMENTAL. I STAYED WITHIN THE
FACT.

ALSO, MAHALO FOR YOUR LETTER FEB 25.
MY LETTER TO MAYOR HATA YASHI COUNCIL
CHAIRMAN YAMASHIRO, AND MR. FUKU
IS BASED ON INFORMATION.

I AM HOPEFUL FOR YOUR UNDERSTANDING
AND MAHALO FOR KEEPING ME INFORM

LOKANI A KUPAA

Tommy A. Koulo

REDEVCO PROPERTIES, INC.

June 24, 1980

Mr. Sonny Alohalani Kaniho
P. O. Box 1566
Kamuela, Hawaii 96743

RE: Prince Kuhio Plaza
Proposed Shopping Center Project
Hilo, Hawaii
Preparation Environmental Impact Statement

Dear Mr. Kaniho:

This is to confirm receipt of your letters of February 21 and March 7, 1980, addressed to me, as well as receipt of a copy of your letter of February 18, 1980, addressed to Mr. Richard L. O'Connell, Director, Office of Environmental Quality Control. Your letters will be included in our draft Environmental Impact Statement and we will try to address those concerns which have to do with what will happen to the environment should our project be carried out.

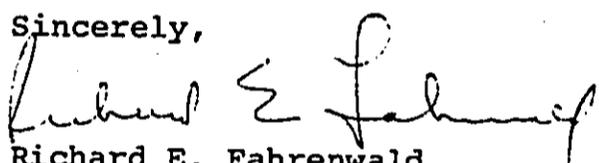
Upon its completion, we will forward to you a copy of our draft Environmental Impact Statement. When you receive the copy, please refer to the following Sections:

1. Introduction and Summary, Sections D and E.
Development Justification summary and Summary of project impacts.
2. Section I.B and C.
Project Description, Project History, Project Justification.
3. Section II.B.1, 2 and 3.
Description of Environmental Setting, The Physical Environment, Geology, topography, soils, Rainfall runoff, Biological.
4. Section III.A.7
The Relationship of the Proposed Action to Land Use Plans, Policies and Controls for the Area, Land Use Plans, The Master Plan for Hawaiian Home Lands.
5. Section III.B.3.
Policies and Controls, Flood disaster protection.

Mr. Sonny Alohalani Kaniho
Page 2
June 24, 1980

6. Section IV.G.8.a.
Probable Impact of the Proposed Action on the Environment.
Economic Impact, Impact on revenues to government, Hawaiian
Homes Department.
7. Generally, Section IV.K.
Impact on Land Use.
8. Generally, Section V.
Alternatives.

Sincerely,


Richard E. Fahrenwald

REF:mj

COPY

COUNTY OF HAWAII
DEPARTMENT OF PUBLIC WORKS
HILO, HAWAII 96720

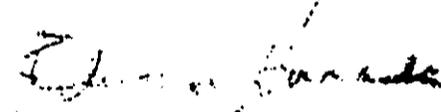
February 27, 1980

Environmental Quality Commission
550 Halekauwila Street, Room 301
Honolulu, HI 96813

SUBJECT: EIS Preparation Notice
Proposed Shopping Center (REDEVCO)
TMK: 2-2-47:6 and por. 01
Waiakea, South Hilo, Hawaii

Thank you for the opportunity to review the subject document. We have the following comments:

1. The main entrance to the shopping center should be at Puainako Street.
2. A traffic study should be made to determine the modifications that will be required at the Puainako and Makaala Street intersection.
3. A drainage study should be made.
4. A pedestrian circulation scheme with sidewalks should be worked out.
5. Connect Filipas and Ohuohu Street with Puainako Street extension.


EDWARD HARADA
Chief Engineer

cc: Redevco Properties, Inc.
Planning Department

REDEVCO PROPERTIES, INC.

June 24, 1980

Mr. Edward Harada, Chief Engineer
Department of Public Works
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

RE: EIS Preparation Notice
Proposed Shopping Center (REDEVCO)
TMK: 2-2-47:6 and por. 01
Waiakea, South Hilo, Hawaii

Dear Mr. Harada:

This is to confirm that we received a copy of your letter of February 27, 1980 addressed to the Environmental Quality Commission. Please be assured that we forwarded this copy to Walt Southward in Hilo who is preparing our Environmental Impact Statement. We would like to make the following comments concerning the five points listed in your letter:

1. The main entrance will be at Puainako Street. Our construction plans will go into more detail as you will see. However, for purposes of preparation of the Environmental Impact Statement, this subject will not be addressed.
2. A Traffic Impact Statement has been prepared by Henry Tuck Au, Consulting Engineer, and will be incorporated in its entirety into the Environmental Impact Statement. As to specific details concerning the modifications you refer to, those details will be covered in our construction plans.
3. A drainage study has not been prepared to date. For purposes of the Environmental Impact Statement, we feel that your concerns will be covered in Section II B, entitled, The Physical Environment, and in Section III B3, entitled, Flood Disaster Protection. Of course, as you know, the 2.5 acres on the parcel designated as the Drainage Easement will not be touched during construction of this project.
4. This particular concern is not covered at all in the Environmental Impact Statement. These details will be submitted as part of our construction plans.

Mr. Edward Harada

Page 2

June 24, 1980

5. Again, we have no response to this comment in the Environmental Impact Statement. However, as you know, our preliminary construction plans do, in fact, propose to connect Pilipaa and Ohuohu Street with Puainako Street extension. Again, we would ask that you refer to the Traffic Impact Statement prepared by Mr. Au.

Sincerely,



Richard E. Fahrenwald

REF:mj

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 621
HONOLULU, HAWAII 96809

SUSUMU ONO, CHAIRMAN
BOARD OF LAND & NATURAL RESOURCES

EDGAR A. HAMASU
DEPUTY TO THE CHAIRMAN

DIVISIONS:
CONSERVATION AND
RESOURCES ENFORCEMENT
CONVEYANCES
FISH AND GAME
FORESTRY
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

February 28, 1980

REF NO.: APO-1412

Environmental Quality Commission
State of Hawaii
550 Halekauwila Street, Rm. 301
Honolulu, HI 96813

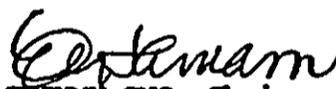
Gentlemen:

We have reviewed the EIS preparation notice for HHL's shopping center in Hilo.

We concur that the County Departments of Water Supply and Public Works should be consulted. Two concerns need to be reviewed with these agencies:

1. The shopping center's water requirements.
2. Relationship of the center to the existing and planned area-wide drainage systems.

Very truly yours,


SUSUMU ONO, Chairman
Board of Land and Natural Resources



REDEVCO PROPERTIES, INC.

June 24, 1980

Mr. Susumu Ono, Chairman
Board of Land and Natural Resources
State of Hawaii
P. O. Box 621
Honolulu, Hawaii 96809

REF NO: APO-1412

Dear Mr. Ono:

We wish to confirm that we received a copy of your letter of February 28, 1980, addressed to the Environmental Quality Commission. We forwarded your letter to Mr. Walt Southward who is preparing our Environmental Impact Statement.

We have consulted the Hawaii County Departments of Water Supply and Public Works. You described two concerns which should be reviewed with these agencies. We will be incorporating a discussion of those concerns in the following sections of our Environmental Impact Statement.

1. The shopping center's water requirements.
Section I.E.1.
Project Description, Support Facilities, Utilities;
Section II.F.1.
Description of Environmental Setting, Public Utilities,
water;
Section IX.B.1.
Probable Impact of the Proposed Action on the Environment,
Impact on Water Resources, Domestic Water Supply; and
Section IV.J.1.
Impact on Public Utilities, Domestic Water.
2. Relationship of the center to the existing and planned area-wide drainage systems.
Section II.A.
Description of Environmental Setting, Location;
Section II.B.
Description of Environmental Setting, The Physical Environment; and

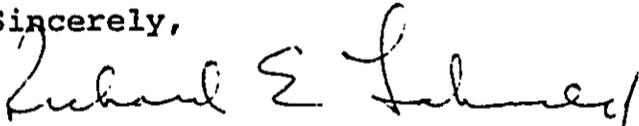
Mr. Susumu Ono
Page 2
June 24, 1980

Section III.B.3
Policies and Controls, Flood Disaster Protection.

We will also include an extensive discussion of the relationship of the proposed action to land use plans, policies and controls for the area in Section III A.

Upon completion of our draft Environmental Impact Statement, we will forward you a copy so that you may review and consider the above referenced materials.

Sincerely,



Richard E. Fahrenwald

REF:mj

February 28, 1980

- 35

Environmental Quality Commission
State of Hawaii
550 Halekauwila St., Room 301
Honolulu, Hawaii 96813

Dear Sirs:

Subject: Request for Comments on Proposed Environmental Impact
Statement (EIS) for Proposed Shopping Center Project, 39-Acre
Parcel, Hawaiian Home Lands, Kanoelehua at Puainako, Hilo

Thank you for allowing us to review and comment on the subject
proposed EIS. Please be informed that we have no comments or objections
to this project at this time.

We realize that the statements are general in nature due to preliminary
plans being the sole source of discussion. We, therefore, reserve the
right to impose future environmental restrictions on the project at the
time final plans are submitted to this office for review.

Sincerely,

Brin J. Choy
for MELVIN K. KOIZUMI
Deputy Director for
Environmental Health

cc: Redeveco Properties, Inc. ✓

REDEVCO PROPERTIES, INC.

June 24, 1980

Mr. Melvin K. Koizumi
Deputy Director for Environmental Health
State of Hawaii
P. O. Box 3378
Honolulu, Hawaii 96801

RE: Request for Comments on Proposed Environmental Impact Statement (EIS) for Proposed Shopping Center Project, 39-Acre Parcel, Hawaiian Home Lands, Kanoelehua at Puainako, Hilo.

Dear Mr. Koizumi:

This is to confirm that we received a copy of your letter of February 28, 1980 addressed to the Environmental Quality Commission. We forwarded a copy of your letter to the preparer of our draft Environmental Impact Statement.

Although you stated that your Department had no comments or objections to the project at that time, we want to assure you that we are sensitive to the concerns of your Department. We will do our utmost to discuss the environmental consequences of our proposed project in sufficient detail so as to anticipate all of your concerns.

Upon its completion, we will forward to you a copy of our draft Environmental Impact Statement.

Sincerely,


Richard E. Fahrenwald

REF:mj

Certified Mail/Return Receipt Requested

P.O. Box A
Kealahou, Hawaii 96750
March 3, 1980

Environmental Quality Commission
State of Hawaii, Room 301
550 Halekauwila Street
Honolulu, Hawaii 96813

Re: Environmental Impact Statement
Proposed Shopping Center Project
39-Acre Parcel, Hawaiian Home Lands
Kanoelehua at Puainako, Hilo, Hawaii

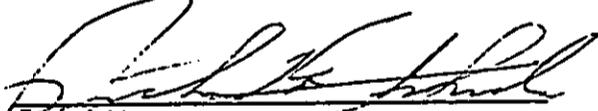
Dear Sir:

Pursuant to the Environmental Impact Statement Preparation Notice dated February 7, 1980 received from Redevco Properties, Inc. by the undersigned regarding the above captioned, the undersigned submits that the concerns to which said Environmental Impact Statement requested by the Department of Hawaiian Home Lands must be addressed are described and listed in the enclosed attachment.

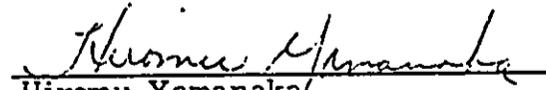
The attachment is being submitted consistent with the provisions of Section 1:41 and 1:42, Regulations, Environmental Impact Statement Environmental Quality Commission, State of Hawaii.

Very truly yours,

Ad Hoc Committee for the Revitalization
of Downtown Hilo

By 
Its Attorney.

Downtown Improvement Association (Hilo)

By 
Hiromu Yamanaka
Its President
Address: 116 Kam Avenue
Hilo, Hawaii 96720

cc: Redevco Properties, Inc. ✓

RE: CONCERNS; ENVIRONMENTAL IMPACT STATEMENT

Hilo Retail Market: Questions Concerning the Location and Expansion of Retail Facilities

A. Planning and Consistency of Plans, Zoning, Community Programs and Public Funding Requests

1. How does the location of this project relate to the established goals and regulations of the Hilo General Plan and the Community Development Agency?
2. Will Federal funding for the Community Development Agency and other Hilo projects be withdrawn or compromised because of the county rezoning this property? (See attached reference articles: The Federal policy is now to discourage the funding of projects or the support of municipalities which use Federal funds to increase urban sprawl and energy use. The policy will encourage projects and cities which seek to strengthen and revitalize downtown areas.)

B. Economic and Social Impact

1. What is the expected duplication of retail goods and services at the new center?
2. To what extent will retail space vacancies be created in downtown Hilo and Kaiko'o as a result of businesses moving to the new center?
3. What will be the effect of increased lease rent payments by Hilo retailers at the new center on small business viability and consumer prices?
4. What shopping volume losses are projected for existing Hilo retail areas?
5. What is the likely demand and prospective reuse potential for spaces in existing Hilo retail areas vacated by business moving to the Redevco center?

6. How many net primary, new jobs will be created after allowances for businesses which relocate to the center?
7. What are the major factors in the Hilo economy which underlie the projected growth in consumer demand and retail expenditures which justify the development of the Redevco center? Specifically, what is the projected impact of:
 - a. The economic outlook for the sugar industry in general and Hilo Coast Processing, in particular?
 - b. The loss of West Hawaii consumer retail expenditures to businesses located in West Hawaii?
 - c. Visitor shopping demand in Hilo given patterns of visitor occupancy, daily itinerary and identified shopping habits specifically for Hilo?
8. The shopping center will generate a demand for complimentary and supplementary retail uses on lands bordering the project and in areas which share highway frontage. Since retail land uses generate higher rents than industrial land uses, what will be the impact of the pressure for conversion of industrial lands to commercial uses on industrial land prices, space rents, and land availability?

C. Transportation and Traffic and Environment

1. What are the projections of demand for public transportation, including senior citizen transport, required by the relocation of the major retail shopping area in Hilo from the downtown and Kaiko'o to the Redevco site? What public costs will be required to add bus routs, equipment and personnel?
2. What will be the volume and impact of projected normal and peak hour traffic generated by the new regional shopping center? What is the need for new highway and access road construction, traffic signals, and traffic control?
3. What is the physical suitability of the site in terms of drainage and flood control?
4. What increase in fuel use is anticipated from the rerouting of public and private transportation from existing shopping areas to the new center?

REDEVCO PROPERTIES, INC.

June 24, 1980

Mr. Hiromu Yamanaka, President
Downtown Improvement Association
116 Kam Avenue
Hilo, Hawaii 96720

RE: Environmental Impact Statement
Proposed Shopping Center Project
39-Acre Parcel, Hawaiian Home Lands
Kanoelehua at Puainako, Hilo, Hawaii

Dear Mr. Yamanaka:

This is to confirm that we received a copy of your letter and attachment of March 3, 1980 addressed to the Environmental Quality Commission. We immediately forwarded a copy of same to the preparer of our Environmental Impact Statement. We will try to address your concerns in the following Sections of our draft EIS.

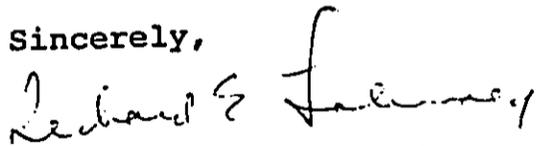
1. Your Paragraph A.
 - a. Section III.A. The Relationship of the Proposed Action to Land Use Plans, Policies and Controls for the Area, Land Use Plans.
 - III.A.3. County of Hawaii General Plan.
 - III.A.5. Hilo Community Development Plan.
 - III.A.6. Hilo Downtown Plan.
 - b. Section X. Summary of Unresolved Issues.
2. Your Paragraph B.
 - a. Introduction and Summary, Section D. Development Justification Summary.
 - b. Section I.C. Project Description, Project Justification.
 - c. Section IV.G.1. through 7. (omit 8.) Probable Impact of the Proposed Action on the Environment.
Economic Impact:
 1. Impact on employment.
 2. Construction and Indirect jobs.
 3. Characteristics of employment.
 4. Need for in-migration.
 5. Impact on income.

Mr. Hiromu Yamanaka
Page 2
June 24, 1980

- 6. New housing demand
 - 7. Impact on population - residential, visitor.
- d. Section IV.H.1, 2 and 3.
Social Impacts, generated employment, increased shopping opportunities, effect on existing stores and businesses.
3. Your Paragraph C.
- a. Section I.E.2.
Project Description - Support Facilities, Road access.
 - b. Section II.B.2. and E.2.
Description of Environmental Setting, The physical environment, rainfall runoff.
Public Facilities, Transportation and traffic.
 - c. Section III.B.3.
The Relationship of the Proposed Action to Land Use Plans, Policies and Controls for the Area. Policies and Controls, Flood disaster protection.
 - d. Section IV.I.3.
Probable Impact of the Proposed Action on the Environment.
Impact on public facilities, public roads.
 - e. We have prepared a Traffic Impact Statement which will be incorporated in its entirety in the draft EIS.

Upon its completion, we will forward to you a copy of our draft Environmental Impact Statement so that you may review and consider the preceding references.

Sincerely,



Richard E. Fahrenwald

REF:mj

cc: Richard T. Ishida, Esquire
Ishida and Matsukawa
P. O. Box A
Kealahou, Kona, Hawaii 96750

March 5, 1980

Ref. No. 0793

Mr. Richard L. O'Connell, Director
Office of Environmental Quality
Control
550 Halekauwila Street
Honolulu, Hawaii 96813

Dear Mr. O'Connell:

Subject: Environmental Impact Statement Preparation Notice,
Proposed Shopping Center Project, 39-Acre Parcel,
Hawaiian Home Lands, Kanoelehua at Puainako, Hilo,
Hawaii

Thank you for giving us the opportunity to review the subject EIS
Preparation Notice. We find that the document has adequately identified
potential environmental, social and economic impacts which can be anticipated
as a result of the proposed project.

We have no further specific remarks to offer at this time but would
like the privilege of commenting further when the draft EIS statement is
available for review.

Sincerely,



Hideto Kono

cc: Redevco Properties, Inc. ✓
Suite 1816
190 South King Street
Honolulu, Hawaii 96813

REDEVCO PROPERTIES, INC.

June 24, 1980

Mr. Hideto Kono
Department of Planning and
Economic Development
State of Hawaii
Kamamalu Building
P. O. Box 2359
Honolulu, Hawaii 96804

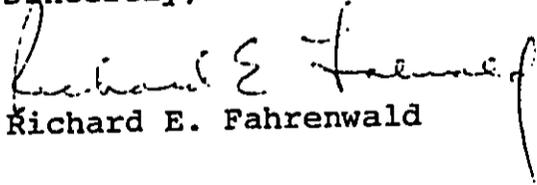
RE: Environmental Impact Statement Preparation Notice,
Proposed Shopping Center Project, 39-Acre Parcel,
Hawaiian Home Lands, Kanoelehua at Puainako, Hilo,
Hawaii

Dear Mr. Kono:

This letter is to confirm that we received the copy of your letter of March 5, 1980, Ref. No. 0793, addressed to Mr. Richard L. O'Connell, Director. We want to assure you that we have referred the copy of your letter to Mr. Walt Southward who is preparing our Environmental Impact Statement.

We note that you have no specific remarks to offer at this time but would like the privilege of commenting further when the draft Environmental Impact Statement is available for review. We will forward to you a completed copy of this Statement as requested.

Sincerely,


Richard E. Fahrenwald

REF:mj

Redevco Properties Inc.
Suite 1816
190 South King St.
Honolulu, Hawaii 96813

06 March 1980

Mr. Richard Fahrenwald:

As the President of the Keaukaha Panaewa Farmers Associations, I'd like to share our concerns with you and also express our gratitude and appreciation, for providing us with a copy of the EIS statement for the proposed Redevco/Prince Kuhio Shopping Center. I'd like to first of all express, that, tho we abhor the utilization of any Hawaiian Homestead Lands, by those other than the intended beneficiaries of the Act; we'd like to state for the record that we are supportive (with reservation) of the proposed shopping complex.

With reservation, addresses the following:

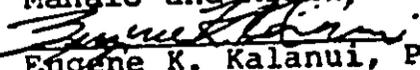
- 1- Future growth of the complex, would, not only bring about increased "problems" for the farmers, but also possibly would "force the farmers out," by infringing on their established revenues with-in the mainstream of their farms/lives.
- 2- We, as farmers; don't see any mention or statement, as to what impact this shopping center would incur or induce upon the Hawaiian farming community.
I.E. Such as:
 - (A) Buying their produces or products.
 - (B) Providing farm supplies etc.
 - (C) Establishment of "farmers or flea market" etc.
- 3- There is one thing that I especially am concerned about that's not mentioned in you EIS statements, which I'm sure might have been an oversight. "How will the flooding situation or "drainage", that usually ends up in that lot, be taken care of?"
- 4- Hopefully, the egress and ingress of the traffic patterning will not add to but aliviate, alienate, or erradicate the now prevalent problems associated with that busy intersection. (Puainako and Kanoelehua Ave.) Especially, for the residents abutting the "shopping complex," more so for the walking children or pedestrians. Other than that, we have no objection(s).

Thank-you for allowing us the priviledge to respond and comment on your EIS statement for the project. Your response to the four (4) items of concern we've addressed above.

One more thing, we'd like to, (if possible), get a copy of the aerial photo taken of the area. (I was directed to ask you by the Dept. of Hawaiian Homes and Lands).

If I/we could be of further service, don't hesitate to call me at home, (959-6261) or leave a message for me at the Legal Aid Office, (961-2851).

Mahalo and Aloha,


Eugene K. Kalanui, President
Keaukaha Panaewa Farmers Assoc.

cc files
G. Padeken
A. Napeahi
E. Kanahele
Senator Patsy Young

REDEVCO PROPERTIES, INC.

March 12, 1980

Mr. Eugene K. Kalanui, President
Keaukaha Panaewa Farmers Association
41 Pohai Street
Hilo, Hawaii 96720

Dear Mr. Kalanui:

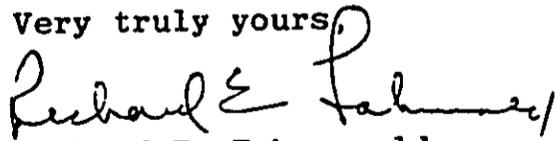
Thank you very much for your letter of March 6, 1980. We are most pleased that you wrote to us.

Please let me explain that the documents which we mailed to you are documents which notify you and the public that the Environmental Impact Statement is now being prepared. What you received is not the Statement itself, it is the Notice of Preparation. The outline indicated certain areas of concern which will be discussed in the Statement. Our purpose in writing to you, as well as others, is to consult with you and solicit other areas of concern which you feel should be included in the Statement.

Your letter is exactly the kind of response and input we hoped to stimulate. We will forward your letter to our agent who is preparing the Statement. He, in turn, will respond to each of the four items of concern which you have addressed and incorporate them into the Statement document. When the Statement is completed, we will notify you and you will then have an opportunity to review the entire document.

Thank you again for your interest and concern. We are most grateful that you and the Association are generally supportive of the Prince Kuhio Plaza.

Very truly yours,


Richard E. Fahrenwald

REF:dr

REDEVCO PROPERTIES, INC.

June 24, 1980

Mr. Eugene K. Kalanui, President
Keaukaha Panaewa Farmers Association
41 Pohai Street
Hilo, Hawaii 96720

RE: Prince Kuhio Plaza
Proposed Shopping Center
Hilo, Hawaii

Dear Mr. Kalanui:

This is a follow-up of our letter to you dated March 12, 1980. Once again, thank you for your letter of March 12th concerning the above proposed project.

As I stated earlier in my letter to you, we have asked the preparer of our Environmental Impact Statement to incorporate your concerns in our draft document. However, please remember that the purpose of an Environmental Impact Statement is to describe what will probably happen to the environment should a project be carried out.

With respect to your Paragraphs 1 and 2, we will try to address your concerns in the following Sections of our draft Environmental Impact Statement:

1. Introduction and Summary, Sections D and E.
Development Justification Summary and Summary of Project Impacts.
2. Section I.A.
Project Description, Development Concept.
3. Section I.C.
Project Description, Project Justification.
4. Section II.C.
Description of Environmental Setting, Historic Setting.
5. Section II.D.
Description of Environmental Setting, Socio-Economic setting.

Mr. Eugene K. Kalanui
Page 2
June 24, 1980

6. Section III.A.7.
The Relationship of the Proposed Action to Land Use Plans,
Policies and Controls for the Area, Land Use Plans, The
Master Plan for Hawaiian Home Lands.
7. Section IV.G.8.a.
Probable Impact of the Proposed Action on the Environment.
Economic Impact, Impact on Revenues to Government, Hawaiian
Homes Department.
8. Section V.A.
Alternatives, Alternate uses.

With respect to your Paragraph 3., we will try to address your
concern in the following Sections of our draft Environmental
Impact Statement:

1. Section II.A.
Description of Environmental Setting, Location.
2. Section II.B.2.
The Physical Environment, Biological.
3. Section III.B.3.
The Relationship of the Proposed Action to Land Use Plans,
Policies and Controls for the Area. Policies and Controls,
Flood Disaster Protection.
4. Please note that the project site includes a drainage ease-
ment of approximately 2.5 acres which will be untouched.

Upon its completion, we will forward to you a copy of our draft
Environmental Impact Statement so that you may review and con-
sider the above described references.

With respect to your Paragraph 4, we had prepared a Traffic
Impact Statement and I am enclosing a copy for your information.
This Traffic Study will be incorporated in its entirety in our
draft Environmental Impact Statement.

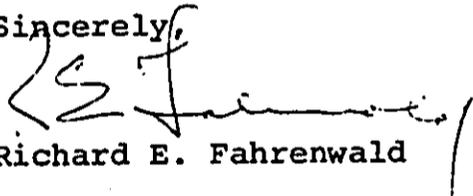
You asked for a copy of the aerial photo taken of the area. I
don't believe I did this in my earlier letter to you, therefore,
I am enclosing a photo in this letter.

(Continued)

Mr. Eugene K. Kalanui
Page 3
June 24, 1980

Thank you again for your generally supportive attitude
towards the Prince Kuhio Plaza project.

Sincerely,

A handwritten signature in cursive script, appearing to read "R. Fahrenwald", written in dark ink.

Richard E. Fahrenwald

REF:mj
Enc.

COPY

PLANNING DEPARTMENT
26 AUPUNI STREET

COUNTY OF HAWAII
HILO, HAWAII 96720

March 6, 1980

Environmental Quality Commission
550 Halekauwila Street, Room 301
Honolulu, HI 96813

Gentlemen:

EIS Preparation Notice for the Proposed REDEVCO
Shopping Center Development - Hawaiian Home Lands,
Waiakea, South Hilo (TMK: 2-2-47:6 and Por. of 1), Hawaii

It is our understanding, based on conversation with Helene Takimoto of your staff, that you have determined that the proposed EIS is not required in view of the previously determined Negative Declaration for the subdivision of the subject lands. In addition, a General Plan Amendment and rezoning actions have been obtained. Although, we have felt that the EIS should have been submitted at an early stage, we will utilize this opportunity to provide our comments/concerns in the present EIS process.

Our review of the subject EIS Preparation Notice has noted that most of the key environmental issues have been identified. As such, our comments are intended to reiterate and emphasize the following areas of concern.

1. The text of the proposed EIS should incorporate a list of all required permits and approvals for the subject development as well as indicating the approving agencies.
2. The EIS should discuss the impact of the proposed REDEVCO Shopping Center development upon the existing Land Use policy/plans of the County and affected community.
3. The EIS should address the anticipated impact of the subject development upon the economy of the community, consumer activity, and the existing commercial development pattern and establishments.
4. The text of the proposed EIS should assess and discuss the impact of the subject development upon the physical character of the community in respect to the surrounding residential, commercial and industrially zoned lands.

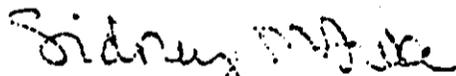
Environmental Quality Commission
Page 2
March 6, 1980

5. Construction related environmental impacts should be identified, discussed and mitigated through appropriate actions within the EIS. This concern will require a discussion of the project in terms of construction phasing.
6. The text of the EIS should provide a detailed description of the physical environment (i.e. flora, fauna, natural hazards, etc.). It should be noted that the subject Preparation Notice did not identify a potential flood hazard. The present flood hazard map of the South Hilo District indicates that a portion of the project site area is situated within a flood-prone area.
7. The EIS should assess the adequacy of the existing and proposed traffic flow system that will service the proposed development.
8. The Archaeological Survey of the project site area should be incorporated into the text of the EIS as an appendix.

Thank you for this opportunity to provide our comments on this matter. We would greatly appreciate the opportunity to review the subsequent draft EIS upon its completion.

Should you have any questions on the above, please feel free to contact us at 961-8288.

Sincerely,



Sidney M. Ruke
Planning Director

BS:gs

cc: ✓ REDEVCO Properties, Inc.

REDEVCO PROPERTIES, INC.

June 24, 1980

Mr. Sidney M. Fuke, Director
Department of Planning
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

RE: EIS Preparation Notice for the Proposed REDEVCO
Shopping Center Development - Hawaiian Home Lands,
Waiakea, South Hilo (TMK: 2-2-47:6 and Por. of 1),
Hawaii

Dear Mr. Fuke:

This is to confirm that we received a copy of your letter of March 6, 1980 addressed to the Environmental Quality Commission concerning the above subject matter. We immediately forwarded a copy of your letter to the preparer of our Environmental Impact Statement so that your concerns, as described, are addressed in the document. As such, we will refer to the following Sections of our draft EIS:

1. Your Paragraph 1.
 - a. Introduction and Summary, Section B, Necessary Approvals.
2. Your Paragraph 2.
 - a. Section III.A.
The Relationship of the Proposed Action to Land Use Plans,
Policies and Controls for the Area.
3. Your Paragraph 3.
 - a. Section IV. Probable Impact of the Proposed Action on
The Environment.
 - IV.G. Economic Impact
 - IV.H.2. Social Impacts, Increased Shopping Opportunities.
 - IV.H.3. Effect on Existing Stores and Businesses.
4. Your Paragraph 4.
 - a. Introduction and Summary E.1 and 2.
Summary of Project Impacts, Beneficial Impacts,
Potentially Negative Impacts.

Mr. Sydney M. Fuke
Page 2
June 24, 1980

- b. Section II.B.1, 2, and 3.
Description of Environmental Setting, The Physical Environment, Geology, Topography, Soils, Rainfall Runoff, Biological.
5. Your Paragraph 5.
- a. Section I.D.
Project Description, Development Increments; overall and incremental time frames.
 - b. Section IV.A.
Probable Impact of the Proposed Action on the Environment. Land Transformation and Construction.
 - c. Generally in Section VII.
Mitigation measures proposed to minimize impact.
6. Your Paragraph 6.
- a. Section II.B.
Description of Environmental Setting, the Physical Environment.
 - b. Section III.B.3.
The Relationship of the Proposed Action to Land Use Plans, Policies and Controls for the Area. Policies and Controls, Flood disaster protection.
 - c. Section IV.E.
Probable Impact of the Proposed Action on the Environment. Anticipated Biological Impacts.
7. Your Paragraph 7.
- a. Section II.E.2.
Description of Environmental Setting, Public Facilities, Transportation and Traffic.
 - b. Section IV.I.3.
Probable Impact of the Proposed Action on the Environment. Impact on Public Facilities, Public Roads.

(Continued)

Mr. Sydney M. Fuke
Page 3
June 24, 1980

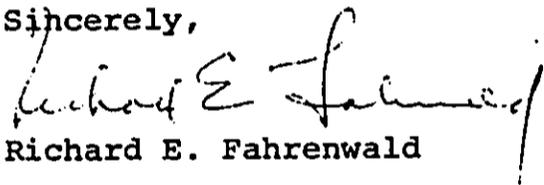
c. We have had a Traffic Impact Statement prepared, a copy of which we enclose for your information.

8. Your Paragraph 8.

a. The document entitled, "An Archaeological Survey", by William J. Bonk, University of Hawaii at Hilo, will be incorporated as you suggest.

Upon its completion, a copy of our draft Environmental Impact Statement will be forwarded to you so that you may review and consider the preceding referenced materials.

Sincerely,



Richard E. Fahrenwald

REF:mj
Enc.

DOI, COOK, CHOI & QUITIQUIT
ATTORNEYS AT LAW

NELSON K. DOI
VALTA A. COOK
JEFFREY CHOI
B. V. (BUD) QUITIQUIT
THOMAS J. VAN HEEST

March 7, 1980

HONOLULU PROFESSIONAL CENTER
275 HONOLULU ST. - SUITE 201
HILO, HAWAII 96720
(808) 961-0611
CENTURY 21 BUILDING
73-5063 KUAKINI HIGHWAY
KAILUA-KONA, HAWAII 96740
(808) 320-4421

Environmental Quality Commission
550 Halekauwila Street
Room 301
Honolulu, Hawaii 96813

Re: EIS Preparation Notice for Proposed Redevco Shopping
Center Development - Hawaiian Homes Land, Waiakea,
South Hilo, Tax Map Key 2-2-47: 6 and portion of 1,
Hawaii

Gentlemen:

The undersigned represents the County of Hawaii in
Civil Action No. 5872, being a law suit concerning the
property referred to above.

We hereby request that we be considered a party to
be consulted prior to any EIS statement.

Yours very truly,

DOI, COOK, CHOI & QUITIQUIT


VALTA A. COOK

VAC:bp

cc: Steven Bess

REDEVCO PROPERTIES, INC.

February 13, 1980

Valta A. Cook, Esquire
Doi, Cook, Choi and Quitiquit
275 Ponahawai Street, Suite 201
Hilo, Hawaii 96720

RE: EIS Preparation Notice for Proposed
Shopping Center Development -
Hawaiian Home Lands, Waiakea, South
Hilo, TMK: 2-2-47:6 and portion of
1, Hawaii

Dear Mr. Cook:

A copy of your letter to the Environmental Quality Commission dated March 7, 1980 was forwarded to us as agent for Orchid Isle Group, applicant and Lessee under General Lease No. 202, and as preparer of the above described EIS. In your letter you asked to be considered a consulted party as representative of "the County of Hawaii" in Civil Action No. 5872.

We note that, by the language of your Motion to Reconsider Or In The Alternative, Motion For Instructions filed in Civil No. 5872, "the County of Hawaii" as a Defendant in this suit means the administrative branch (the Mayor and the various County Departments, including the Planning Department). You further state that, "(f)rom the beginning, it was clearly understood that Valta Cook represented the Mayor." We note further that in the Order signed by Judge Harold Y. Shintaku granting your motion, the Court specifically recognized that you represent the administrative branch of the County of Hawaii and that you do not in any way represent the legislative branch, i.e., the County Council of the County of Hawaii in Civil No. 5872, Third Circuit.

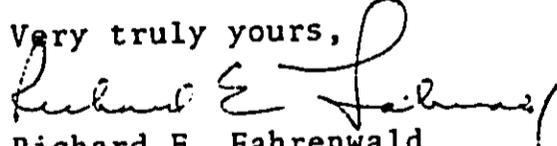
Therefore, we conclude that you are asking to be a consulted party on behalf of the Mayor of the County of Hawaii and the various County Departments, including the Planning Department.

Valta A. Cook, Esquire
February 13, 1980
Page 2

Please be informed that, pursuant to Regulation 1:41 of the Environmental Quality Commission which is entitled "Consultation Prior to Filing EIS", we initiated the consultation process by making a written request to various agencies, groups and individuals to elicit their written comments, if any, regarding the environmental effects of the proposed action. This written request was executed by certified mail. Among those we included as consulted parties were the Honorable Herbert T. Matayoshi, Mayor of the County of Hawaii, the Planning Department through Mr. Sidney Fuke, the Public Works Department through Mr. Edward Harada, the Department of Water Supply through Mr. Edward Huhu, the Department of Research and Development through Mr. Duane Black, the Police Department through Mr. Guy A. Paul and the Fire Department through Mr. Donald Thompson. Copies of the receipts for certified mail to these individuals are on file with the EQC and are enclosed for your information. Pursuant to our written request and Regulation 1:41 b., all consulted parties had a period of thirty (30) days in which to make written comments. That thirty day period ended on March 10, 1980.

We received written comments prior to March 10, 1980 from the Planning Department and from the Department of Public Works. The other Departments submitted no written comments. The Mayor of the County of Hawaii did not respond.

Therefore, the applicant had already considered the administrative branch of the County of Hawaii and its Mayor as consulted parties and they were so notified on February 7, 1980. In view of the foregoing, the County of Hawaii has received legal notice for preparation of an Environmental Impact Statement for the proposed shopping center project pursuant to Environmental Quality Commission Regulations.

Very truly yours,

Richard E. Fahrenwald
Redevco Properties, Inc.
Agent for Applicant

REF:dr
Enc.

cc: Office of Environmental Quality Control, Environmental
Quality Commission, Department of Hawaiian Home Lands,
Stephen G. Bess, Walt Southward

245 North Kukui Street, Honolulu, Hawaii 96817, Telephone (808) 537-5966

AMERICAN  LUNG ASSOCIATION *of Hawaii*

March 10, 1980

REDEVCO Properties, Inc.
Suite 1816
190 South King Street
Honolulu, Hawaii 96813

Gentlemen:

Subject: EIS Preparation for Proposed 39-Acre Shopping Center,
Hawaiian Home Lands, Hilo, Hawaii

Thank you for forwarding the EIS Preparation Notice and seeking our comments on the proposed project in Hilo.

We normally participate in the consultation process by offering comments and suggestions on the air quality impact analysis. Recognizing that we have commented on this project previously, we will try to briefly summarize our major interests and suggest a few references.

1. The traffic study will be of particular importance since the air quality analysis depends largely upon it.
2. Cumulative impact analysis is of utmost importance since the combined result of existing traffic and existing air quality with the traffic and air pollution generated by the shopping center are of primary concern. The combined effects of approved but not yet constructed projects should also be accounted for in terms of their impact on traffic and air quality.
3. In conducting the air quality analysis, we would recommend as a minimum that the EPA publication "Guidelines for Air Quality Maintenance Planning and Analysis, Volume 9: Evaluating Indirect Sources" (EPA-450/4-75-001) be employed. We would caution you, however, that the inherent emission factors used in that method are unfortunately outdated and have been superceded. It is not too difficult, however, to generate an appropriate correction factor based on another EPA publication, "Mobile Source Emission Factors" (EPA-400/9-78-006).
4. Probably the best approach would be to calculate estimates of 1-hour and 8-hour carbon monoxide (CO) levels (to correspond with the 1-hour and 8-hour standards) at receptor locations

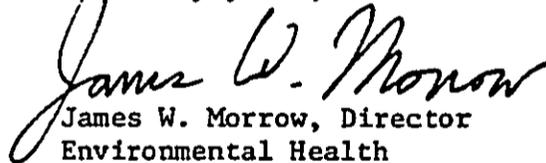
REDEVCO Properties, Inc.
March 10, 1980
Page 2

along the road sections and key intersections expected to have the highest traffic volumes. An analysis based on worst case meteorology and peak-hour traffic volumes would quickly indicate whether there is any potential for violations of State of Federal air quality standards. If the worst case analysis shows potential problems, then a second analysis addressing more probable conditions should be done. The analysis that we did on this project back in August, 1979 might be of some assistance in this endeavor.

5. Some attention should also be paid to the electrical demand of the proposed shopping center and the additional pollution generated by the combustion of fuel oil necessary to generate that power.
6. Disposal of solid waste generated by the center should also be addressed.

If our comments have raised any questions in your mind or if we can provide further assistance or clarification, please do not hesitate to contact us again.

Sincerely yours,


James W. Morrow, Director
Environmental Health

JWM:ct

cc: EQC
OEQC

REDEVCO PROPERTIES, INC.

June 24, 1980

Mr. James W. Morrow, Director
Environmental Health
American Lung Association
245 North Kukui Street
Honolulu, Hawaii 96817

RE: EIS Preparation for Proposed 39-Acre Shopping Center,
Hawaiian Home Lands, Hilo, Hawaii

Dear Mr. Morrow:

This is to confirm that we received your letter of March 10, 1980. On March 13th, we forwarded a copy of your letter to Mr. Walt Southward who is preparing our Environmental Impact Statement.

Your letter was very comprehensive and we appreciate the reference points which you provided for our examination. In response to your comments, we prepared a Traffic Impact Statement and an Air Quality Impact Analysis, both of which will be incorporated in their entirety into our draft Environmental Impact Statement. We have enclosed copies of these reports for your examination.

Without restating the entire language of each of your six summaries of major interests, we will refer to the paragraphs by their respective numbers:

1. We have addressed your Paragraphs 1, 2, 3, 4, and 5 in both the Traffic Impact Statement and the Air Quality Impact Analysis.
2. We will address your Paragraph 5 in the following Sections of our draft Environmental Impact Statement:
 - a. Section I.E.1.
Project Description, Support Facilities, Utilities;
 - b. Section II.F.2.
Description of Environmental Setting, Public Utilities, Electric.

Mr. James W. Morrow
Page 2
June 24, 1980

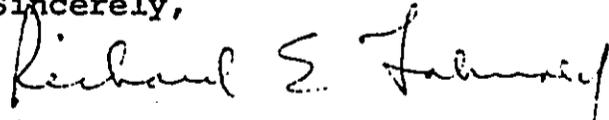
- c. Section IV.J.3.
Probable Impact of the Proposed Action on the Environment, Impact on Public Utilities, Electrical Power.
- d. Section VII
Mitigation Measures Proposed to Minimize Impact.

3. We will address your Paragraph 6 in the following Sections of our draft Environmental Impact Statement:

- a. Section III.B.1.
The Relationship of the Proposed Action to Land Use Plans, Policies and Controls for the Area, Policies and Controls, Solid Waste Control.
- b. Section IV.I.4.
Probable Impact of the Proposed Action on the Environment, Impact on Public Facilities, Solid Waste Disposal.

Upon its completion, we will forward to you a copy of our draft Environmental Impact Statement so that you may review and consider the above referenced materials.

Sincerely,



Richard E. Fahrenwald

REF:mj

GEORGE R. ARIYOSHI
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
809 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

March 10, 1980

RYOKICHI HIGASHIONNA, PH.D.
DIRECTOR

DEPUTY DIRECTORS
JAMES R. CARRAS
JAMES B. MCCORMICK
DOUGLAS S. SAKAMOTO
JACK K. SUWA

IN REPLY REFER TO:

STP 8.6079

Mr. Donald Bremner, Chairman
Environmental Quality Commission
State of Hawaii
550 Halekauwila St., Room 301
Honolulu, Hawaii 96813

Dear Mr. Bremner:

Subject: Environmental Impact Statement
Preparation Notice
Proposed Shopping Center Project
39-Acre Parcel, Hawaiian Home Lands
Kanoelehua at Puainako, Hilo, Hawaii

In reference to the above-captioned action, the EIS
should document the following:

1. The anticipated effects of the traffic from the project to the highway and proposed street extensions. It should be noted that the Department of Transportation has no plans to extend East Puainako Street.
2. The drainage of the subject property. It should be noted that portions of the property are inundated at times of very high rainfall intensity.
3. The effect of airport noise. It should be noted that the development is in the vicinity of the approach to Runway 3-21.

Very truly yours,

Ryokichi Higashionna

Ryokichi Higashionna
Director of Transportation

REDEVCO PROPERTIES, INC.

June 24, 1980

Mr. Ryokichi Higashionna
Director of Transportation
State of Hawaii
869 Punchbowl
Honolulu, Hawaii 96813

RE: Environmental Impact Statement Preparation Notice
Proposed Shopping Center Project, 39-Acre Parcel,
Hawaiian Home Lands, Kanoelehua at Puainako,
Hilo, Hawaii.

Dear Mr. Higashionna:

This is to confirm that we received a copy of your letter of March 10, 1980 addressed to Mr. Donald Bremner, Chairman, Environmental Quality Commission. We forwarded a copy of your letter to Mr. Walt Southward who is preparing our Environmental Impact Statement.

We addressed your Paragraph 1 by having a Traffic Impact Statement prepared, a copy of which we enclosed for your records.

We will address your Paragraph 2 in the following sections of our draft Environmental Impact Statement:

1. Section II.A.
Description of Environmental Setting, Location.
2. Section II.B.
Description of Environmental Setting, The Physical Environment.
3. Section III.B.3.
The Relationship of the Proposed Action to Land Use Plans, Policies and Controls, Flood Disaster Protection.

We will address your Paragraph 3 in the following sections of our draft Environmental Impact Statement:

1. Section IV.D.
Probable Impact of the Proposed Action on the Environment, Noise Generation.

Mr. Ryokichi Higashionna
Page 2
June 24, 1980

Upon completion of our draft Environmental Impact Statement,
we will forward a copy to you so that you may review and
consider the preceding referenced materials.

Sincerely,



Richard E. Fahrenwald

REF:mj

GEORGE R. ARIYOSHI
GOVERNOR



RICHARD O'CONNELL
DIRECTOR
TELEPHONE NO.
548-6915

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
OFFICE OF THE GOVERNOR
550 HALEKAUWILA ST
ROOM 301
HONOLULU, HAWAII 96813

March 11, 1980

Mr. Richard Fahrenwald
Redevco Properties, Inc.
Suite 1816
190 South King Street
Honolulu, Hawaii 96813

Dear Mr. Fahrenwald,

SUBJECT: Environmental Impact Statement Preparation
Notice for Proposed Shopping Center 39-Acre
Parcel, Hawaiian Home Lands, Kanoelehua at
Puainako, Hilo, Hawaii

We have reviewed the subject EIS Preparation Notice and
offer the following comments:

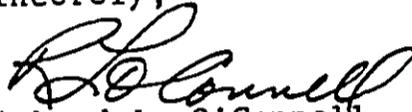
1. A shopping center of the size being proposed will generate a large amount of traffic with a concurrent increase in air and noise pollution. These subjects should be discussed in detail in the EIS.
2. The generation and treatment of sewage from the proposed project should be discussed.
3. What steps are being taken to minimize the flood hazard? Will these steps affect adjacent properties in any way?
4. Both the positive and negative economic and social impacts should be discussed.
5. Alternative commercial uses of the proposed site should be compared with the subject proposal in terms of how the Hawaiian Homes Commission might benefit from such uses.

Mr. Richard Fahrenwald
March 11, 1980
Page 2

We also recommend that the EIS preparer pay close attention to the minimum EIS content requirements (EIS Regulations Section 1:42).

Thank you for the opportunity to submit comments on this EIS preparation notice.

Sincerely,



Richard L. O'Connell
Director

cc: DHH

REDEVCO PROPERTIES, INC.

June 24, 1980

Mr. Richard L. O'Connell, Director
Office of Environmental Quality Control
State of Hawaii
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813

RE: Environmental Impact Statement Preparation Notice for
Proposed Shopping Center 39-Acre Parcel, Hawaiian Home
Lands, Kanoelehua at Puainako, Hilo, Hawaii.

Dear Mr. O'Connell:

This is to confirm that we received your letter of March 11, 1980 with respect to the above described subject. We forwarded a copy of your letter to Mr. Walt Southward in Hilo who is preparing our Environmental Impact Statement.

We addressed your various comments in the following manner:

1. Your Paragraph 1. We prepared a Traffic Impact Statement and an Air Quality Impact Analysis which will be incorporated in their entirety in our draft Environmental Impact Statement. We will further address these subjects in the following Sections of the draft Environmental Impact Statement:

- a. Section I.E.2.
Project Description, Support Facilities, Road Access.
- b. Section II.E.2.
Description of Environmental Setting, Public Facilities, Transportation and Traffic.
- c. Section IV. Probable Impact of the Proposed Action on the Environment.
IV.C. Airborne Emissions.
IV.D. Noise Generation.
IV.I.3. Impact on Public Facilities, Public Roads.

2. Your Paragraph 2. We will address this subject in the following Sections of the draft Environmental Impact Statement:

Mr. Richard L. O'Connell
Page 2
June 24, 1980

- a. Section I.E.4.
Project Description, Support Facilities, Sewerage System.
- b. Section IV.J.2.
Probable Impact of the Proposed Action on the Environment, Impact on Public Utilities, Sewerage.

3. Your Paragraph 3. We will address this subject in the following Sections of the draft Environmental Impact Statement:

- a. Section II.A.
Description of Environmental Setting, Location.
- b. Section II.B.2.
Description of Environmental Setting, The Physical Environment, Rainfall Runoff.
- c. Section III.B.3.
The Relationship of the Proposed Action to Land Use Plans, Policies and Controls for the Area, Policies and Controls, Flood Disaster Protection.
- d. Please note that the project site includes a drainage easement of approximately 2.5 acres which will be untouched.

4. Your Paragraph 4. We will address these subjects in the following Sections of our Draft Environmental Impact Statement:

- a. Section IV.
Probable Impact of the Proposed Action on the Environment.
IV.G. Economic Impact.
IV.H. Social Impacts.

b. Introduction and Summary, Section E.

5. Your Paragraph 5. We will address this subject specifically and in general in the following Sections of our draft Environmental Impact Statement:

- a. Generally in our Introduction and Summary.

(Continued)

Mr. Richard L. O'Connell
Page 3
June 24, 1980

- b. Section III.A.7.
The Relationship of the Proposed Action to Land Use
Plans, Policies and Controls for the Area.
Land Use Plans, The Master Plan for Hawaiian Home
Lands
- c. Section IV.G.8.a.
Probable Impact of the Proposed Action on the
Environment, Economic Impact, Impact on Revenues to
Government, Hawaiian Homes Department.
- d. Generally in our Section V.a., Alternate Uses.

We have instructed the preparer of the Environmental Impact
Statement to pay close attention to E. I. S. Regulations,
Section 1:42.

Thank you very much for your comments. It is our intent to
comply fully with the letter and spirit of the requirements of
E. I. S. Regulations.

Sincerely,



Richard E. Fahrenwald

REF:mj

BIBLIOGRAPHY

BIBLIOGRAPHY

CHAMBER of Commerce of Hawaii

Shopping Centers in Hawaii, 1975. Pamphlet

CHILD, JOHN & Co., Inc.

1978 Market and Marketability Report Covering Orchid Isle Plaza, a Shopping Center, to be Located at the Corner of Puainako Street and Kanoelehua Avenue, Hilo, Hawaii, for Redevco, Agent for Orchid Isle Group.

HAWAII, County of

1971 The General Plan, County of Hawaii, Planning Department

1974 Hilo Downtown Development Plan, Planning Department

1975 Hilo Community Development Plan, Planning Department

1978 General Plan Revision Program, High Density Urban Alternatives for Hilo. Planning Department, August, 1978

1979 Data Book, Department of Research and Development

HAWAII, State of

1978 The Hawaii State Plan, Department of Planning and Economic Development State of Hawaii

1979 The State of Hawaii Data Book, Department of Planning and Economic Development

KING, Robert L. and Cyrus H. Wilson

1977 Hawaii Island Visitor Industry: A Preliminary Marketing Audit. Social Science Research Notes, Volume 6, Issue No. 4, May, 1977 Social Science Faculty, University of Hawaii at Hilo

KING, Robert L. and Christine E. Iha

1979 The Big Island of Hawaii: A Consumer Market in Transition Social Science Research Notes, Volume 8, no. 1, September, 1979, Social Science Faculty, University of Hawaii at Hilo

LION, Edgar

1976 Shopping Center, Planning, Development and Administration. J. Wiley and Sons, New York.

PADEKEN, Georgiana K.,

1980 Memorandum re: Background Information Concerning General Lease No. 202 Department of Hawaiian Home Lands, State of Hawaii, Feb. 13, 1980

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SELECTED INTERVIEWS

SELECTED INTERVIEWS

Conducted by Walt Southward
In the preparation of this study

<u>Person Interviewed</u>	<u>Topic</u>
Owen Beckwith, vice president Kraus-Anderson Construction, Milwaukee, Wisc.	Overall construction labor plans
Robert Bjerke, Redevo Properties, Inc. Honolulu, Hawaii	Parameters of Study, Background of Project
Wayne Carvalho, Captain of Administration Hawaii County Police Department Hilo, Hawaii	Impact on Police Department
Linda Dela Cruz, Paipai Street, Hilo, Hawaii	Hawaiian Homesteaders' attitudes toward project
Hisashi Enomoto, supervising engineer, Hawaiian Telephone Co., Hilo, Hawaii	Impact on Telephone Company
Richard Fahrenwald, Redevo Properties, Inc., Honolulu, Hawaii	Parameters of Study, Back- ground of Project
Virginia Goldstein, Planning Department County of Hawaii, Hilo, Hawaii	Parameters of Study
Edward Harada, Chief Engineer, Department of Public Works, County of Hawaii, Hilo, Hawaii	Various impact aspects
Edmond Hoku, Department of Water Supply County of Hawaii, Hilo, Hawaii	Various impact aspects
Toshito Ishimoto, vice president, Isemoto Contracting Co., Ltd. Hilo, Hawaii	Availability of local labor in construction industry
Dennis Jakahi, Deputy Director, County of Hawaii Transit Agency	Transit Routes
Roy Kagawa, director, Big Island office, State Department of Employment Services, Hilo, Hawaii	Impact on labor pool
Gary Kawasaka Department of Water Supply, County of Hawaii, Hilo, Hawaii	Various impact aspects
Marian Kela, Paipai St., Hilo, Hawaii	Hawaiian Homesteaders' attitudes toward project

Harry Kim, Director of Civil Defense, County of Hawaii, Hilo, Hawaii	Tidal Wave Inundation Areas
Richard L. Leuchtman, General Manager Kahala Mall	Utility usage
Jitsuo Niwao, manager, Engineering Department, Hawaii Electric Light Co., Hilo, Hawaii	Impact on Helco
Guy A. Paul, Chief of Police Hawaii County, Hilo, Hawaii	Impact on Police Department
S. Richard Schenck, President, Linco Construction Co., Inc.	Available Labor Pool
Betty Snowden, director, Alu Like, Hilo, Hawaii	Training programs available
Hajime Tanaka, JHK Tanaka Inc., Engineering, Construction Management, Hilo	Various construction aspects
Donald Thompson, Fire Chief County of Hawaii, Hilo, Hawaii	Impact on Fire Department
Richard Tominaga, 752 Hualani St., Hilo, Hawaii	Past land usage
Tom Yamada, East Hawaii Manager, Hawaiian Telephone Co., Hilo, Hawaii	Impact on Telephone Company
Richard Yorioka, Manager Hawaii Division, Gas Co.	Impact on Gasco



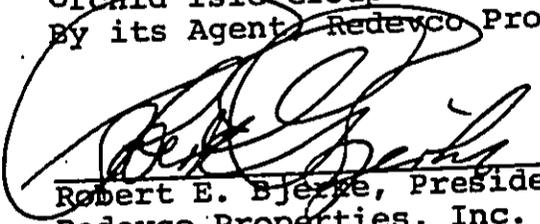
REVISED
ENVIRONMENTAL
IMPACT STATEMENT

AUGUST, 1980

THE PRINCE KUHIO PLAZA
a 39-acre regional shopping center
Hilo, Hawaii

REVISED
ENVIRONMENTAL
IMPACT
STATEMENT
August, 1980

Orchid Isle Group
By its Agent, Redevco Properties, Inc.


Robert E. Bjerke, President
Redevco Properties, Inc.

GEORGE R. ARYCEN
GOVERNOR



JOHN FARIAS, JR.
CHAIRMAN, BOARD OF AGRICULTURE

YUDD KITABARA
DEPUTY TO THE CHAIRMAN

STATE OF HAWAII
DEPARTMENT OF AGRICULTURE
1428 SO. KING STREET
HONOLULU, HAWAII 96814

July 11, 1980

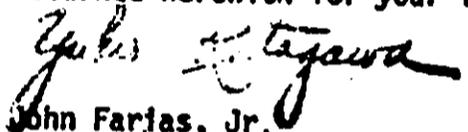
MEMORANDUM

To: Department of Hawaiian Home Lands

Subject: EIS for The Prince Kuhio Plaza Shopping Center

The Department of Agriculture has reviewed the subject statement and has no comments to offer.

We appreciate the opportunity to comment. The subject EIS is returned herewith for your further use.


John Farias, Jr.
Chairman, Board of Agriculture

cc: Orchid Isle Group

REC'D BY: REDEVCO PROP., INC.
JUL 15 1980

GEORGE R. ARIYOSHI
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL
3949 DIAMOND HEAD ROAD, HONOLULU, HAWAII 96816

VALENTINE A. SIEFERT
MAJOR GENERAL
ADJUTANT GENERAL

THOMAS S. ITO
BRIGADIER GENERAL
DEPUTY ADJUTANT GENERAL

15 JUL 1980

HIENG

Department of Hawaiian Home Lands
550 Halekauwila Street
Honolulu, Hawaii 96813

Gentlemen:

Prince Kuhio Plaza Shopping Center

Thank you for sending us a copy of the "Prince Kuhio Plaza Shopping Center" Environmental Impact Statement. We have no comments to offer at this time. The Environmental Impact Statement is being forwarded to the Environmental Quality Commission as requested.

Yours truly,

JERRY M. MATSUDA
Captain, HANG
Contr & Engr Officer

To Bruce Taylor
A
recd 7/21/80

CORRECTION

THE PRECEDING DOCUMENT(S) HAS
BEEN REPHOTOGRAPHED TO ASSURE
LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING

GEORGE R. ARIYOSHI
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL
3949 DIAMOND HEAD ROAD, HONOLULU, HAWAII 96816

VALENTINE A. SIEFERY, JR.
MAJOR GENERAL
ADJUTANT GENERAL

THOMAS S. ITO
BRIGADIER GENERAL
DEPUTY ADJUTANT GENERAL

15 JUL 1980

HIENG

Department of Hawaiian Home Lands
550 Halekauwila Street
Honolulu, Hawaii 96813

Gentlemen:

Prince Kuhio Plaza Shopping Center

Thank you for sending us a copy of the "Prince Kuhio Plaza Shopping Center" Environmental Impact Statement. We have no comments to offer at this time. The Environmental Impact Statement is being forwarded to the Environmental Quality Commission as requested.

Yours truly,

JERRY M. MATSUDA
Captain, HANG
Contr & Engr Officer

To Bruce Taylor
Rec'd 7/21/80

HEADQUARTERS
NAVAL BASE PEARL HARBOR
BOX 110
PEARL HARBOR, HAWAII 96860

IN REPLY REFER TO:

002A:amm
Ser 1528

116 JUL 1980

Department of Hawaiian Home Lands
550 Halekaiwila Street
Honolulu, Hawaii 96813

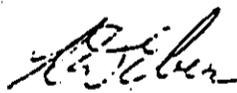
Gentlemen:

The Prince Kuhio Plaza
Environmental Impact Statement

The Environmental Impact Statement for the Prince Kuhio Plaza, forwarded by the Environmental Quality Commission, has been reviewed and the Navy has no comments to offer. Per the Commission's request, the subject EIS is being returned to the Commission by copy of this letter.

Thank you for the opportunity to review the EIS.

Sincerely,



R. D. EBER
CDR, CEC, USN
FACILITIES ENGINEER
BY DIRECTION OF THE COMMANDER

Copy to:
Orchid Isle Group
State Environmental Quality Commission (w/EIS)

To: Files
7/22/80



DEPARTMENT OF PARKS & RECREATION
COUNTY OF HAWAII

Herbert Matayoshi, Mayor
Milton Hakoda, Director

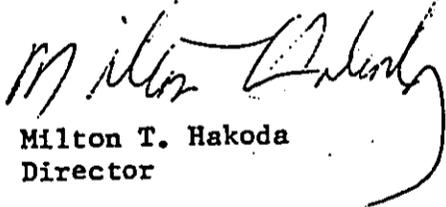
July 17, 1980

Department of Hawaiian Home Lands
State of Hawaii
550 Halekauwila Street
Honolulu, Hawaii 96813

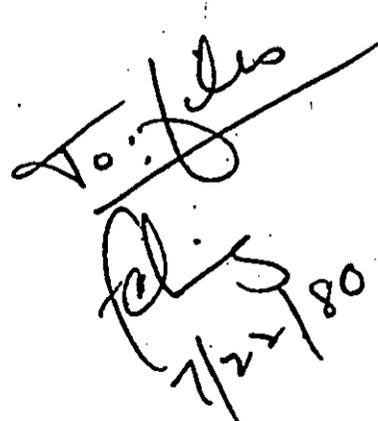
Subject: Prince Kuhio Plaza Shopping Center

We have no adverse comments to offer on the EIS for the subject project.

Thank you for the opportunity to review the document, which is being returned for your further use.


Milton T. Hakoda
Director

MTH:GM:ai
encl.
cc: Orchid Isle Group


7/22/80



DEPARTMENT OF THE ARMY
HEADQUARTERS UNITED STATES ARMY SUPPORT COMMAND, HAWAII
FORT SHAFTER, HAWAII 96858

REPLY TO
ATTENTION OF:

APZV-EHE-E

18 JUL 1980

Department of Hawaiian Home Lands
550 Halekauwila Street
Honolulu, Hawaii 96813

Gentlemen:

The Environmental Impact Statement for the Prince Kuhio Plaza Shopping Center, Hilo, Hawaii, has been reviewed and we have no comments to offer. The proposed project will not affect Army installations or activities on the Island of Hawaii.

Sincerely,

ADOLPH A. HIGHT
COL, EN
Director of Engineering and Housing

Copy Furnished:
Orchid Isle Group
c/o Mr. Richard E. Fahrenwald
Redevco Properties, Inc.
190 South King Street, Suite 1816
Honolulu, Hawaii 96813

To file
Rec'd 7/22/80

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 15TH AIR BASE WING (PACAF)
HICKAM AIR FORCE BASE, HAWAII 96853



21 JUL 1980

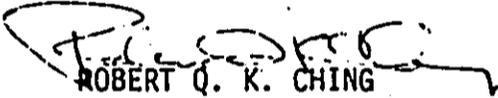
REPLY TO
ATTN OF: DEEV (Mr Shiroma, 449-1831)

SUBJECT: Draft EIS, Prince Kuhio Plaza Shopping Center

TO: Department of Hawaiian Home Lands
550 Halekauwila Street, Room 301
Honolulu, HI 96813

1. This office has reviewed the subject EIS and has no comment to
render relative to the proposed project.

2. We greatly appreciate your cooperative efforts in keeping the Air
Force apprised of your project and thank you for the opportunity to
review the document.


ROBERT Q. K. CHING
Chief, Engrg & Envmtl Plng Div
Directorate of Civil Engineering

Cy to: Orchid Isle Group
c/o Mr Richard E. Fahrenwald
Redevco Properties, Inc.
190 S King Street, Suite 1816
Honolulu, HI 96813

REC'D BY: REDEVCO PROP., INC.

JUL 22 1980



DEPARTMENT OF TRANSPORTATION
UNITED STATES COAST GUARD

COMMANDER (dpl)
Fourteenth Coast Guard District
Prince Kahanui Federal Bldg.
300 Ala Moana Blvd.
Honolulu, Hawaii 96850
16450
21 July 1980

Department of Hawaiian Home Lands
550 Halekauwila Street
Honolulu, Hawaii 96813

Dear Sir:

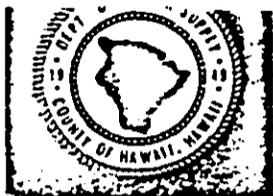
The Coast Guard has reviewed the Environmental Impact Statement for the Prince Kuhio Plaza Shopping Center and has no objection or constructive comments to offer at the present time.

Sincerely,

A handwritten signature in black ink, appearing to read "R. S. ILLMAN".

R. S. ILLMAN
Lieutenant Commander, U. S. Coast Guard
Acting Planning Officer
Fourteenth Coast Guard District
By Direction of the District Commander

cc: Orchid Isle Group
c/o Mr. Richard E. Fahrenwald
Redevco Properties, Inc.
190 South King Street, Suite 1816
Honolulu, Hawaii 96813



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII

P. O. BOX 1820

HILO, HAWAII 96720

25 AUPUNI STREET

July 22, 1980

Department of Hawaiian Home Lands
550 Halekauwila Street
Honolulu, HI 96813

DEPT. OF HAWAIIAN
HOME LANDS
JUL 23 10 03 AM '80

PRINCE KUHIO PLAZA SHOPPING CENTER
KANOELEHUA AT PUAINAKO, HILO, HAWAII

We have no objections or additional comments to the Environmental Impact Statement for the subject project. The Environmental Impact Statement is being returned to the Environmental Quality Commission.

William Sewake

H. William Sewake
Manager

QA

cc - Orchid Isle Group (w/o enc.)
Environmental Quality Commission (w/enc. - EIS)

... Water brings progress...

HERBERT T. MATAYOSHI, MAYOR
A. DUANE BLACK, DIRECTOR



DEPARTMENT OF RESEARCH AND DEVELOPMENT

COUNTY OF HAWAII • 25 AUPUNI STREET • HILLO, HAWAII 96720 • TELEPHONE (808) 961-8366

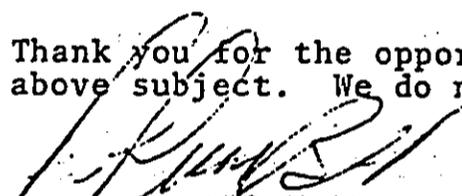
July 22, 1980

DEPT. OF HAWAIIAN
HOME LANDS
JUL 28 11 22 AM '80

Department of Hawaiian Home Lands
550 Halekauwila Street
Honolulu, Hawaii 96813

SUBJECT: Prince Kuhio Plaza Shopping Center Project
Hilo, Hawaii

Thank you for the opportunity to review and comment on the
above subject. We do not have any comments on this EIS.


A. DUANE BLACK
DIRECTOR

cc: Orchid Isle Group
c/o Mr. Richard E. Fahrenwald



DEPARTMENT OF PLANNING
AND ECONOMIC DEVELOPMENT

Kamamalu Building, 250 South King St., Honolulu, Hawaii • Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

GEORGE R. ARIYOSHI
Governor

HIDETO KONO
Director

FRANK SKRIVANEK
Deputy Director

July 23, 1980

Ref. No. 1833

JUL 28 1 33 PM '80
DEPT. OF HAWAIIAN
HOME LANDS

The Honorable Georgiana K. Padeken
Director and Chairman
Department of Hawaiian Home Lands
State of Hawaii
P.O. Box 1879
Honolulu, Hawaii 96805

Dear Ms. Padeken:

Subject: Environmental Impact Statement for the Prince Kuhio Plaza,
Hilo, Hawaii

We have reviewed the subject document and find that it has adequately assessed the major environmental impacts which can be anticipated from the implementation of this project.

Thank you for the opportunity to review and comment upon this matter.

Sincerely,

Frank Skrivaneck
for Hideto Kono

cc: Orchard Isle Group
c/o Mr. Richard E. Fahrenwald
Redevco Properties, Inc.

Mr. Richard O'Connell, Director
Office of Environmental Quality Control



United States Department of the Interior

FISH AND WILDLIFE SERVICE

300 ALA MOANA BOULEVARD
P.O. BOX 50167
HONOLULU, HAWAII 96850

IN REPLY REFER TO:

ES
Room 6307

August 5, 1980

Department of Hawaiian Home Lands
550 Halekauwila Street
Honolulu, Hawaii 96813

Re: EIS for Prince Kuhio
Plaza, Hilo, Hawaii

Dear Sir:

We have reviewed the referenced Environmental Impact Statement (EIS) dated June 1980 concerning construction of an enclosed shopping mall and associated parking facilities on 39 acres of Hawaiian Home Lands in Hilo, Hawaii.

The subject document adequately addresses our concerns regarding fish and wildlife resources in the project area. The proposed action should have little, if any, adverse impact on these resources.

We appreciate this opportunity to comment.

Sincerely yours,

Nevin D. Holmberg
Deputy Project Leader for
Ecological Services

cc: Orchid Isle Group
OEQC
HDF&G
EPA, San Francisco



Save Energy and You Serve America!

REC'D BY: REDEVCO PROP., INC.
AUG - 7 1980

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 621
HONOLULU, HAWAII 96808

SUSUMU ONO, CHAIRMAN
BOARD OF LAND & NATURAL RESOURCES

EDGAR A. HAMADA
DEPUTY TO THE CHAIRMAN

DIVISIONS:
CONSERVATION AND
RESOURCES ENFORCEMENT
CONSERVATION
FISH AND GAME
FORESTRY
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

August 6, 1980

REF NO.: APO-1951

Honorable Georgiana Padeken
Department of Hawaiian Home Lands
550 Halekauwila Street
Honolulu, Hawaii 96813

Dear Madam:

We have reviewed the draft EIS for the Prince Kuhio
Plaza Shopping Center and have no comments to offer.

Very truly yours,

Susumu Ono
SUSUMU ONO, Chairman
Board of Land and Natural Resources

cc: Orchid Isle Group

REC'D BY: _____
AUG 13 1980

12

GEORGE R ARIYOSHI
GOVERNOR

DEPT. OF HAWAIIAN
HOME LANDS

AUG 7 11 15 AM '80



HIDEO MURAKAMI
COMPTROLLER

MIKE N TOKUNAGA
DEPUTY COMPTROLLER

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
DIVISION OF PUBLIC WORKS
P. O. BOX 119 HONOLULU, HAWAII 96810

LETTER NO. (P)1822.0

AUG 6 1980

Department of Hawaiian
Home Lands
550 Halekauwila Street
Honolulu, Hawaii 96813

Gentlemen:

Subject: Environmental Impact Statement
for the Prince Kuhio Plaza
Shopping Center

Thank you for this opportunity to review and comment
on the subject project.

The project will not have any adverse environmental
effect on any existing or planned facilities serviced by
our department.

Very truly yours,

A handwritten signature in cursive script, appearing to read "R. Nishioka".

RIKIO NISHIOKA
State Public Works Engineer

MI:ck
cc: Orchid Isle Group

UNIVERSITY OF HAWAII

Water Resources Research Center

16 July 1980

Department of Hawaiian Home Lands
550 Halekauwila Street
Honolulu, Hawaii 96813

Subject: Prince Kuhio Plaza Shopping Center Project

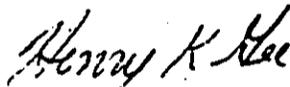
Gentlemen:

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

1. The type of sewage disposal system proposed is not specified. Designing to meet the requirements of Chapter 38 of the Dept. of Health's regulation does not give any indication of the potential impact on the environment. Are there any alternatives, such as hooking up to the existing sewerage system operated by the county?
2. Storm drainage runoff from the proposed project site has not been assessed in quantity as related to a given flow frequency, i.e., 100-year flood frequency.

Thank you for the opportunity to review the subject EIS.

Sincerely,



Henry K. Gee
Acting WRRRC EIS Coordinator

HKG:jm

cc: R.E. Fahrenwald
Y.S. Fok
E. Murabayashi

REDEVCO PROPERTIES, INC.

August 20, 1980

Mr. Henry K. Gee
Acting WRRRC EIS Coordinator
University of Hawaii
Water Resources Research Center
2450 Dole Street, Holmes Hall 283
Honolulu, Hawaii 96822

RE: Prince Kuhio Plaza
Draft Environmental Impact Statement

Dear Mr. Gee:

Submitted herewith are responses to your comments made on the draft Environmental Impact Statement which we prepared for the Prince Kuhio Plaza shopping center project. (Your letter dated July 16, 1980).

COMMENT:

1. The type of sewage disposal system proposed is not specified. Designing to meet the requirements of Chapter 38 of the Dept. of Health's regulation does not give any indication of the potential impact on the environment. Are there any alternatives, such as hooking up to the existing sewerage system operated by the County?

RESPONSE:

A packaged treatment plant utilizing aeration modification of the activated sludge process in accordance with Chapter 38 of the Dept. of Health Regulations is proposed. The treatment process would include a grease interceptor, aeration tanks, settling tanks and a chlorine contact chamber.

Flows to the plant from the Center would be hopefully by gravity and hopefully again the plant could be located in a landscaped island. The plant is planned to be exposed; the plant perimeter be secured by chain link fence or by other aesthetically pleasant but secure enclosure material; and the plant perimeter be appropriately landscaped to hide the visibility of a wastewater treatment plant.

Mr. Henry K. Gee
Page 2
August 20, 1980

As for odor, it has been experienced that the exposed type of packaged treatment unit emits hardly any odor. A very good example is the unit in operation along the main access road to General Lyman Airport where the unit is located roughly 450 lineal feet northeasterly from the airport terminal.

At the proposed Prince Kuhio Plaza, the plant is proposed to be located roughly 170 lineal feet away from the closest building line of the mall and northeasterly downwind of the mall. A perimeter building would be located roughly 400 lineal feet south of the proposed plant site.

The proposed wastewater treatment plant and the treated effluent disposal facilities are to be located approximately 1.6 miles from the Hawaii County Department of Water Supply's Panaewa deep well domestic water source.

Preliminary disposal consideration leaned toward injection wells. However, after discussions with the Department of Water Supply, it is proposed to dispose the treated effluent by the common method of cesspools located near the plant. A copy of the letter dated July 28, 1980 is enclosed.

Two 6 feet diameter cesspools will be provided to meet the 100 percent back-up requirements of Chapter 38. Minimum depths will be 20 feet or shallower if a lava tube of sufficient capacity is met during excavation. A hook up to the existing public sewer system at Kawili Street and Kilauea Avenue and Leilani Street and Kaneolehua Avenue would require pumping and installation of a force main and gravity line and onsite lift station with the two hook-up points located approximately 0.9 mile from the project site. Such a system would be economically prohibitive from the standpoint of cost and compliance with the sewer dedication standards of the County of Hawaii.

Regarding sewage flow quantities, since Table I and Section 4.3A(1) of Chapter 38 of the Public Health Regulations are not applicable in calculating sewage flow generated by a regional shopping center, it was decided to analyze sewage flow quantity from a (1) domestic water consumption standpoint at an existing nearby shopping center, (2) present design practices, and (3) sewage flow measurement at the nearby shopping center, if arrangements could be made.

A report on the Proposed Wastewater Treatment Plant has been submitted to the Department of Health, State of Hawaii, and is presently being processed by that agency. We will forward to you a complete copy of that report.

Mr. Henry K. Gee
Page 3
August 20, 1980

COMMENT:

2. Storm drainage runoff from the proposed project site has not been assessed in quantity as related to a given flow frequency, i. e., 100-year flood frequency.

RESPONSE:

The project will not generate any additional storm run-off into the existing natural water course area. Any additional run-off which will be generated when the site is developed will be handled by drainage facilities to be located entirely within the developed area. As for the run-off based on certain storm frequency intervals, detailed information will be covered in a drainage report.

Thank you for taking the time to review the draft EIS.

Sincerely,

Walt Southward

Walt Southward
Consultant to
Redevco Properties, Inc.

WS:mj
Enc.

cc: Ms. Georgiana Padeken, Director
Department of Hawaiian Home Lands

Office of Environmental Quality Control



DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII

P. O. BOX 1820

HILO, HAWAII 96720

29 AUPUNI STREET

July 28, 1980

Mr. Hajime Tanaka
JHK Tanaka, Inc.
101 Silva Street
Hilo, HI 96720

REDEVCO SEWER DISPOSAL SYSTEM

This is to confirm our discussion regarding the sewer disposal system for the Redevco Shopping Center. We have no objections to cesspools being used as a disposal system inasmuch as the proposed shopping center is one mile away from and makai of our Panaewa Wells. Similar disposal systems near the Redevco area evidently have no effect on our Panaewa well field.

On the matter of cesspools versus deep well disposal of sewer, we prefer cesspools since the deep well will bring the sewer closer in elevation to the groundwater.

H. William Sewake
Manager

... *Water brings progress...*



PODED-PV

DEPT OF HA
DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
BUILDING 230
FT. SHAFTER, HAWAII 96858

JUL 26 11 10 AM '80

24 July 1980

Department of Hawaiian Home Lands
550 Halekauwila Street
Honolulu, Hawaii 96813

Dear Sir:

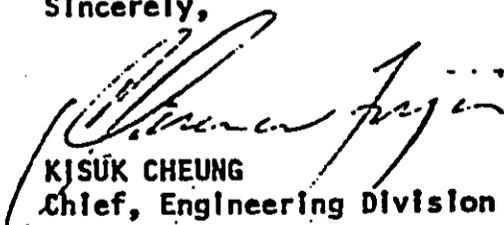
We have reviewed your Environmental Impact Statement (EIS) for the Prince Kuhio Plaza Shopping Center Project, Hilo, Hawaii, and have prepared the following comments:

a. There are no US Army Corps of Engineers' Civil Works programs which would be affected by the project nor regulatory requirements which are applicable to the project.

b. According to the flood insurance study for the Island of Hawaii prepared by the Federal Insurance Administration, the southwest portion of the project site is located in a 100-year riverine flood-hazard area of Zone A designation. The 100-year flood refers to an event having a one percent chance of being equalled or exceeded in any given year. An approximate delineation of the project site is shown on the attached Flood Insurance Rate Map (Incl 1). Most of the property, however, is not situated in a special flood hazard area, but in an area of minimal flooding of Zone C designation. All new development should include minimizing of flood damage within flood-prone areas.

Thank you for the opportunity to comment on your EIS.

Sincerely,


KJSUK CHEUNG
Chief, Engineering Division

1 Incl
As stated

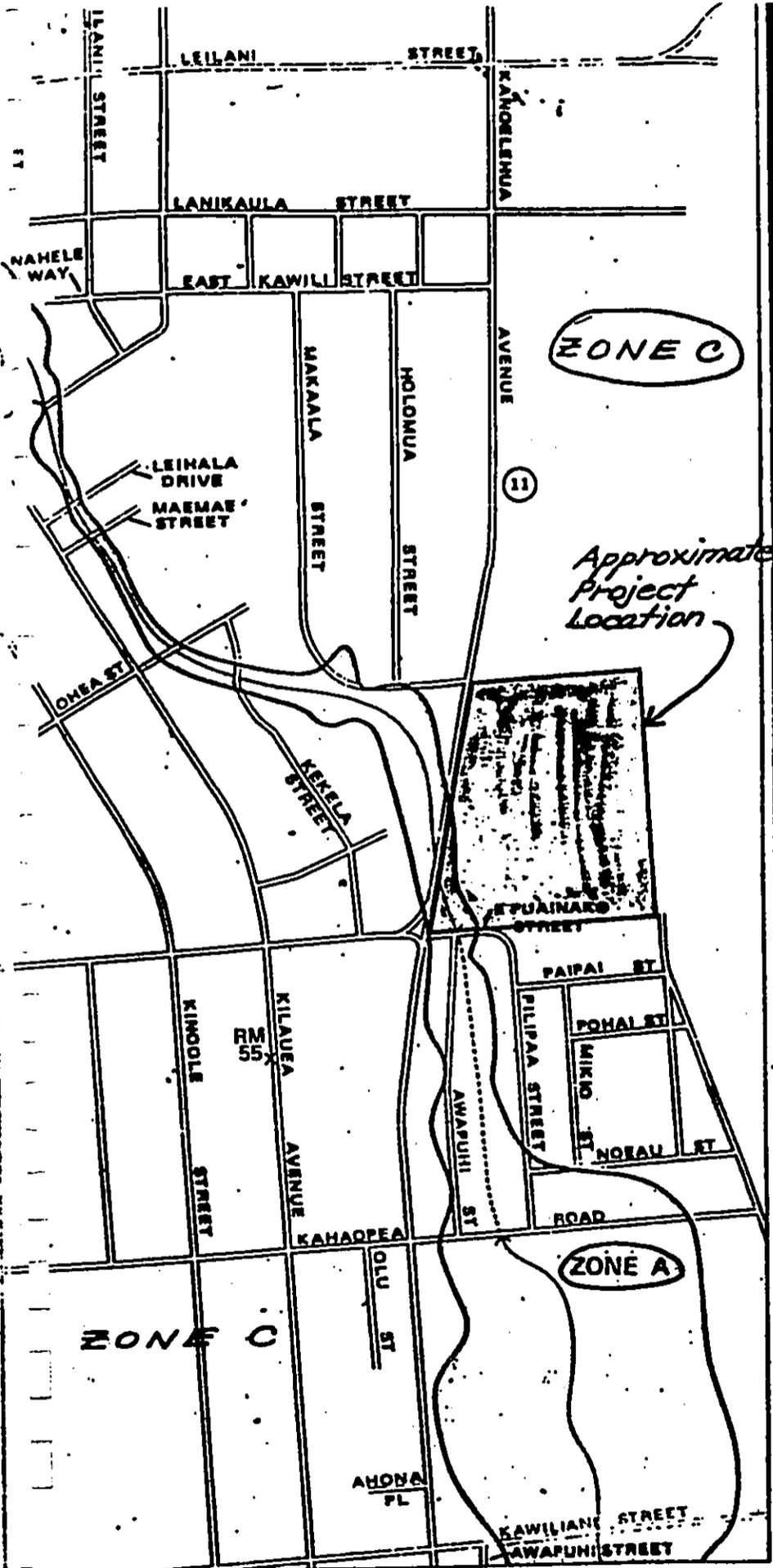
CF: w/o Incl
Orchid Isle Group
Honolulu, HI 96813

EXPLANATION OF ZONE DESIGNATIONS

ZONE

EXPLANATION:

- A** Areas of 100-year flood; base flood elevations and flood hazard factors not determined.
 - AD** Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; average depths of inundation are shown, but no flood hazard factors are determined.
 - AH** Areas of 100-year shallow flooding where depths are between one (1) and three (3) feet; base flood elevations are shown, but no flood hazard factors are determined.
 - A1-A30*** Areas of 100-year flood, base flood elevations and flood hazard factors determined.
 - A99** Areas of 100-year flood to be protected by flood protection system under construction; base flood elevations and flood hazard factors not determined.
 - B** Areas between limits of the 100-year flood and 500-year flood; or certain areas subject to 100-year flooding with average depths less than one (1) foot or where the contributing drainage area is less than one square mile; or areas protected by levees from the base flood. (Medium shading)
 - C** Areas of minimal flooding. (No shading)
 - D** Areas of undetermined, but possible, flood hazards.
 - V** Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors not determined.
 - V1-V30*** Areas of 100-year coastal flood with velocity (wave action); base flood elevations and flood hazard factors determined.
- * The numerals indicate the magnitude of difference between the 100-year and 10-year flood elevations. For numerals between 1-20, the difference is one half of the value; for values greater than 20, the difference is 10 less than the numerals shown. This information is used in establishing insurance rates.
- 18— 100-year tsunami or riverine elevation line, with elevation in feet above mean sea level.
- Zone boundary line



date shown on this map to determine when actuarial rates apply to structures in the zones where elevations or depths have been established.

To determine if flood insurance is available in this community, contact your insurance agent, or call the National Flood Insurance Program at (800) 638-6620, or (800) 424-8872.



APPROXIMATE SCALE



NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

**HAWAII COUNTY,
HAWAII**

PANEL 880 OF 1900
(SEE MAP INDEX FOR PANELS NOT PRINTED)

COMMUNITY-PANEL NUMBER

EFFECTIVE DATE



U.S. DEPARTMENT OF HOUSING
AND URBAN DEVELOPMENT

REDEVCO PROPERTIES, INC.

August 20, 1980

Mr. Kisuk Cheung, Chief
Engineering Division
Department of the Army
U. S. Army Engineer District
Building 230
Fort Shafter, Hawaii 96858

RE: Prince Kuhio Plaza
Draft Environmental Impact Statement

Dear Mr. Cheung:

Submitted herewith are responses to the comments prepared by you relative to the draft EIS which we prepared for the Prince Kuhio Plaza Shopping Center Project. (Letter dated July 24, 1980).

COMMENT:

There are no US Army Corps of Engineers' Civil Works programs which would be affected by the project nor regulatory requirements which are applicable to the project.

RESPONSE:

We acknowledge receipt of this information.

COMMENT:

According to the flood insurance study for the Island of Hawaii prepared by the Federal Insurance Administration, the southwest portion of the project site is located in a 100-year riverine flood-hazard area of Zone A designation. The 100-year flood refers to an event having a one percent chance of being equalled or exceeded in any given year. An approximate delineation of the project site is shown on the attached Flood Insurance Rate Map (Incl 1). Most of the property, however, is not situated in a special flood hazard area, but in an area of minimal flooding of Zone C designation. All new development should include minimizing of flood damage within flood-prone areas.

Mr. Kisuk Cheung
Page 2
August 20, 1980

RESPONSE:

We are aware of the inclusion of the southwest portion of the project site in the 100-year flood hazard area. It is the plan of the developer (pages 46-47 EIS) to leave 2.5 acres of the parcel undeveloped, to serve as a ponding area for run-off waters from any excessive rainfall.

We are unable at this time to calculate the impact of the County of Hawaii flood control project in the Four Mile Stream area, but we are aware that the completion of the flood control project, in late 1981, should serve to reduce the amount of flood waters channeled onto the shopping center site from the residential areas located south and southwest of the site.

The development plan will place the shopping center sufficiently above the drainage easement area to minimize flood damage.

We appreciate your review of the EIS and your comments.

Sincerely,

Walt Southward

Walt Southward
Consultant to Redevco Properties, Inc.

WS:mj

cc: Ms Georgiana K. Padeken, Director
Hawaiian Home Lands

Environmental Quality Commission

Office of Environmental Quality Control

Jul 26, 1980

Ms. Georgiana Padaken
Commissioner
Department of Hawaiian Home Lands
P. O. Box 1879
Honolulu, HI 96805

Aloha Georgiana:

The attached is a letter to Mr. O'Connell giving notice that I cannot meet the closing date of the Environmental Impact Statement comment on August 7, 1980.

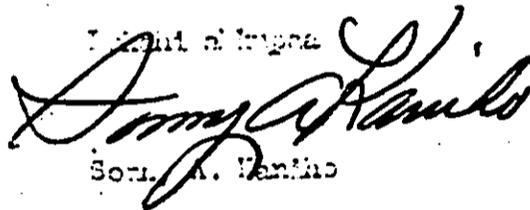
Also, this letter is to inform you and the commission that I am taking this Redevo matter to our U. S. Congress.

This is a difficult letter to address because of its confusing status exercised by the Department and the commission, moreover, the no "rehabilitation" educational program of the Act. To give you an idea of the confused nature, some examples follow:

- 1) Your action of leasing the land to Redevo increases government income through lease payments to the Department of Hawaiian Home Lands and real property and excise taxes.
- 2) Governor Ariyoshi made it clear that the department is not mandate to general lease its land for revenue purposes.
- 3) Our commission also made it clear that the state has \$35 million to buy back the Redevo lease.

Georgiana, I am hopeful for your understanding. I would consider it an opportunity would you wish to discuss the matter with me prior to my addressing it to congress. Please let me know.

I Kani a Iupaa



Sonya Kani

cc: R. Fombrun, Oahu, HI

REC'D BY: REDEVCO PROS., INC.
AUG - 6 1980

DOCUMENT CAPTURED AS RECEIVED

July 26, 1980

Mr. R. Fahrenwald
Redevco Properties Inc.
Suite 1816
170 South King St.
Honolulu, HI 96813

Aloha Mr. Fahrenwald:

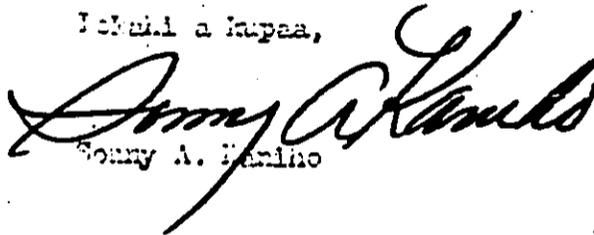
This is to inform you that I received your letter of June 24, 1980, and the Prince Kuhio Plaza Environmental Impact Statement package dated June, 1980, from the Office of Environmental Quality Commission. I am enclosing a copy of the correspondence which I have addressed to Mr. O'Connell and Mrs. Padeken.

You will notice that I have given notice to Mrs. Padeken that I may not be able to meet the closing date of the Environmental Impact Statement comment on August 7, 1980.

As you know, I am in court over the usage of Hawaiian Homes Land. I notice that the General Lease no. 202, Orchid Isle provides coverage for Department of Hawaiian Homes Land in any litigation. I am much concerned in that I don't want Orchid Isle to be delayed in the usage of the 39 acres. Also, on the other hand, I don't want the Native Hawaiians who are on the waiting list for Hawaiian Homes Land as the Hawaiian Homes Commission Act provides, to wait forever or to die while on the waiting list.

Should you have any solution to solve the problems, please make this information available to my attorney, Mr. Itoi.

Ikehuia a kupaa,


Tommy A. Itoi

cc: Mrs. Padeken, mail
Mr. Itoi, attorney

REC'D BY: REDEVCO PROPS., INC.
AUG - 6 1980

July 27, 1980

Mr. Richard L. O'Connell
Director, Environmental Quality Commission
550 Halekiauila St.
Room 301
Honolulu, HI 96813

Re: Environmental Impact Statement, June, 1980. The Prince Kuhio
Alaza Shopping Center, etc

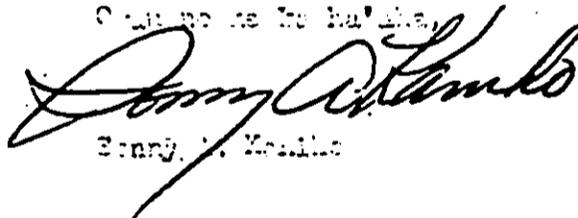
Aloha Mr. O'Connell:

I just got back from a trip. Mahalo nui loa for the Environmental
Impact Statement package on the Prince Kuhio Alaza Shopping Center.

This is not an Environmental Impact Statement. This is to inform you
that I cannot meet the closing date of the Environmental Impact Statement
on August 7, 1980. The main reason is that I have not been rehabilitated
to understand the real purpose of the Hawaiian Homes Commission Act. The
Hawaiian Homes rehabilitation is very poor. I am hopeful the Hawaiian
Homes will step up their rehabilitation program in these areas, to bring
us up to your departments, Hawaiian Homes and the Oahu Island educational
level.

We fully understand your department is not the approving authority.

Keolu no ka hui ha'aha,


Henry H. Keolu

cc: G. Faleken, PHIL
R. Fahrenwald, Oahu Island

REC'D BY: REDEVCO PROP., INC.
AUG - 6 1980

August 7, 1980

Environmental Commission
Department of Hawaiian Home Lands

RE: Environmental Impact Statement, Prince Kuhio Plaza
Shopping Center, June 1980 on HHL (39 acres)

Please let me introduce myself. My name is Sonny A. Kaniho and I qualify as a beneficiary of the Hawaiian Homes Commission Act (1920 as amended). I am here today to express my mana'o about Redeveco's Environmental Impact Statement and the Department of Hawaiian Home Lands.

First, I apologize for being late. This is not an Environmental Impact Statement. This information is to remind the Hawaiian Homes Commission of their trustees' responsibility of the public trust. (HHC Act).

Second, this June 1980 Environmental Impact Statement package failed to identify the environmental danger of the extinction of the Hawaiian race.

Third, I hold nothing against Redeveco.

Fourth, and most important is the Hawaiian Homes Commission Act. The purpose of the act is:

a) The HHC Act, 1920, was enacted by the U. S. Congress in 1921 (Act of July 9, 1921, 42 Stat. 103). Its purpose is to provide for the "rehabilitation" of the Hawaiian race, which was faced with both cultural and physical extinction.

b) The rehabilitation was to be effected by leasing land to "Native Hawaiians" as defined by the HHC Act for residence, farming and ranching.

c) The Act is to provide for the admission of the State of Hawaii into the union and was enacted by the United States Congress in 1959 (Act of March 18, 1959, 73 Stat. 4).

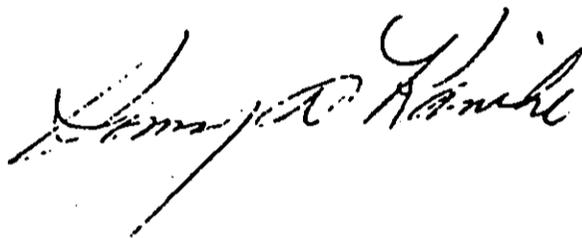
d) The State of Hawaii in the Admission Act covenanted with the U. S. to adopt the HHC Act, 1920 as its law and to faithfully carry out the terms of the HHC Act, 1920 so as to fulfill its purpose. The covenant into which the State of Hawaii entered with the U. S. was one in which the State of Hawaii agreed to act as trustee of a public trust settled by the U. S. for the benefit of Native Hawaiians. Further, it reserved to the U. S. the power to repeal and generally amend the HHC Act, 1920.

REC'D BY: REDEVCO PROP., INC.
AUG 11 1980

As a concerned beneficiary of the Hawaiian Homes Commission Act, I humbly ask you to give another hard look to the environmental danger. The danger of the loss of the Hawaiian race, (Native Hawaiians). Redevco cannot save the extinction of the Native Hawaiian race, but the land and its trustee body can!

I am sorry I have inconvenienced you with my concerns. I thank you for allowing me to be heard.

Mahalo nui loa,

A handwritten signature in cursive script, appearing to read "Kimo A. Kanihika". The signature is written in dark ink and is positioned below the typed name "Mahalo nui loa,".

REDEVCO PROPERTIES, INC.

August 20, 1980

Mr. Sonny A. Kaniho
P. O. Box 1566
Kamuela, Hawaii 96743

RE: Prince Kuhio Plaza
Draft Environmental Impact Statement

Dear Mr. Kaniho:

Thank you for your review of the draft Environmental Impact Statement for the Prince Kuhio Plaza, and your comments in letters dated July 26, 1980 to Redevco Properties, Inc.; July 26 to the Department of Hawaiian Home Lands; July 27 to the Environmental Quality Commission; and August 7 to the Department of Hawaiian Home Lands.

It is our opinion that the matters raised in your letters are not subjects which can be properly answered within the EIS context, but which instead are policy matters for the Department of Hawaiian Home Lands and the Hawaiian Homes Commission.

We appreciate your interest in our EIS. If you have any further questions, please direct them to us.

Sincerely,

Walt Southward

Walt Southward
Consultant to Redevco Properties, Inc.

WS:mj

cc: Ms Georgiana K. Padeken, Director
Dept. of Hawaiian Home Lands

Environmental Quality Commission

Office of Environmental Quality Control

SUITE 1816, PACIFIC TRADE CENTER, 190 S. KING STREET HONOLULU, HAWAII 96813 (808) 531-1777



TO: Department of Hawaiian Home Lands (DHHL)
550 Halekauwila Street
Honolulu, HI 96813

RE: Draft EIS for the proposed Prince Kuhio Plaza

Dear Gentlepersons,

July 30, 1980

Life of the Land, (LOL), has reviewed the draft EIS prepared for the Prince Kuhio Plaza proposed by Redevo Properties, Inc. LOL does not take a position as to the viability of the project or whether the project is warranted. To a large degree the needs analysis, infrastructural, and environmental considerations have been adequately addressed in the draft EIS. However, there remain considerable questions in the minds of many as to whether the use of DHHL land for commercial expansion is justified at a time when the demand for affordable housing is rising. For this reason we would hope that the revenue generated from this project will be used in a timely fashion in order to facilitate more housing on DHHL property.

Our comments regarding the draft EIS focus on issues relating to the impacts on existing commercial establishments, future adjacent land use, and landscaping plans.

IMPACT ON EXISTING COMMERCIAL ESTABLISHMENTS

The proposed project appears to be in conflict with a portion of the County of Hawaii General Plan which states:

"In an effort to assist existing commercial development, urban renewal, rehabilitation, and/or redevelopment programs shall be undertaken in cooperation with communities and businesses". (emphasis added)

The implementation of this project would be in conflict with this policy. In fact, should the proposed project become a reality, the negative impact on the existing downtown businesses could be enormous and has neither been adequately addressed nor quantitatively identified. Analysis should ascertain at a minimum the following:

- 1) The extent of retail space vacancies that would be created in downtown Hilo as a result of the project,
- 2) The shopping volume losses that are projected for existing Hilo retail areas, and
- 3) The effect on Federal funding for the Hilo Community Development Agency. It is wrong to assume that the project will

REC'D BY: REDEVCO PROP., INC.
AUG - 1 1980

Page Two
Prince Kuhio EIS
July 30, 1980

have little or no effect on the Hilo Downtown Development Plan based on an apparent lack of interest on the part of government officials in revitalizing downtown. The Mayor of Hilo would not have vetoed the zoning amendment if there was not an interest in this effort at the city administration level.

In light of the fact that Redevco has proposed a project of the magnitude to serve a 300,000 population base when the actual population stoops below 100,000, a more detailed assesment of the potential significant effects on existing businesses should be required. If the authors of the draft EIS can forecast that the Prince Kuhio Plaza "should promote family togetherness on the Big Island," (page 65, EIS) a more detailed identification of the effects on the existing business community is certainly in order.

IMPACT ON FUTURE LAND USE ADJACENT TO THE PROJECT

The impact on the use of adjacent lands was not considered in the draft document. As stated on page 67 of the draft EIS:

"Traditionally, businesses located near a large shopping center have prospered, so the development of Prince Kuhio Plaza could serve to improve business for those establishments located in the adjacent commercial land, . . ."

Following this line of reasoning, the shopping center would generate a demand for complementary and retail land use on adjacent property to the project. Since retail land uses generate higher rents than industrial land uses, there is a foreseeable pressure to convert the existing industrial lands to commercial use.

This point was not considered in the traffic and air quality analysis for the future projections in these categories. A complete review of the use of adjacent lands generated by the project and the cumulative impacts is a standard procedure in the preparation of an EIS. Such a review should have been included in the report.

Another major planning consideration has been evaded by the authors of the EIS. To allow this project to be located outside of the downtown area would subvert all levels of the planning process, from the citizen participation level to the level of strategic planning for future industrial lands. The formation of the Downtown Hilo Redevelopment Plan required many long hours of un-paid work on the part of citizen groups, business people, and residents, as well as a comprehensive work program undertaken by Hilo's Planning Department. The projects advocates attempted to thwart the efforts of these groups by collecting signitures in a petition drive. However, their actions do not match the monumental effort exhibited by the recent planning processes undertaken by Hilo administrators.

This comprehensive planning process of the City lends credence to the location of existing industrial lands in the General Plan. The EIS as stated above, does not assess the potential conversion pressure on industrial lands adjacent to the proposed project. The industrially

Page Three
Prince Kuhio EIS
July 30, 1980

zoned land on the Island is limited in quantity yet is strategically located. The close proximity of the project site location to transfer nodes such as the airport and port harbor makes it an ideal site for industrial development. Currently zoned industrial lands adjacent to the project are located on an arterial that would largely separate the trucking and transfer traffic from existing residential traffic. The loss of the project site for industrial purposes and the resulting conversion pressures will have a highly negative impact on industry. This is manifested in terms of scarcity in industrial zoned land and a loss of economic diversification potential. Should the proposed project become a reality, the diversity provided by a viable downtown shopping area and a developed industrial sector stands to be severely crippled. This assessment of the impact on the County of Hawaii's policy of diversifying the economic base is absent from the text of the EIS.

LANDSCAPING PLANS

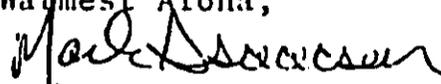
The draft EIS omits any mention of landscaping scheme. Appropriate landscaping can significantly mitigate visual impacts as well as noise and air quality impacts. Therefore the EIS should include the following information regarding vegetation:

- 1) The specific location of areas to be landscaped, and
- 2) The specific types of plants to be employed in the landscaping scheme.

The 2.5 acre of property on the Northwest corner of the site that is periodically inundated by flood waters has potential for a greater use than to be left undeveloped as proposed by the developer. This portion of the property could be permanently dedicated for park use with adequate landscaping and limited facilities, (such as benches). This portion of the property should be legally dedicated to open space in order to ensure that it remains as an area for percolation and flood control. This strip of 2.5 acres along Kahoelohua Ave should be developed into a pedestrian access way with landscaping to mitigate visual and auto emission impacts generated by the project.

Thank you very much for your time and consideration of our comments. Please do not hesitate to contact LOL should you have any questions regarding this correspondence.

Warmest Aloha,


Mark Isaacson,
LOL Staff

cc: Richard E. Fahrenwald ✓
Herbert T. Matayoshi

REDEVCO PROPERTIES, INC.

August 20, 1980

Mr. Mark Isaacson
Life of the Land
404 Piikoi Street, Room 209
Honolulu, Hawaii 96814

RE: Prince Kuhio Plaza
Draft Environmental Impact Statement

Dear Mr. Isaacson:

Submitted herewith are responses to the comments relative to the adequacy of the draft EIS which we prepared for the Prince Kuhio Plaza shopping center project. (Letter dated July 30, 1980).

The General Plan of the County of Hawaii, in the Commercial Development Section, lists only one goal, to wit:

"To provide for commercial developments that maximize convenience to users."

The fact that the General Plan Amendment and the rezoning ordinance were adopted by the Hawaii County Council and the previous action by the County Planning Commission referred to below would appear to resolve any indications of conflict.

Concerning possible impact on Downtown Hilo, the County of Hawaii study of August, 1978, entitled "High Density Urban Alternatives for Hilo", says of the shopping center proposal, at page 23:

"The immediate implications for Downtown Hilo are felt to be minor. Currently, downtown is not the principal retail area of the city....".

Concerning the extent of retail space vacancies which might be created and the shopping volume losses projected as a result of the project, it is not expected that the project will create any vacancies in Downtown Hilo nor detract from shopping volume of existing retail areas. To the contrary, it is anticipated that the new development will greatly increase the retail industry's percentage of the total spendable dollars of Island residents. Downtown Hilo has its own retailing mix, with a number of specialty stores and shops.

Mr. Mark Isaacson
Page 2
August 20, 1980

It is worthy of note, from an historic perspective, that the development in 1961 and 1970 of the two existing shopping centers in Hilo brought forth predictions of doom for Downtown Hilo; but at the present time, available commercial space in the Downtown area is virtually non-existent.

Concerning the Downtown Development Plan, the assumption of a lack of impact is based on the fact that there has been no implementation of that plan since its passage in 1974, regardless of suburban commercial activity.

Concerning the size of the population base the project proposes to serve, the shopping center is designed to service a primary trade of 50,000 population, using as guidelines the Hawaii County General Plan and retail studies prepared for the developers. According to the preliminary estimate of population from the 1980 census, the population of the area from Ka'u to Hamakua, the primary shopping area for the center, was 62,522. The project will serve a secondary trade consisting of the balance of the Island population (The total Island population is now estimated by the 1980 Census to substantially exceed 90,000).

Concerning the impact on the use of adjacent lands, this subject is addressed in Section III, A and Section IV, K of the draft EIS. Overall, it is difficult to predict the impact on adjacent lands. Such demand as is generated for commercial usage can only be determined by the future needs of the community. Adjacent industrial zoned lands should be viable for the increased use of support activities complimentary to the Prince Kuhio Plaza, but permissible on industrial land. Government is, and will be, the determining party for land use, just as it has been for the Prince Kuhio Plaza. It will be necessary to have both a General Plan Amendment and a rezoning ordinance in order to allow any additional commercial usage on the north or east sides of the shopping center.

The traffic study included in the EIS assumed that currently empty parcels of land in the vicinity of the project will be developed by the year 2000 and estimated future traffic growth accordingly. From an air quality standpoint, it does not make much difference whether the future development is retail or industrial. The presence of the shopping center should not in itself inhibit industrial development in the area. As shown with the power plant emission data, industrial sources tend to produce particulates and sulfur oxides, but only minimal amounts of carbon monoxide, while vehicles produce profuse amounts of carbon monoxide but hardly any particulates or sulfur oxides. If, in fact, adjacent lands were all developed for industrial uses, the predicted peak hour traffic levels might be lower than those used for the analysis, since the industrial rush hour should not coincide with the retail peak hours.

Mr. Mark Isaacson
Page 3
August 20, 1980

Concerning the location of the project outside the downtown area, for purposes of clarification, we wish to point out that 18 months of hearings, public testimony and repeated public input took place before the Planning Commission approved the proposed project. Only after these extensive processes were completed, following the advice of the County Planning Director, did the County Corporation Counsel issue an opinion that the procedures that had been recommended by the Planning Director were incorrect. It was as a result of this legal opinion that the initiative procedure was used to return the question to the agenda of the County Council. The public response to the petition drive attested to the overwhelming public support for the project. The County Council, which is the final policy making legislative body, in response to this public support and to the testimony and evidence presented at the public hearings, adopted the General Plan Amendment and rezoning ordinance.

Concerning the potential conversion pressure on industrial lands adjacent to the proposed project, we point out that the draft EIS enumerates statistics showing that there are presently some 228 acres of vacant, zoned, industrial land in Hilo. Nearly all of this land is owned by the Department of Hawaiian Home Lands or by the State of Hawaii and is available. The record will indicate that recent bid offerings by the Department of Hawaiian Home Lands have indicated little or no demand.

Concerning the proximity of the project site to the airport and port harbor, actually the center of Downtown Hilo (at the intersection of Keawe and Haili Streets) is closer to the harbor and the airport. From Downtown Hilo to the harbor is 2.3 miles. From the project site to the harbor is 2.7 miles. From Downtown Hilo to the Hawaiian Airlines cargo office at the airport is 1.7 miles. From the project site to the Hawaiian Airlines cargo office at the airport is 2.1 miles. As to adequacy of industrial land near the airport and port harbor, we refer to the preceding paragraph. Commercial use adjacent to the existing Department of Hawaiian Homes residential area will provide a buffer zone between existing residential areas and the existing and proposed industrial development north of the project site.

Concerning landscaping plans, a preliminary landscaping plan has been finalized for the project, and a detailed landscaping plan will be provided to the County of Hawaii Planning Department as part of final plan approval.

The landscaping plan includes the placement of large dome trees, such as *samanea saman*, on Puainako Street; flowering dome trees, such as *lagerstroemia speciosa*, with shrubs beneath, on the Puainako and Makaala sides of the property; large single trunked palms such as *roystonea* spp and *archontophoenix* spp on the Kanoelehua Avenue frontage; and single trunked palms, such as *carpentaria acuminate clinostigma* spp, *pritchardia pacifica*,

Mr. Mark Isaacson
Page 4
August 20, 1980

veitchia joannis and strongylocaryum latius, with shrubs beneath, on the Ohuohu Street side of the property.

Vertical flowering trees, such as metrosideros collina zibsp. polymorpha, will be used in locations around the buildings of the center, and canopy trees such as acacia confusa will be used within the parking lot. Shrubs to be used will include such as philodenron speciosum, alpinia purpurata, caryota mitis, bixa orellana, mostera deliciosa and hibiscus rosa sinensis, and the groundcover will include microsorium scolopendria, asystiasia sp., begonia nelumbiifolia, allamanda cathartica var. hendersonii and aphelandra sp.

The 2.5 acres on the southwest corner of the site has been designated a drainage easement by governmental authorities. Future plans for the 2.5 acres of drainage easement area would be dependent on governmental regulations which currently place severe restrictions on the usage of drainage easements.

We appreciate very much the time you have given to the draft EIS.

Sincerely,

Walt Southward

Walt Southward
Consultant to Redevco Properties, Inc.

WS:mj

cc: Ms Georgiana K. Padeken, Director
Hawaiian Home Lands

Office of Environmental Quality Control.

GEORGE R. ARIYOSHI
GOVERNOR



RICHARD O'CONNELL
DIRECTOR
TELEPHONE NO.
548-8915

STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
880 HALEKUAUWLA ST.
ROOM 301
HONOLULU, HAWAII 96813

August 1, 1980

MEMORANDUM

TO: Georgiana Padeken, Director
Department of Hawaiian Home Lands

FROM: Richard L. O'Connell, Director
Office of Environmental Quality Control *R. O'Connell*

SUBJECT: Environmental Impact Statement
Prince Kuhio Plaza Shopping Center, Hilo, Hawaii

We have reviewed the subject EIS and offer the following comments:

- 1) Page 5. An estimate of the floor space in downtown Hilo should be provided for comparison.
- 2) Page 16. How much sewage will be generated? What type of sewage treatment and effluent disposal is being proposed?
- 3) Page 28. We believe that 29 acres should be corrected to read 39 acres.
- 4) Page 30. The population figures might be updated to reflect the preliminary census figures for 1980. Is this figure higher or lower than that projected? What effect might this difference in population have on the demand for the proposed shopping center?
- 5) Page 32. Who was sampled in the U.H. Hilo study? Was it representative of the entire Big Island or just some segments of the population? Further details of this study and the Child study should be provided.

REC'D BY: REDEVCO PROP., INC
AUG - 6 1980

Georgiana Padeken
August 1, 1980
Page 2

- 6) Page 51. A major concern is that of drainage and flooding problems. How much of the property is within the flood hazard area shown on the Hilo flood hazard map? Also, a topographic map of the area should be included in the EIS.
- 7) Page 70. Will employees be allowed to park on the site or will they be required to park off-site?
- 8) Page 15, Air Quality Impact Analysis. The statement that the main power plant in Hilo is located about 2,000 feet from the proposed project appears to be in error.

We thank you for the opportunity to review the subject EIS.

cc: Orchid Isle Group

REDEVCO PROPERTIES, INC.

August 20, 1980

Mr. Richard L. O'Connell, Director
Office of Environmental Quality Control
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813

RE: Prince Kuhio Plaza
Draft Environmental Impact Statement

Dear Mr. O'Connell:

Submitted herewith are responses to the comments made by your office pertaining to the draft EIS which we prepared for the Prince Kuhio Plaza shopping center project. (Letter dated August 1, 1980).

COMMENT:

- 1) Page 5. An estimate of the floor space in downtown Hilo should be provided for comparison.

RESPONSE:

There presently is 430,000 square feet of commercial-zoned retail area in Downtown Hilo. Much of this is in quasi-commercial usage, for such activities as offices, restaurants, storage areas, etc. It should be noted, however, that the Downtown Hilo commercial areas generally are older, with minimal parking, with smaller store sites and are situated so as to be of little demand for modern, large scale retailing operators. It must also be noted that much of the area in Downtown Hilo is in the tsunami inundation zone, where the development of modern retailing would be difficult, and financing for such development would be almost impossible. It should also be noted from the County of Hawaii Planning Department study, "High Density Urban Alternatives for Hilo", the comment (page 23) "The immediate implications for Downtown Hilo are felt to be minor. Currently, Downtown is not the principal retail area in the city...."

COMMENT:

- 2) Page 16. How much sewage will be generated? What type of sewage treatment and effluent disposal is being proposed?

Mr. Richard L. O'Connell
Page 2
August 20, 1980

RESPONSE:

The Prince Kuhio Plaza is expected to generate an average sewage flow of 40,787 gallons per day. A packaged wastewater treatment plant utilizing aeration modification of the activated sludge process will be used, with disposal of the treated sewage effluent by cesspools. Two cesspools will be used, providing 100 percent backup as required by Chapter 38 of the State Department of Health's regulations.

COMMENT:

- 3) Page 28. We believe that 29 acres should be corrected to read 39 acres.

RESPONSE:

Your comment is correct. This is a typographical error and should read 39 acres.

COMMENT:

- 4) Page 30. The population figures might be updated to reflect the preliminary census figures for 1980. Is this figure higher or lower than that projected? What effect might this difference in population have on the demand for the proposed shopping center?

RESPONSE:

EIS shows resident population, using the County of Hawaii Data Book as source, of 60,700 for the districts of Puna, South Hilo, North Hilo, Hamakua, and Ka'u. These districts are considered the primary shopping region for the Prince Kuhio Plaza. Preliminary population estimates as of July 7, 1980, indicate a population of 62,522 for that same area. The increase is not significant.

COMMENT:

- 5) Page 32. Who was sampled in the U.S. Hilo study? Was it representative of the entire Big Island or just some segments of the population? Further details of this study and the Child study should be provided.

Mr. Richard L. O'Connell
Page 3
August 20, 1980

RESPONSE:

The University of Hawaii at Hilo Study, "The Big Island of Hawaii: A Consumer Market in Transition," was a survey of more than 230 Big Island consumers, designed to study behavior and attitudes of consumers residing within the three major trade areas of the Island of Hawaii, Hilo, Kona and Waimea. It is considered statistically accurate to within (plus or minus) seven percent at a 95 percent level of confidence by the authors. The John Child & Co., Inc. study was completed in 1978 and included an on-site inspection of the premises, neighboring properties and the general environs; a review of the historical and projected population data, economic trends and forecasts, retailing trends, primary industry trends, etc. for the state, county and neighborhood, and a review of the proposed development layout, tenant mix and construction cost estimates.

COMMENT:

- 6) Page 51. A major concern is that of drainage and flooding problems. How much of the property is within the flood hazard area shown on the Hilo flood hazard map? Also, a topographic map of the area should be included in the EIS.

RESPONSE:

A total of 2.5 acres (plus or minus) of the property is located within the flood hazard area shown on the Hilo flood hazard map. This area will remain undeveloped as a drainage easement. As noted in the EIS, the completion of the flood control drainage channel which is planned to divert all waters from the Four Mile Creek into an already-complete ponding basin, will reduce the amount of runoff water that is channeled onto the Prince Kuhio Plaza site from the residential areas located several miles from the project site. A topographic map of the area is attached. Copies of the topographic map will be included in the final EIS submitted to the approving agency and to the Commission.

COMMENT:

- 7) Page 70. Will employees be allowed to park on the site or will they be required to park off-site?

Mr. Richard L. O'Connell
Page 4
August 20, 1980

RESPONSE:

It is the intention of the developer to permit employees to park their vehicles in employee parking areas within the site, but located on the fringes of the property. There will be no impact on public parking areas on the adjacent roads as a result of employee parking.

COMMENT:

8) Page 15, Air Quality Impact Analysis. The statement that the main power plant in Hilo is located about 2,000 feet from the proposed project appears to be in error.

RESPONSE:

The statement in the Air Quality Impact Analysis is correct. The Kanoehua Operations Center of the Hawaii Electric Light Co., which generates in excess of 35 megawatts, is located approximately 2,000 feet north by northeast of the northeast corner of the plaza site, on Halakauila Street.

Thank you for your careful review of the draft EIS and your comments. We hope these responses help to answer any questions you may have.

Sincerely,

Walt Southward

Walt Southward
Consultant to Redevo Properties, Inc.

WS:mj

Enc.

cc: Ms Georgiana K. Padeken, Director
Hawaiian Home Lands

Environmental Quality Commission

Office of Environmental Quality Control

COPY

COUNTY OF HAWAII
DEPARTMENT OF PUBLIC WORKS
HILO, HAWAII, 96720

August 1, 1980

Environmental Quality Commission
350 Halekuanila Street, Room 301
Honolulu, HI 96813

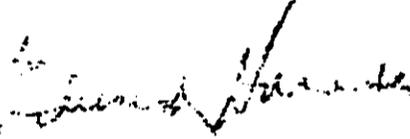
SUBJECT: "PRINCE KUHIO PLAZA"
ENVIRONMENTAL IMPACT STATEMENT

We have reviewed the EIS and our comments are as follows:

1. Are there any negative impacts on existing streets?

What are the effects on the intersection of Puainaka and
Kamoaehua, Kilanea and Kinohi Streets.

2. The ponding area should be sufficiently large and porous
and be designated as a flood plain. If possible the ponding
area mauka of Kamoaehua should also be designated a flood
plain.


EDWARD HARABA
Chief Engineer

cc: DHRL
✓Orchid Isle Group

REC'D BY: REDEVCO PROP., INC
AUG - 6 1980

REDEVCO PROPERTIES, INC.

August 20, 1980

Mr. Edward Harada, Chief Engineer
County of Hawaii
Department of Public Works
25 Aupuni Street
Hilo, Hawaii 96720

RE: Prince Kuhio Plaza
Draft Environmental Impact Statement

Dear Mr. Harada:

Submitted herewith are the responses to the comments of the Department of Public Works of the County of Hawaii on the Traffic Impact Statement relative to the EIS for the Prince Kuhio Plaza shopping center project. (Letter dated August 1, 1980).

COMMENT:

1. Are there any negative impacts on existing streets?

RESPONSE:

Without taking into consideration the proposed "Prince Kuhio Plaza" project, whatever negative impacts have been prevailing on the existing streets have been recognized by the Planning Department and other agencies of the County of Hawaii. This is reflected in the preparation of the Development Plan for the future highway system to accommodate existing and future area-wide developments.

Since there is substantial capacity increase when a highway is improved, especially from a 2-lane to a 4-lane highway or from a 4-lane to a 6-lane highway, the highway system will be able to accommodate the area-wide developments as well as the traffic to be generated by the proposed "Prince Kuhio Plaza" project.

COMMENT:

What are the effects on the intersections of Puainako and Kanoelehua, Kilauea and Kinoole Streets?

Mr. Edward Harada
Page 2
August 20, 1980

RESPONSE:

It is a known fact that traffic seeks its own level much as water and that the traffic stream would distribute itself amongst the available roadways. Should congestion and delay affect the intersections of Puainako and Kilauea and Kinooles Streets, the motoring public will find alternate routes and avoid these intersections. The intersection of Puainako Street and Kanoelehua Avenue has sufficient capacity and will not suffer any adverse effects. When Puainako Street is improved to a uniform 4-lane divided highway in accordance with the Development Plan, there will be very little adverse effects at all these intersections.

The peak hour volumes generated by the shopping complex will occur before or after the peak commuting hours of the highways. Under these conditions, there will also be very little adverse effects at the intersections.

COMMENT:

2. The ponding area should be sufficiently large and porous and be designated as a flood plain. If possible the ponding area mauka of Kanoelehua should also be designated a flood plain.

RESPONSE:

The ponding area will be 2.5 acres, and has been designated a flood plain area. It will be a drainage easement. The developer is unable to comment on property outside of the land leased from Hawaiian Home Lands for the project, and is not able to designate areas outside of the property as a flood plain. It is suggested that this matter be discussed with the land owner, which, we believe in the case indicated, is the Department of Hawaiian Home Lands.

Thank you for your review of the EIS and your comments.

Sincerely,

Walt Southward

Walt Southward
Consultant to Redevco Properties, Inc.

WS:Mj

cc: Ms Georgiana K. Padeken, Director
Hawaiian Home Lands
Office of Environmental Quality Control
Environmental Quality Commission



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
100 BERNICE STREET
HONOLULU, HAWAII 96813

RYUKIHI HIGASHIMURA, P. D.
DIRECTOR

DEPUTY DIRECTORS
JACK K. SUWA
JAMES R. CARRAS
JAMES B. MCCORMICK
JONATHAN K. SHIMADA, P. D.

IN REPLY REFER TO

STP 8.6458

August 1, 1980

Mr. Richard E. Fahrenwald
Redevco Properties, Inc.
Suite 1816, Pacific Trade Center
190 South King Street
Honolulu, Hawaii 96813

Dear Mr. Fahrenwald:

Traffic Impact Statement, Prince Kuhio
Shopping Center Project, Kanoelehue at
Puainako, Hilo, Hawaii

We have reviewed your Traffic Impact Statement for the
Prince Kuhio Plaza Shopping Center Project and offer the
following comments:

1. Include the FAU numbers (see attached) onto Plate 1, Project Location Map; also, include existing local streets.
2. Include a discussion on traffic signalization requirements.
3. Page T-7, eliminate from the last paragraph the statement, "However, this proposal is unofficial and, therefore, has not been designated on the future highway system." Also revise the previous sentence to read, "The County is investigating the extension of Puainako Street to Saddle Road."
4. Page T-17, the third paragraph should be corrected since Puainako Street is a 4-lane divided highway only between Kanoelehua and Kilauea Avenues. Also, the capacity of 800 vph/lane cannot be generalized over its entire length, especially at intersections.

[Handwritten signature]
8/12/80

Mr. Richard E. Fahrenwald
August 1, 1980
Page 2

STP 8.6458

5. Page T-18, the ADT of 32,134 to 45,000 should be compared against the 2-lane segment of Puainako Street and not the 4-lane undivided section.

Very truly yours,

Ryokichi Higashionna

Ryokichi Higashionna
Director of Transportation

Enclosure

REDEVCO PROPERTIES, INC.

August 20, 1980

Mr. Ryokichi Higashionna
Director of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

RE: Prince Kuhio Plaza
Draft Environmental Impact Statement

Dear Mr. Higashionna:

Submitted herewith are the responses to the comments by the Department of Transportation on the Traffic Impact Statement relative to the EIS for the Prince Kuhio Plaza shopping center project: (Letter dated August 1, 1980, Ref: STP 8.6458).

COMMENT:

1. Include the FAU numbers (see attached) onto Plate 1, Project Location Map; also, include existing local streets.

RESPONSE:

As requested, the FAU numbers will be included onto Plate 1, Project Location Map.

The local streets, primarily for access to abutting properties or intended for local traffic have not been included so as to emphasize the major highway system. However, if it is necessary, the local streets will be included into the map.

COMMENT:

2. Include a discussion on traffic signalization requirements.

RESPONSE:

The installation of a traffic signal is warranted only when abnormal vehicular or pedestrian delay is created by the physical inability of traffic to flow smoothly at an intersection. The safety aspect alone seldom is the decisive factor since accidents seldom are eliminated entirely with signal operation. Numerous traffic studies have shown that in many cases, there are increases in accident frequency following installation of traffic signals.

Mr. Ryokichi Higashionna
Page 2
August 20, 1980

Secondly, the installation of a traffic signal must conform to the warrant for Interruption of Continuous Traffic. The Interruption of Continuous Traffic warrant is applied when operating conditions on a major street are such that the traffic volume is so heavy that traffic on a minor intersecting street suffers excessive delay or hazard in entering or crossing the major street. The warrant is satisfied when the vehicles per hour on the major street (total of both approaches) is 750 and the vehicles per hour on the minor street approach (one direction only) is 75. These volumes must be equalled or exceeded for each of any hours of an average day, and the signal installation must not seriously disrupt progressive traffic flow. The major street and minor street volumes are for the same 8 hours. During those 8 hours, the direction of the higher volume on the minor street may be on one approach during some hours and on the opposite approach during other hours.

Analysis of the traffic volumes of the surrounding street system indicates that with the exception of the intersection of Kanoelehua Avenue and Puainako Street which is already signalized, signalization is not warranted at any of the intersections. Since signalization is not required, the discussion on signalization was omitted from the Traffic Impact Statement.

COMMENT:

3. Page T-7, eliminate from the last paragraph the statement, "However, this proposal is unofficial and, therefore, has not been designated on the future highway system." Also revise the previous sentence to read, "The County is investigating the extension of Puainako Street to Saddle Road."

RESPONSE:

As requested, the above revisions will be made to the Traffic Impact Statement.

COMMENT:

4. Page T-17, the third paragraph should be corrected since Puainako Street is a 4-lane divided highway only between Kanoelehua and Kilauea Avenues. Also, the capacity of 800 vph/lane cannot be generalized over its entire length, especially at intersections.

Mr. Ryokichi Higashionna
Page 3
August 20, 1980

RESPONSE:

This correction is appropriate if it is the understanding that no improvements will be made to Puainako Street. The right of way width of Puainako Street varies between Kanoelohua Avenue and Komohana Street and is narrow only between Kilauea Avenue and Komohana Street. Since Puainako Street is on the Development Plan as a part of the future highway system and some of the other streets of the future highway system have already been improved or constructed, it is expected that Puainako Street will also be improved, at least by 1990. Thus, the assumption that this roadway is a minor arterial with 4 traffic lanes and controlled access.

With the improvement to a 4 lane divided highway, its capacity would be equivalent to that of a multi-lane highway and should also be approximately 1,275 vehicles per lane per hour in one direction at Level of Service C. The lower capacity of 800 VPH/lane was used and generalized to determine maximum traffic impact. If the lower capacity value does not cause a significant impact, then a higher capacity value will cause less of an impact.

On the assumption that Puainako Street will not be improved, traffic will then seek its own level much as water and the traffic stream would distribute itself amongst the available roadways. The traffic projected for 1990 and 2000 will no longer be applicable. The induced and diverted traffic will avoid the roadway and there will be a balance between capacity and traffic volume on Puainako Street.

COMMENT:

5. Page T-18, the ADT of 32,134 to 45,000 should be compared against the 2-lane segment of Puainako Street and not the 4-lane undivided section.

RESPONSE:

The ADT of 32,134 to 45,000 is applicable on the assumption that Puainako Street will be widened to 4 traffic lanes since it is on the Development Plan as part of the future highway system. Should Puainako Street not be widened, the ADT for a two-lane, two-way highway would be within the range of 15,000 to 20,064. This range is still within the projected average daily traffic of 18,758 vehicles for the year 2000 on Puainako Street.

Mr. Ryokichi Higashionna
Page 4
August 20, 1980

Thank you for your review of the EIS and your comments.

Sincerely,

Walt Southward

Walt Southward
Consultant to Redevco Properties, Inc.

WS:mj

cc: Ms Georgiana K. Padeken, Director
Hawaiian Home Lands

Office of Environmental Quality Control

HENRY TUCK AU
Consulting Engineer
33 S. KING STREET, SUITE 307
HONOLULU, HAWAII 96813
Telephone 538-7237

August 22, 1980

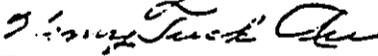
Mr. Richard E. Fahrenwald
Redevco Properties, Inc.
Suite 1816, Pacific Trade Center
190 S. King Street
Honolulu, Hawaii 96813

Dear Mr. Fahrenwald:

Subject: Revisions & Supplemental Sheet To Be
Incorporated Into EIS And Traffic Impact
Statement
Prince Kuhio Plaza Shopping Center
Project

Submitted herewith are the revisions and supplemental
sheet to be incorporated into the EIS and Traffic Impact
Statement for the Prince Kuhio Shopping Center as requested
by the State Department of Transportation.

Sincerely yours,


Henry Tuck Au
Consulting Engineer

HTA:jmh

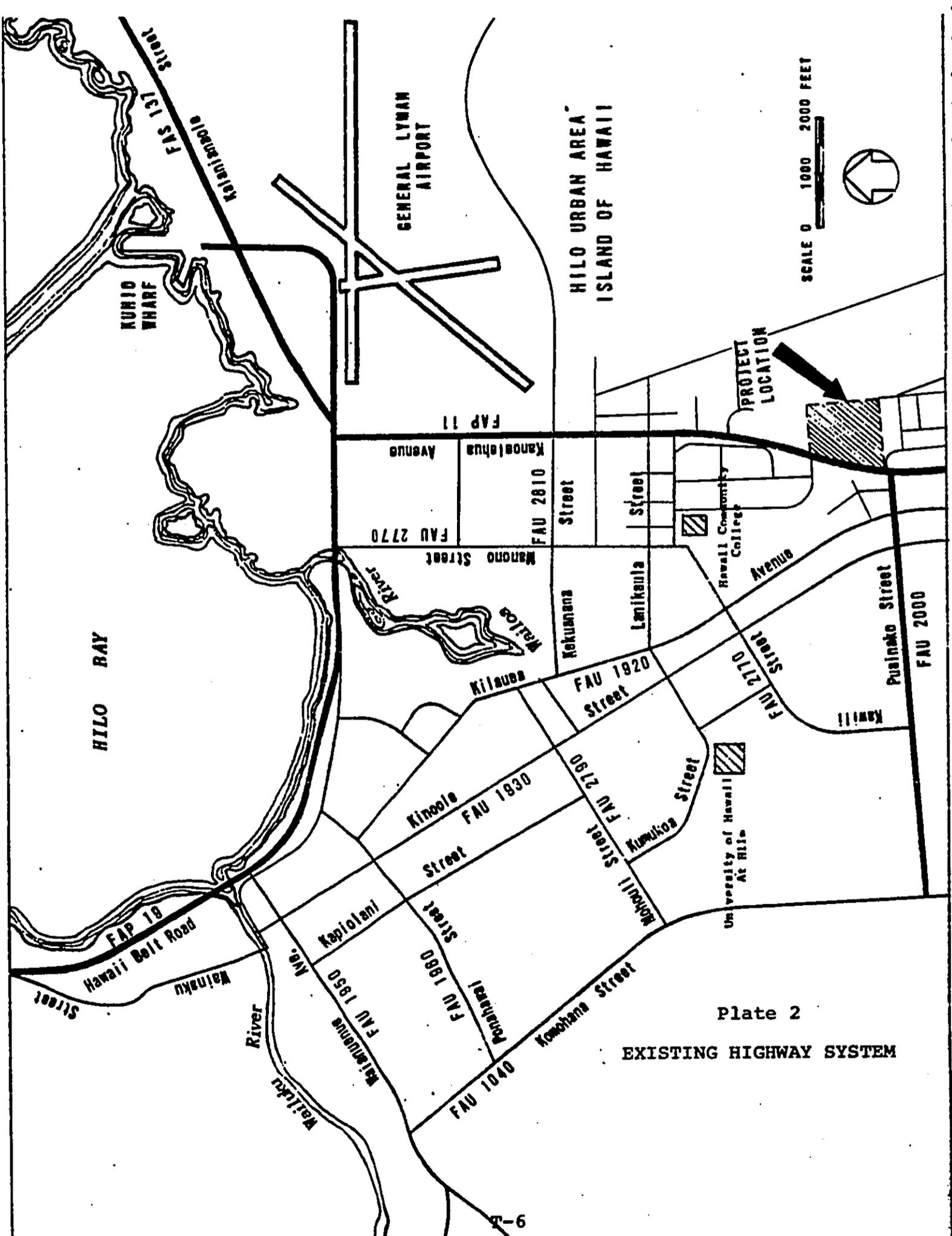


Plate 2
EXISTING HIGHWAY SYSTEM

TRAFFIC CONTROL SIGNALS

The installation of a traffic signal is warranted only when abnormal vehicular or pedestrian delay is created by the physical inability of traffic to flow smoothly at an intersection. The safety aspect alone seldom is the decisive factor since accidents seldom are eliminated entirely with signal operation. Numerous traffic studies have shown that in many cases, there are increases in accident frequency following installation of traffic signals.

Secondly, the installation of a traffic signal must conform to the warrant for Interruption of Continuous Traffic. The Interruption of Continuous Traffic warrant is applied when operating conditions on a major street are such that the traffic volume is so heavy that traffic on a minor intersecting street suffers excessive delay or hazard in entering or crossing the major street. The warrant is satisfied when the vehicles per hour on the major street (total of both approaches) is 750 and the vehicles per hour on the minor street approach (one direction only) is 75. These volumes must be equalled or exceeded for each of any hours or an average day, and the signal installation must not seriously disrupt progressive traffic flow. The major street and minor street volumes are for the same 8 hours. During those 8 hours, the direction of the higher volume on the minor street may be on one approach during some hours, and on the opposite approach during other hours.

Analysis of the traffic volumes of the surrounding street system indicates that with the exception of the intersection of Kanoelehua Avenue and Puainako Street which is already signaled, signalization is not warranted at any of the intersections.

SUPPLEMENT TO TRAFFIC IMPACT STATEMENT
REQUESTED IN COMMENT 2 BY DEPARTMENT OF
TRANSPORTATION, RYOKICHI HIGASHIONNA,
DIRECTOR.

are the more important roadways and are designed primarily to move large volumes of traffic. These arterials have an important role in diverting through traffic from the local streets.

As shown on the plan, the Federal-aid highways are the Hawaii Belt Road FAP 19, Kalaniana'ole Street FAS 137, Kanoelehua Avenue FAP 11 and Puainako Street FAS 200. The other streets are major thoroughfares for travel within the Hilo urban area, for intercommunication between and within the various sections of the County and for interconnection with the Federal-aid highways. These include Komohana Street, Kapiolani Street, Kinoole Street, Kilauea Avenue, Manono Street, Kekua'anoa Street, Lanikaula Street, Kawili Street, Mohouli Street, Ponahawai Street and Waianuenue Avenue.

FUTURE HIGHWAY SYSTEM

The existing highway system is essentially good and in the preparation of the Hilo Community Development Plan, the Planning Department developed the future highway system by the addition of new facilities built onto or added to the existing system and with improvements to the present highways of higher standards and designs for future traffic volumes. Since the projected future traffic volumes determine traffic service deficiencies for the designated land uses, a future highway system was evolved proposing sufficient streets and highways for efficient traffic circulation within the Hilo urban area and for improved intercommunication between and within the various districts of the County.

Plates 3 and 4 show the future highway system, with the existing system incorporated into the plan. The future highway system proposes the improvement of many streets and the extension or construction of additional new facilities. Streets proposed for improvement include Waianuenue Avenue, Ponahawai Street, Mohouli Street, Komohana Street, Kinoole Street, Kilauea Avenue, Manono Street, Kanoelehua Avenue and Kekua'anoa Street. Mohouli Street is proposed to be extended to connect with Ainako Avenue. This connection will provide an intra-city connector which does not carry traffic through the downtown area. Another highway is proposed to connect the Puna Coast with Puainako Street extension mauka of the Hilo Airport. The County is investigating the extension of Puainako Street to Saddle Road. Some of these streets have since been improved or constructed.

REVISED AS PER DEPARTMENT OF TRANSPORTATION
COMMENT NUMBER 3.



United States
Department of
Agriculture

Soil
Conservation
Service

P. O. Box 50004
Honolulu, Hawaii
96850

August 1, 1980

Georgiana Padeken, Director
Department of Hawaiian Home Lands
550 Halekauwila Street
Honolulu, Hawaii 96813

Dear Ms. Padeken:

Subject: EIS - Prince Kuhio Plaza, Hilo, Hawaii

We have reviewed the environmental impact statement for the Prince Kuhio Plaza as requested by the Hawaii State Office of Environmental Quality.

The following comments are offered for your consideration:

The last paragraph on page 28 refers to the February 1979 storm as being of a 100-year frequency. According to the Soil Conservation Service District Conservationist in Hilo, the amount of rainfall received from that particular storm in the area of the proposed shopping center was more similar to a 25-year (24-hour rainfall) storm.

On page 29, the 2.5-acre area is described as located at the northwest corner of the property, while on page 46 it is referred to as being on the southwest corner. The southwest location is the correct one.

The EIS states that the developer plans to leave the 2.5-acre area in question untouched and place it under a drainage easement. Would it be possible to create a well-maintained mini-park without unnecessary soil disturbance and further improve the visual appearance of the area?

We agree with the Hawaii County Department of Public Works' recommendation that a drainage study should be made of the site.

Thank you for the opportunity to review this document.

Sincerely,


JACK P. KANALZ
State Conservationist

cc: Orchid Isle Group
c/o Mr. Richard E. Fahrenwald
Redevco Properties, Inc.
190 South King St., Suite 1816
Honolulu, Hawaii 96813

REC'D BY: REDEVCO PROP., INC.

AUG - 6 1980

REDEVCO PROPERTIES, INC.

August 20, 1980

Mr. Jack P. Kanalz
State Conservationist
U. S. Department of Agriculture
P. O. Box 50004
Honolulu, Hawaii 96850

RE: Prince Kuhio Plaza
Draft Environmental Impact Statement

Dear Mr. Kanalz:

Submitted herewith are responses to the comments made relative to the Draft Environmental Impact Statement which was prepared for the Prince Kuhio Plaza shopping center project. (Letter dated August 1, 1980).

COMMENT:

The last paragraph on page 28 refers to the February 1979 storm as being of a 100-year frequency. According to the Soil Conservation Service District Conservationist in Hilo, the amount of rainfall received from that particular storm in the area of the proposed shopping center was more similar to a 25-year (24-hour rainfall) storm.

RESPONSE:

Thank you for this comment. This information will be included in our Revised Environmental Impact Statement submitted to our approving agency.

COMMENT:

On Page 29, the 2.5 acre area is described as located at the northwest corner of the property, while on page 46, it is referred to as being on the southwest corner. The southwest location is the correct one.

RESPONSE:

You are correct. The reference on page 29 is erroneous and was overlooked in proof-reading the Draft. The 2.5 acre area is located on the southwest corner of the site. This correction will be noted in the Revised EIS.

Mr. Jack P. Kanalz
Page 2
August 20, 1980

COMMENT:

The EIS states that the developer plans to leave the 2.5 acre area in question untouched and place it under a drainage easement. Would it be possible to create a well-maintained mini-park without unnecessary soil disturbance and further improve the visual appearance of the area?

RESPONSE:

The 2.5 acre area located on the southwest corner of the site is designated as a drainage easement by governmental authority because of the flood problems existing in the area. At this time, other than landscaping, the area must remain untouched. A decision on future use must be withheld pending correction of the existing drainage problems in the surrounding area.

Thank you for your review of the EIS and for your comments.

Sincerely,

Walt Southward

Walt Southward
Consultant to Redevco Properties, Inc.

WS:mj

cc: Ms Georgiana K. Padeken, Director
Department of Hawaiian Home Lands

Office of Environmental Quality Control



STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 100 SOUTH BERTHOUD STREET
 HONOLULU, HAWAII 96813

PROJECT: PRINCE KUHIO PLAZA SHOPPING CENTER PROJECT
 STP 8.6475

DEPARTMENT DIRECTOR:
 JACK W. SUWA
 DEPUTY DIRECTOR:
 JAMES E. CARRAS
 JAMES E. WOODRUFF
 JONATHAN K. SHIMADA

IN REPLY REFER TO

STP 8.6475

August 6, 1980

MEMORANDUM

TO: Ms. Georgiana Padeken, Director
 Department of Hawaiian Home Lands

FROM: Jonathan K. Shimada, Deputy Director

SUBJECT: PRINCE KUHIO PLAZA SHOPPING CENTER PROJECT
 KANOELEHUA AT PUAINAKO, HILO, HAWAII

Attached is a copy of our recent comments to Redevo Properties, Inc., regarding this project's Traffic Impact Statement. We also reiterate our concerns that the EIS address the capacities at the intersections.

Also, since the development is in the vicinity of the approach to Runway 3-21, a discussion on the effect of airport noise may be warranted.

Jonathan K. Shimada
 Jonathan K. Shimada
 Deputy Director

Enclosure

8/20/80

REDEVCO PROPERTIES, INC.

August 20, 1980

Mr. Jonathan K. Shimada, Deputy Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

RE: Prince Kuhio Plaza
Draft Environmental Impact Statement

Dear Mr. Shimada:

Submitted herewith are the responses to your comments on the draft Environmental Impact Statement which we prepared for the Prince Kuhio Plaza shopping center project. (Your letter dated August 6, 1980).

COMMENT:

Attached is a copy of our recent comments to Redevco Properties, Inc., regarding this project's Traffic Impact Statement. We also reiterate our concerns that the EIS address the capacities at the intersections.

RESPONSE:

Your first sentence refers to those comments made by Ryokichi Higashionna, Director of Transportation, by his letter dated August 1, 1980. We have responded separately to Mr. Higashionna and we attach a copy of our letter to him for your information.

In your second sentence you reiterate your concerns regarding the capacities at the intersections. The traffic generated by the proposed Prince Kuhio Plaza project would have very little effect on the capacities at the intersections. It is a known fact that traffic seeks its own level, much as water and that the traffic stream would distribute itself amongst the available roadways. Should congestion and delay affect the intersections of Puainako and Kilauea and Kinoole Streets, the motoring public will find alternate routes and avoid these intersections. The intersection of Puainako Street and Kanoelehua Avenue has sufficient capacity and will not suffer any adverse effects. When Puainako Street is improved to a uniform four-lane divided highway, in accordance with the development plan, there will be very little adverse effects at all these intersections.

Mr. Jonathan K. Shimada
Page 2
August 20, 1980

The peak hour volumes generated by the shopping complex will occur before or after the peak commuting hours of the highways. Under these conditions, there will also be very little adverse effects at the intersections.

COMMENT:

Since the development is in the vicinity of the approach to Runway 3-21, a discussion on the effect of airport noise may be warranted.

RESPONSE:

The Prince Kuhio Plaza site is located approximately 1.4 miles from the edge of Runway 3-21, which is the lesser used of the two runways at the Hilo Airport. The distance involved, the lesser amount of usage given to that runway and the enclosed mall concept of the Prince Kuhio Plaza should minimize airport noise. Many business establishments and residential dwellings are located between the Prince Kuhio Plaza site and the airport, with minimal impact of airport noise. The undersigned, in fact, had an office in the Hopaco building, directly across Kanoelehua Avenue from the northwest corner of the Prince Kuhio Plaza site, from 1971 to 1977, in a building that had no special soundproofing, and little notice was made of airport noise during that time.

We appreciate your review and your comments.

Sincerely,

Walt Southward

Walt Southward
Consultant to Redevco Properties, Inc.

WS:mj
Enc.

cc: Ms Georgiana Padeken, Director
Office of Environmental Quality Control

DEPT. OF HAWAIIAN
HOME LANDS



AUG 11 10 04 AM '80

University of Hawaii at Manoa

Environmental Center
Crawford 317 • 2550 Campus Road
Honolulu, Hawaii 96822
Telephone (808) 948-7361

Office of the Director

August 7, 1980

RE:0311

Ms. Georgiana K. Padeken, Chairman
Department of Hawaiian Home Lands
550 Halekauwila Street
Honolulu, Hawaii 96813

Dear Ms. Padeken:

Prince Kuhio Plaza
Kanoelehua at Puaenako, Hilo, Hawaii

The Environmental Center has reviewed the above cited DEIS with the assistance of Don C. Reading, Economics, University of Hawaii at Hilo; Doak Cox and Barbara Vogt, Environmental Center.

Our review indicates that the document adequately describes in a reasonably concise and clear manner those significant environmental impacts that could be expected to occur from the development of a 39 acre parcel of land into a regional shopping center. The DEIS also discusses those impacts which will adversely effect some members of the community at large. However, we would like to comment on the economic impacts as presented in the DEIS. We quote Dr. Reading:

A multiplier of five (5) for the construction sector sounds high. In addition, the construction phase will occur over a relatively short period of time thus not allowing for any significant multiplier effect. I would doubt any noticeable secondary impact from the construction phase.

Assuming, as the DEIS, that 10 percent of the 1,275 jobs will be "in-migrants" (basic employment) with the remaining 90 percent filled within the local economy (secondary employment), it would seem reasonable to assume the following:

1. The major secondary employment impact would come from the increase in basic employment (125 jobs).
2. For an area the size of Hilo a reasonable multiplier for this industrial sector would be approximately two (2).

AN EQUAL OPPORTUNITY EMPLOYER

Ms. Georgiana K. Padeken

- 2 -

August 7, 1980

3. Over time the expected impact on population and housing would be based on an in-migration for about 250 jobs.
4. Given the current population to employment ratio for the County of Hawaii of .39 (County of Hawaii Data Book 1979) population increases would be about 650.
5. Given this increase in population the impact on housing would be mainly based on two factors:
 - a. The increased demand for housing units would be about 200 units (a current persons-per-household in the County of Hawaii of 3.1 -County of Hawaii Data Book 1979).
 - b. With increased opportunity in the secondary labor market there should be an increase in household income. Given the recent rapid increase in housing costs multi-income households would be better able to afford reasonable housing. This would cause, as the DEIS mentions, increases in upgrades or "move-ups." That is, households improving the quality of their housing. This also would make less expensive dwelling units available within the local market for lower income families. In addition, multi-income new families would be better able to save for a down-payment and meet higher monthly payments.

All of the above impacts will occur over a one-to-five-year time period and would not be noticeable within the local economy because of the low relative number of basic jobs created, the current rate of unemployment and the general economic growth of the Hilo area.

We would also like to point out that the EIS system was intended as an objective appraisal of the potential impacts of a project which involves the use of public lands or money. It is unfortunate that this DEIS has interpreted the purpose of the document as "satisfying the continuing demands for it (the DEIS) from opposing sources" (page 3) rather than as a statement to identify and describe the effects of a proposed action on the environment. The system should not be viewed as a potential block to development but as a useful tool for clarifying the "environmental implications of the proposed action" (Chapter 343, H.R.S.) for the benefit of all.

We appreciate the opportunity to comment on this document.

Yours very truly,

Doak C. Cox
Director

[Handwritten signature]
8/12/80

DCC/cu
cc: OEQC
Barbara Vogt

Orchid Isle Group
Don Reading

REDEVCO PROPERTIES, INC.

August 20, 1980

Dr. Doak C. Cox, Director
Environmental Center
University of Hawaii
2550 Campus Road, Crawford 317
Honolulu, Hawaii 96822

RE: Prince Kuhio Plaza
Draft Environmental Impact Statement

Dear Dr. Cox:

Thank you for your review and comments on the Draft Environmental Impact Statement which we prepared for the Prince Kuhio Plaza shopping center project. We note your comments on the economic impacts as presented in the draft document, quoting Dr. Don Reading. It would appear that the conclusions reached by Dr. Reading do not differ from the conclusions reached in the draft, specifically, that:

"All of the above impacts will occur over a one-to-five-year time period and would not be noticeable within the local economy because of the low relative number of basic jobs created, the current rate of unemployment and the general economic growth of the Hilo area."

We will include Dr. Reading's comments in their entirety in the revised EIS.

We recognize that the EIS procedure is intended for use as an objective appraisal of the potential impacts of a project. It has been a useful planning tool in preparing the groundwork for the project.

We appreciate your taking the time to review this document.

Sincerely,

Walt Southward

Walt Southward
Consultant to Redevco Properties, Inc.

WS:mj

cc: Ms Georgiana K. Padeken, Hawaiian Home Lands
Office of Environmental Quality Control

SUITE 1816, PACIFIC TRADE CENTER, 190 S. KING STREET HONOLULU, HAWAII 96813 (808) 531-3777

245 North Kukui Street, Honolulu, Hawaii 96817, Telephone (808) 537-5966

AMERICAN  LUNG ASSOCIATION *of Hawaii*

August 7, 1980

Department of Hawaiian Home Lands
550 Halekauwila Street
Honolulu, Hawaii 96813

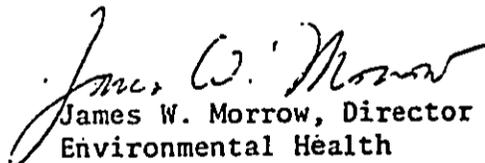
Gentlemen:

Subject: Prince Kuhio Plaza Shopping Center EIS

We have reviewed the subject EIS with particular attention to those sections pertaining to traffic and air quality impact. Generally, we found the analyses adequate and have only one specific comment to offer at this time.

As part of the Consultation Process, we suggested that the electrical energy demand of the shopping center should be considered in terms of the fuel oil required to meet that demand and the pollutant emissions resulting from the firing of that fuel oil. It is important to address the energy demand and concomitant pollutant emissions for projects of this magnitude.

Sincerely yours,


James W. Morrow, Director
Environmental Health

JWM;jm

cc: OEQC
Orchid Isle Group

AUG 11 9 51 AM '80

DEPT. OF HAWAIIAN
HOME LANDS


8/17/80

Christmas Seals Fight TB, Asthma, Emphysema, Air Pollution

REDEVCO PROPERTIES, INC.

August 20, 1980

Mr. James W. Morrow, Director
Environmental Health
American Lung Association
245 North Kukui Street
Honolulu, Hawaii 96817

RE: Prince Kuhio Plaza
Draft Environmental Impact Statement

Dear Mr. Morrow:

Submitted herewith is the response to the comment by the American Lung Association relative to the EIS for the Prince Kuhio Plaza Shopping Center Project: (Letter dated August 7, 1980).

COMMENT:

As part of the consultation process, we suggested that the electrical energy demand of the shopping center should be considered in terms of the fuel oil required to meet that demand and the pollutant emissions resulting from the firing of that fuel oil. It is important to address the energy demand and concomitant pollutant emissions for projects of this magnitude.

RESPONSE:

Electricity for the Big Island is produced by Hawaii Electric Light Co., Inc., (HELCO). In 1978, electricity sales totaled 393.5 million KWH. HELCO has a diverse network of sources feeding into its power grid. The Kanoelehua Power Plant, located closest to the project, is the major fixed source, but there is another plant located near Banyan Drive and a smaller plant located on the Wailuku River. About 30 percent of total output comes from plantation sources which feed power back onto the grid by burning bagasse in their own generating plants. When geothermal power becomes available (perhaps as early as 1981), it will also contribute to the total available generating capacity.

Mr. James W. Morrow
Page 2
August 20, 1980

It is estimated that the Prince Kuhio Plaza will require about 13.5 million KWH annually. This will require a 3.4 percent increase over present HELCO output. HELCO will no doubt meet this new demand in the most efficient manner possible, but it is difficult at this time to predict just what percentage of the increase will be provided by each power plant. It is likely that the use of fuel oil will be minimized since burning such fuel would probably be the most expensive way to meet the demand. For computation purposes, however, it is assumed that the total increase will be shared equally by the two fuel oil burning plants near Hilo. In that case, the maximum downwind sulfur dioxide concentrations from the larger of the two plants (Kanoelehua) would increase by about 5 percent, yielding a 24 hour concentration of 216 ug/m³.

In spite of the increased fuel burning the conclusions reached in the air quality analysis would remain unchanged in that worst case downwind concentrations of sulfur dioxide from the Kanoelehua Plant could be in excess of allowable State of Hawaii AQS, but such concentrations would still be well within all Federal AQS.

Thank you for your review of the EIS and your comments.

Sincerely,

Walt Southward

Walt Southward
Consultant to Redevco Properties, Inc.

WS:mj

cc: Ms Georgiana K. Padeken, Director
Hawaiian Home Lands

Office of Environmental Quality Control

A

REPORT ON THE PROPOSED
PRINCE KUHIO PLAZA SHOPPING CENTER

WASTEWATER TREATMENT PLANT

LOCATED AT

SOUTH HILO, HAWAII

TMK: 2-2-47:6 and Por. 01

AREA OF DEVELOPMENT = 35.614 ACRES

August, 1980

Prepared By: JHK Tanaka, Inc.
101 Silva Street
Hilo, Hawaii 96720

I. INTRODUCTION AND SERVICE AREA

The proposed Prince Kuhio Plaza, a regional shopping center, is to be located on a leased portion of Hawaiian Home Lands of Panaewa, Tract 1, Waiakea, South Hilo, Hawaii. More specifically, it is located at the northeast corner of Kanoelehua Avenue or State Highway 11 and East Puainako Street, a street under the County's jurisdiction. Development plan calls for the creation of two streets - Makaala Street extension and Ohuohu Street. The 38.9753 acres shopping center site, somewhat trapezoidal in shape, would be bounded by three streets and a highway when completed.

Of the total leased area of 38.9753 acres, the developed area, including buildings, asphaltic concrete pavement, landscaping and other ancillary uses, will be 35.614 acres. The remaining 2.5443 acres at the intersection of Puainako Street and Kanoelehua Avenue will remain as designated and left undeveloped, a drainage easement and an existing 0.817 acre planting easement will be heavily landscaped.

The gross area of the primary or mall building is 407,833 square feet or 9.363 acres. This building is almost centrally located and will house three large department stores, whose total area is over one half of the total building area, and numerous smaller tenants in the mall area.

The smaller tenants consist of jewelry, shoe, baby, book, clothing, floral, electronic, fast food, athletic, hobby, camera, and drug stores.

Also proposed are perimeter buildings at each of the four corners of the property. Planned uses are supermarket, financial institutions, service station and restaurant. The total area of the perimeter buildings is 77,100 square feet or 1.770 acres.

The remaining 24.481 acres will be devoted to parking, landscaping and building service areas.

CONTENTS

- I. Introduction and Service Area
- II. Summary and Conclusion
- III. Existing Public Sewer System
- IV. Sewage Flow Quantities
- V. Wastewater Treatment Plant
- VI. Effluent Disposal

APPENDIX A - Site Plan

APPENDIX B - Letter from Department of Water Supply

II. SUMMARY AND CONCLUSION

Based on discussions covered in further details in other sections of the report, the findings are summarized and concluded as follows.

1. That of the 38.9753 acres leased from the State Department of Hawaiian Home Lands, 9.363 acres would house the primary or mall buildings; 1.770 acres would contain the perimeter buildings; 24.481 acres would be for parking, access lanes, landscaping, building service areas and parking lot "islands"; 2.5443 acres would be left undeveloped and remain as designated, a drainage easement; and an 0.817 acre planting easement would be heavily landscaped.
2. That while it is possible to hook-up to two points of the existing public sewer system - at Kawili Street and Kilauea Avenue and Leilani Street and Kanoelehua Avenue, the cost to install a force main and a gravity line to meet County dedicable standards would be prohibitive. Both tie in points are approximately 0.9 mile from the project site.
3. That the average sewage flow quantity projected is 40,787 gpd.
4. That a packaged wastewater treatment plant utilizing aeration modification of the activated sludge process is proposed. The plant would be installed to meet the requirements of Chapter 38 of the State Department of Health's regulation.
5. Disposal of the treated sewage effluent would be by cesspools. Two cesspools would be provided thereby providing 100% backup facility as required by Chapter 38.

III. EXISTING PUBLIC SEWER SYSTEM

The nearest existing public sewer lines for possible connections are a 36-inch sewer at the intersection of Leilani Street and Kanoelehua Avenue and an 18-inch main at the Kawili Street-Kilauea Avenue intersection. Both possible hook-up points are approximately 0.9 mile from the project site and the capacities of the public Manono Street Pump Station and the Hilo Sewage Treatment Plant are more than adequate to handle the sewage flow from the proposed shopping center.

Cursory investigation reveals that pumping, a force main and a gravity main would be required to reach either points.

To connect to the 36-inch sewer at Leilani Street and Kanoelehua Avenue an approximate 3,000 lineal feet of force main is required within Kanoelehua Avenue and to connect to the 18-inch main, about 2,000 lineal feet is required within Puainako and Kilauea Streets. Thereafter, approximately and respectively, 1,800 and 2,800 lineal feet of gravity main would be needed within Kanoelehua Avenue and Kilauea Avenue.

If the Developer is to install a force main and a gravity main, according to County dedicable standards and subsequent maintenance, to reach either connection points the piping work alone would be prohibitive from a cost standpoint. Rough estimates of cost show that the force main and gravity sewer costs to hook-up to the Leilani Street and Kanoelehua Avenue connection point is \$886,000.00 and to that point at Kawili Street and Kilauea Avenue at \$598,000.00. To the above must be added the onsite lift station cost.

If, however, the Developer is allowed by the State and the County to install a force main and gravity line within their street rights-of-way to only serve his purpose and to install piping materials of his choice, the force main and gravity line costs would be substantially reduced whereby hook-up to the public sewer would be economically feasible.

IV. SEWAGE FLOW QUANTITIES

Since Table I and Section 4.3A(1) of Chapter 38 of the Public Health Regulations are not applicable in calculating sewage flow generated by a regional shopping center it was decided to analyze sewage flow quantity from a (1) domestic water consumption standpoint at an existing nearby shopping center, (2) present design practices, and (3) sewage flow measurement at the nearby shopping center, if arrangements could be made.

The nearby shopping center, Kaiko'o Mall, is much smaller in terms of total land area, 14 acres, and total building area, 190,000 square feet or 4.36 acres. However, there are certain similarities in the form of tenant usages, landscaped parking and perimeter areas and a central primary building with an enclosed air conditioned mall area.

The domestic water consumption information for the Kaiko'o Mall Shopping Center, as recorded by four meters for a one year period from December 20, 1978 to December 18, 1979, were obtained from the Department of Water Supply and is as tabulated below.

<u>METER NOS. AND CONSUMPTION IN GALS.</u>				
<u>PERIOD</u>	<u>28-7035</u>	<u>28-7055</u>	<u>28-7075</u>	<u>28-7080</u>
12/29/78 - 2/22/79	315,000	206,000	322,000	177,000
2/22/79 - 4/23/79	240,000	197,000	357,000	162,000
4/23/79 - 6/21/79	258,000	210,000	511,000	160,000
6/21/79 - 8/24/79	348,000	238,000	1,028,000	184,000
8/24/79 - 10/24/79	310,000	225,000	280,000	142,000
10/24/79 - 12/18/79	295,000	206,000	201,000	168,000
TOTALS FOR YEAR	1,766,000	1,282,000	2,699,000	993,000

The total consumption for the one year period as recorded by the four meters was 6,740,000 gallons or 18,466 gpd for a gross building area of 190,000 square feet or 0.097 gpd per square feet of gross building area.

Using this rationale to arrive at the average flow quantity for the Prince Kuhio Plaza Wastewater Treatment Plant, the daily flow quantity per square feet arrived above was multiplied by 407,833 square feet for the primary building and by 77,100 square feet for the perimeter buildings.

For the Prince Kuhio Plaza Shopping Center, the anticipated domestic water consumption could then be visualized as:

PRIMARY BUILDING - 407,833 SQUARE FEET OR 9.363 ACRES (GROSS)

39,637 gallons per day
14,467,339 gallons per year

PERIMETER BUILDINGS - 77,100 SQUARE FEET OR 1.770 ACRES (GROSS)

7,479 gallons per day
2,729,726 gallons per year

or a total of 47,116 gpd or 17,197,065 gallons per year.

Considering factors such as watering of plantings, wash down of pavement and other surfaces, service station uses, drinking and other uses where consumption will not end in the sanitary system, a contribution percentage of 75% was arrived at. At 75% the average flow quantity is:

$$75\% \text{ of } 47,116 = 35,337 \text{ gpd}$$

Present design practices use flow quantities for commercial areas ranging from 2,400 gpd/acre to 4,500 gpd/acre of developed area. Based on these criterion, the average flow quantities for Prince Kuhio Plaza would range from 85,474 gpd to 160,263 gpd, which are quantities greatly exceeding the 47,116 gpd domestic water consumption arrived at above. While it is recognized that infiltration is included, the end result is considered unrealistic.

If, however, the criterion was made to apply to the total gross building area, or 9.363 plus 1.770 acres, the results are:

$$2,400 \text{ gpd/acre} \times 11.133 = 26,719 \text{ gpd}$$

$$4,500 \text{ gpd/acre} \times 11.133 = 50,099 \text{ gpd}$$

or

an average of 38,409 gpd

The average quantity compares favorably to that by the percentage of domestic water consumption method.

Other design practice criteria is 0.10 gpd per square foot of floor space which unit flow quantity coincidentally approximates the Kaiko'o Mall Shopping Center water demand for period 12/20/78 to 12/18/79. For a total leaseable area of 432,866 square feet, the average flow quantity is 43,287 gpd and for a total gross area of 484,933 square feet, the average flow quantity is 48,493 gpd.

Arrangements could not be made to measure the sewage flows at Kaiko'o Mall.

Based on the foregoing analysis, the anticipated average flow quantities may be summarized as follows:

1. Based on an existing nearby shopping center domestic water consumption:
 - a. At 100% contribution 47,116 gpd
 - b. At 75% contribution 35,337 gpd
2. Based on present practices:
 - a. At 2,400 gpd/acre (developed area) 85,474 gpd
 - b. At 2,400 gpd/acre (gross building area) 26,719 gpd
 - c. At 4,500 gpd/acre (developed area) 160,263 gpd
 - d. At 4,500 gpd/acre (gross building area) 50,099 gpd
 - e. At 0.10 gpd/sq.ft. of leaseable floor area 43,287 gpd
 - f. At 0.10 gpd/sq.ft. of gross building area 48,493 gpd

As summarized above, under 2, the quantities vary greatly from a low of 26,719 gpd to a high of 160,263 gpd and an average of 82,867 gpd which amount greatly exceeds the anticipated domestic water demand.

If, however, methods 2a and 2c were eliminated, the average of methods 1b, 2b, 2d, 2e and 2f is 40,787 gpd or 87% of the water demand, an amount which is realistic.

VI. EFFLUENT DISPOSAL

The proposed wastewater treatment plant and the treated effluent disposal facilities are to be located approximately 1.6 miles from the Hawaii County Department of Water Supply's Panaewa deep well domestic water source.

Preliminary disposal consideration leaned toward injection wells. However, after discussions with the Department of Water Supply, see Appendix B, it is proposed to dispose the treated effluent by the common method of cesspools located near the plant.

Two - 6 feet diameter cesspools will be provided to meet the 100 percent back-up requirements of Chapter 38. Minimum depths will be 20 feet or shallower if a lava tube of sufficient capacity is met during excavation.

V. WASTEWATER TREATMENT PLANT

A packaged treatment plant utilizing aeration modification of the activated sludge process is proposed. The treatment process would include a grease interceptor, aeration tanks, settling tanks and a chlorine contact chamber.

Flows to the plant from the Center would be hopefully by gravity and hopefully again the plant could be located in a landscaped island. The plant is planned to be exposed; the plant perimeter be secured by chain link fence or by other aesthetically pleasant but secure enclosure material; and the plant perimeter be appropriately landscaped to hide the visibility of a wastewater treatment plant.

As for odor, it has been experienced that the exposed type of packaged treatment unit emits hardly any odor. A very good example is the unit in operation along the main access road to General Lyman Airport where the unit is located roughly 450 lineal feet northeasterly from the airport terminal.

At the proposed Prince Kuhio Plaza, the plant is proposed to be located roughly 170 lineal feet away from the closest building line of the mall and northeasterly downwind of the mall. A perimeter building would be located roughly 400 lineal feet south of the proposed plant site.



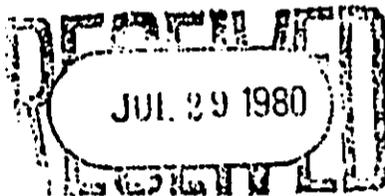
DEPARTMENT OF WATER SUPPLY • COUNTY OF HAWAII

P. O. BOX 1820

HILO, HAWAII 96720

25 AUPUNI STREET

July 28, 1980

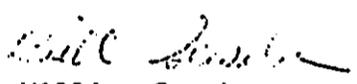


Mr. Hajime Tanaka
JHK Tanaka, Inc.
101 Silva Street
Hilo, HI 96720

REDEVCO SEWER DISPOSAL SYSTEM

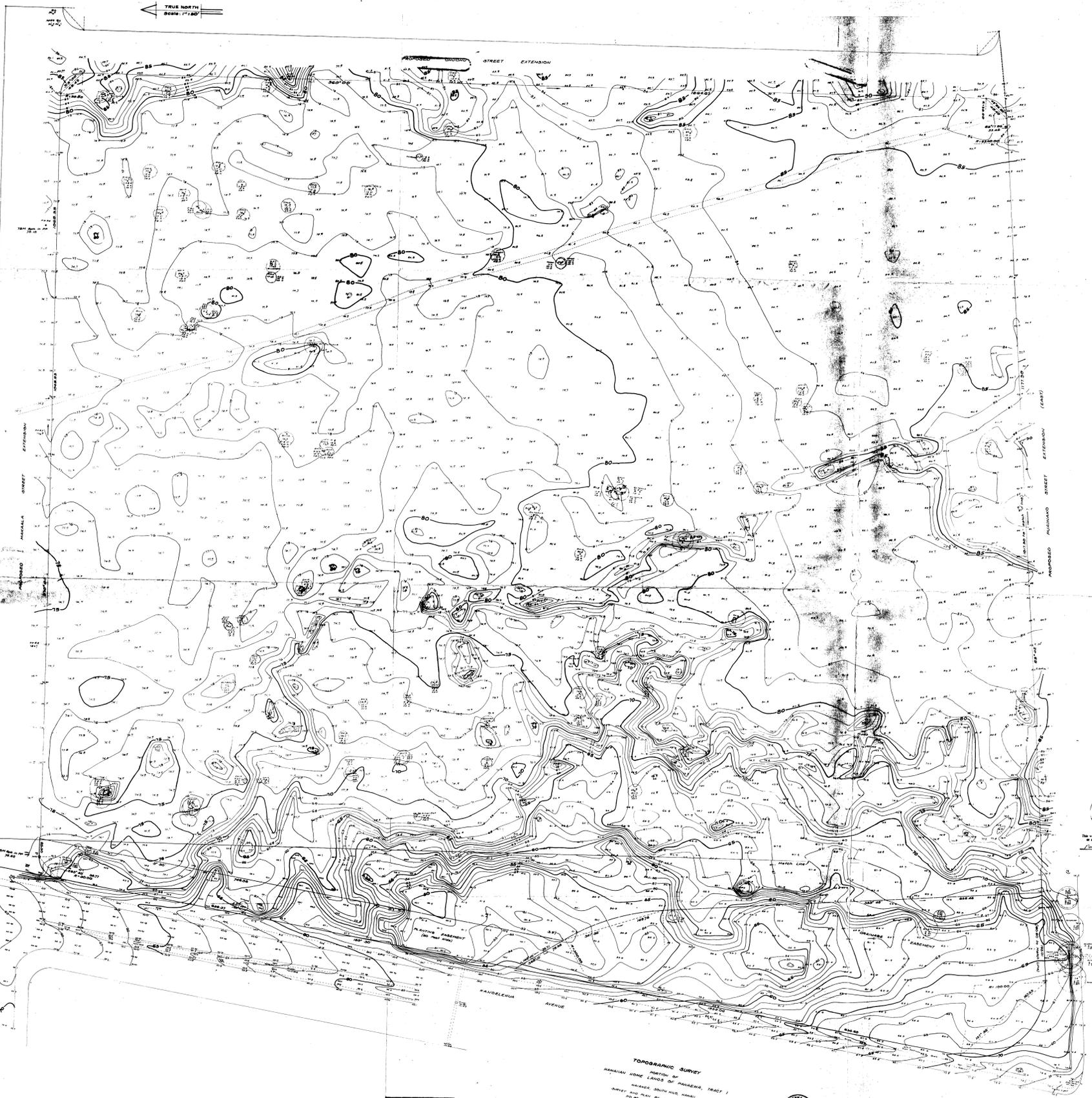
This is to confirm our discussion regarding the sewer disposal system for the Redevco Shopping Center. We have no objections to cesspools being used as a disposal system inasmuch as the proposed shopping center is one mile away from and makai of our Panaewa Wells. Similar disposal systems near the Redevco area evidently have no effect on our Panaewa well field.

On the matter of cesspools versus deep well disposal of sewer, we prefer cesspools since the deep well will bring the sewer closer in elevation to the groundwater.


H. William Sewake
Manager

APPENDIX B

... *Water brings progress* ...



98-014