

Office Of Environmental Quality Control
Office Of The Governor
550 Hahaione Street
Tani Office Building, Third Floor
Honolulu, Hawaii 96813

REVISED ENVIRONMENTAL IMPACT STATEMENT

for the proposed

GENTRY-WAPIO

Waipio, Oahu

DECEMBER 1976

0A

135

Office Of Environmental Quality Control
Office Of The Governor
550 Halekauwila Street
Tani Office Building, Third Floor
Honolulu, Hawaii 96813

December 21, 1976



Gentry Pacific

P.O. Box 295
Honolulu, Hawaii 96809
phone 531-8491

Mr. George Moriguchi, Director
Department of Land Utilization
City & County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Re: Revised Environmental Impact Statement for the Proposed Gentry-Waipio Project, Waipio, Ewa District, Oahu

Dear Mr. Moriguchi:


Enclosed, please find five (5) copies of the Revised Environmental Impact Statement for the proposed Gentry-Waipio project. Twenty (20) copies of this Revised E.I.S., document will also be submitted concurrently to the Environmental Quality Commission for their processing.

The E.I.S., review period, ending December 8, 1976, produced 25 letters commenting on the E.I.S. Of that number, 21 letters required responses. In compliance with the "Environmental Impact Statement Regulations," we have incorporated both a copy of the comments, and our response within Section XIV. Significant comments related to the following subjects: traffic, agricultural assessment, planning, housing, sewage treatment, water and air quality. Each comment was reviewed, evaluated and where appropriate, an item by item response was provided. Our response included input by the technical and engineering consultants when applicable and corrections to the E.I.S., are indicated on specific pages identified by the word (Revised) next to the page number.

Since the preparation of the E.I.S., (November, 1976) we have not made any significant changes to the project scope, thus, the description of the proposed action has not been modified. We have progressed in resolving the interim sewage treatment requirements, clarified traffic and air quality considerations, updated the property's relationship to the current draft of the New General Plan; and provided additional information of the housing market. The status of these items are included in the Revised E.I.S.

We trust that our responses and modifications meet with your approval, and appreciate the cooperation and assistance extended to this project from your office.

Very truly yours,



Norman Dyer
Vice President
Project Director

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NOTE: Figure 10, Gentry-Waipio Soils, has been deleted, reference should be made instead, to page X-12.

LIST OF REVISED PAGES

The following pages have been revised or added to the Revised EIS for Gentry-Waipio (dated November, 1976):

i, ii, iii, iv, v, vi, vii, viii, ix, x xi, 1-7, 1-7a, 1-25, 1-25a, 1-25b, 1-25c, 1-26, 1-27, 1-28, 1-31, 1-32, 11-3, 11-5, 11-16, 11-31, IV-1, IV-2, IX-1, X-23a.

The following pages have been deleted from the EIS;

11-4, 111-2, 111-3, 111-4, IX-2, X-35, X-36, X-37.

ERRATA SHEET

Page

- I-1 Title should read: I. PROJECT DESCRIPTION instead of II. PROJECT DESCRIPTION.
- II-13 Title should read: ESTIMATED 1986 PEAK ONE-HOUR CARBON MONOXIDE CONCENTRATIONS (mg/m³) WITHIN OR NEAR THE PROPOSED GENTRY-PROJECTA (change is made to the incorrect mg/M³, in the table's title).
- II-19 Last line in the first paragraph should read: "...both direction will total only 2,960." Instead of "one direction will total only 2,960."
- Fifth paragraph, the beginning of the first sentence should read: "If Kamehameha Highway is not improved to a four-lane highway, but remains a basic two-lane highway with the center lane reserved...."
- XI-3 Third name from top should read: Christopher Cobb, instead of Christopher Cob.

PREFACE

The Revised Environmental Impact Statement (EIS) for the proposed Gentry-Waipio project was prepared to comply with the environmental impact statement process as stated in the State's Environmental Quality Commission's "Environmental Impact Statement Regulations". An Environmental Impact Statement is defined as:

... an informational document prepared in compliance with Chapter 343, Hawaii Revised Statutes, applicable rules, and these Regulations, and which discloses: the environmental effects of a proposed action, the effects of the economic and social welfare of the community and State, the effects of the economic activities arising out of the proposed action, the measures proposed to minimize adverse effects, and the alternatives to the action and their environmental effects.

The EIS and this Revised EIS are being processed as an applicant action with the Department of Land Utilization, City and County of Honolulu.

The Environmental Impact Statement was prepared during the month of October, 1976, for the applicant, Gentry-Pacific, Ltd. This Revised EIS was prepared during December 8 through 22, 1976. Both the EIS and Revised EIS was prepared by Environmental Communications, Inc.

During the preparation of the EIS and Revised EIS, information relating to the physical environmental and socioeconomic aspects was obtained through technical reports specifically prepared for this project, discussions with the technical and engineering consultants, and correspondence received from various governmental agencies. The technical reports prepared for this project include:¹

"A Preliminary Survey of the Plant Materials in Panakauahi Gulch", prepared by Paul R. Weissich, A.S.L.A. (Landscape Architect). September, 1973.

"Agricultural Assessment." prepared by George Myers and Oscar A. Lorenz. September, 1974.

¹ Because some of the technical reports were prepared between nine and 30 months ago, the project scope as described in some reports may differ. Earlier plans proposed more residential units than presently being considered. Additionally, acreage figures may differ. However, because in all cases a slightly larger figure or area was used, it is felt that these technical reports are viable and can be accurately used to discuss the impact of Gentry-Waipio.

"A Comparative Analysis of Agricultural Soils", prepared by George Myers and Oscar A. Lorenz. September, 1974.

"Master Plan List for Tree Program", prepared by Paul R. Weissich. April 27, 1975

"Traffic Impact Statement for Gentry-Pacific, Waipio Development", prepared by Henry Tuck Au, Consulting Engineer, Revised August, 1976.

"Surface Water Runoff and Water Considerations for the Gentry-Waipio Project near Pearl Harbor, Oahu, Hawaii", prepared by Michael J. Chun, Ph.D. and Gordon L. Dugan, Ph.D. October 3, 1974.

"A Species List of the Birds, Insects, and Mammals of Panakauahi Gulch, Oahu, Hawaii", prepared by Thomas F. Sourisseau. November, 1973.

"Survey of Demand & Availability of Industrial Space in Selected Areas of Oahu", prepared by Loren Peiterson. December, 1973.

"Carbon Monoxide Impact Analysis for the Gentry-Waipio Project, Waipio, Oahu, Hawaii", prepared by Barry Root, M.A., M.P.H., Air Pollution Consultant. November 1, 1976.

Additionally, the documents entitled, "General Plan Amendment, City and County of Honolulu: Gentry-Waipio", (December, 1975), and "Rezoning Application - Gentry-Waipio", (August, 1976) both prepared by Norman Dyer, A.I.A. & Associates, provides the basis for the project description and objectives sections in this Revised EIS.

These technical reports provide detailed information on the existing environmental setting and analyzes probable impacts, therefore, no attempt was made in the EIS to extensively restate the materials found in each report. Instead, emphasis in this EIS was placed on reviewing the findings of each report and identifying singular, combined, and cumulative impacts on the local and regional environment.

All the technical and support documents mentioned above have been filed with the Office of Environmental Quality Control (2 sets). They will be available at the Office (located at 550 Halekaiwila Street, Room 301, phone 548-6915). Should the reviewer find the need for additional materials or information, Environmental Communications, Inc., (521-8391) should be contacted.

SUMMARY

The Gentry-Waipio project proposes to develop a multi-functional community on 510 acres of land at Waipio, Ewa District, Oahu. A major part of the Gentry-Waipio plan is the construction of 3,700 housing units (different types, densities and prices). The Gentry-Waipio plan also calls for the development of 120 acres for light industrial uses. Other land uses will include a commercial area, a school, community and district parks, open space and rights-of-way. The proposed Gentry-Waipio Community is anticipated to be developed incrementally over an eight (8) year period.

The proposed site is located north of the Crestview subdivision and bounded by Kamehameha Highway, Mililani Memorial Road and the H-2 Freeway, one mile from the Waiawa Interchange.

The project site is presently vacant. Agricultural use was discontinued by Castle and Cooke in 1968 and 1970 (2 land parcels). The land was initially planted in sugar cane until 1950, when the property was purchased by Hawaiian Pineapple Company (later Dole Company) and pineapple was grown. Since 1972, the property has been owned by Tom Gentry and Gentry-Pacific, Ltd.

During the State's Land Use Commission (LUC) second five-year boundary review, the present property owners requested that the LUC change the agricultural land use designation to urban. On December 20, 1974, the Land Use Commission redesignated a total of 536 acres urban. The 1964 General Plan for the City and County of Honolulu designated the property Agriculture. Ordinance No. 4619, 4620, effective August 11, 1976, changed the General Plan/Detailed Land Use Map (DLUM) designation to a variety of urban uses. The present zoning of the 510-acre project site is Agriculture 1.

Supportive facilities for the community, such as infrastructures, internal and access roadways, utilities, recreational and community meeting areas, will be provided as part of the Gentry-Waipio plan. When a County or State agency assumes the cost of providing some facilities to specifically serve the Gentry-Waipio community, the developer is normally assessed a pro-rated share of the construction costs.

Economic impact will be in form of direct and indirect income generated by the proposal (individual, community, and businesses), effects on employment and the labor force (the light-industrial park will employ an estimated 3,000 persons; construction workers will also be employed via the various contractors over the 8+ year implementation schedule), property taxes, governmental expenditures especially in the area of operational and personnel costs needed to support the project. In the long-term view, the proposal could be expected to foster economic growth in the surrounding community.

Social impact will occur. There will be increased demands on community facilities and services (i.e. police and fire protection, water, electricity).

Educational and recreational facilities will be provided. Land use will be significantly altered from its present vacant and past uses (agriculture). The population distribution pattern for the Ewa District will be altered to a variety of urban uses. New social and economic patterns and relationships will be developed within the community (including Crestview/Seaview), as well as relationships of the community with the existing urban center (Waipahu). Impact on traffic will also occur. The proposed project could also directly and indirectly affect the land use or population growth in the adjacent areas.

There will also be a wide range of physical environmental effects. Air quality would be affected by increase in air emissions (construction oriented point sources for the short-term, but vehicular emissions in the long-term). Water quality could be affected in a variety of forms, both short-term and long-term: erosion and siltation during construction; urban surface run-off affecting the waters of Pearl Harbor. From an individual standpoint, there will be a loss of open space and alterations to the visual landscape.

witnessed a tremendous growth in the last decade. In 1960, the population was 79,000; in 1970, the population was 132,000 for a 67% increase over ten years. More recently the July 1974 population estimate of the Ewa District was 157,500, a 19% increase in population over 1970, with an average increase of 6,000 to 7,000 residents per year. This District has the greatest percentage of increase growth on the island of Oahu. Continued growth of the Ewa District is anticipated due to the historical path of urbanization on Oahu, the planned residential proposals, the convenient accessibility to this area, and the extensive CIP scheduled for Leeward Oahu. (H-2, Honouliuli STP, Mililani High School and others.)

Based on the projected population increases including the Department of General Planning, City and County of Honolulu, it has been estimated that 3,300 to 4,300 new housing units are required between 1970 and 1985 (see Table 2, Housing Demand - Ewa District). The Gentry-Waipio plan anticipated providing 15% of that requirement.

Moreover, several Statewide and County housing studies show the need for housing prices which are within the range of the moderate income families.¹ In 1970, the U.S. Census classified 36,155 families on Oahu as those having moderate income. Some moderate income families can afford housing up to \$55,000 in price but, unfortunately, some probably cannot afford or qualify for \$25,000 mortgages. Based on 1975 costs, the Gentry-Waipio development is expected to provide 25% of the total housing units priced from \$40,000 to \$50,000.² Housing prices can be further reduced if governmental assistance is provided.

Another critical need to be considered is housing for the elderly.³ In 1970, there were 31,385 persons in this category representing 5% of the Oahu population. The State Commission on Aging estimates (as of June, 1975) that an additional 1,400 to 1,600 housing units are needed on Oahu to house retired, elderly people. Based on elderly income data, this requirement can be included in the moderate income category. However, details such as size, location, access and other physical requirements create a separate housing type. The Hawaii Housing Authority recommends one-story studio or one bedroom units with less parking requirements compared to family housing units. The Gentry-Waipio development proposes a total of 90 dwelling units for the elderly.

¹ The Hawaii Housing Authority defines moderate income families as those whose incomes in 1973 were \$12,000 to \$20,000 which are equivalent to the category of \$10,000 to \$15,000 of 1969 income.

² At this time governmental housing assistance is proposed (see paragraph below); however, no commitments from housing assistance agencies have been finalized.

³ The State Commission on Aging defines the elderly as those who are over 60 years of age and the retired elderly who are over 65 years who aren't gainfully employed. Comprehensive Master Plan for the Elderly, prepared by Gordon Associates, Inc., for the State Commission on Aging, State of Hawaii, December, 1974, P.V.

Status of Possible Governmental Subsidy Programs. The City Department of Housing and Community Development at the time of the General Plan Amendment (February-August, 1976) indicated that they had no interest in the project; the Hawaii Housing Authority has indicated that they continue to have interest in participating in the project and the Federal Department of Housing and Urban Development are currently preparing an Environmental Impact Statement (for HUD, P.L. 91-190 requirement) as the basis for issuing insurance for long term mortgages under the Federal Housing Administration and to be able to qualify the project for Federal subsidy programs such as Act 235 (Revised) and 221-D-3.

The Board of Water Supply has given their preliminary approval (in principle) to the development¹ of new wells within the project area and the location of the reservoir. The Board of Water Supply's most recent letter (relating to the EIS, see p. XI-15) also indicated that procedures call for a water master plan to be submitted for review and approval. (This will be complied with by the engineering consultants, Community Planning, Inc. and William Hee and Associates, Inc.)

The existing reservoir near the center of the project area will continue to serve the Crestview/Seaview subdivision.

The Gentry-Waipio project is included in the capacity for the proposed Honouliuli Sewage Treatment (completion date - early 1980). As stated by the Department of Public Works, see their letter of September 10, 1976 on p. XI-70:

"The proposed development is within the tributary areas of the proposed Honouliuli sewer system. As of this date, no component of the system has been completed although construction contracts for the ocean outfall sewer, the modification of the Waipahu pump station, and the preliminary treatment facility of the Honouliuli wastewater treatment plant (WWTP) have been awarded. The proposed treatment, disposal and interceptor sewer systems will be adequate to serve the proposed development; however, the anticipated completion date is early 1980, assuming that Federal, State and local funds will be or become available."

For the interim period, the retained engineering firm, Park Engineering, Inc. has reported that the plan is to provide onsite sewage treatment (minimum secondary treatment) and transport the effluent to the Waipio Peninsula, Makalena Golf Course for irrigational use.

Negotiations are proceeding between the applicant (through Park Engineering) to achieve concurrence with the Department of Parks and Recreation and the Department of Public Works for the treatment and disposal of sewage effluent from approximately 1,600 units comprising the Phase I development (the interim sewage treatment proposal).

The applicant would pay for all onsite improvements as well as the transmission lines and forced pump station. The capacity of the onsite interim treatment plant will be 500,000 gpd which would be in operation only till the Honouliuli Wastewater Treatment Plant is completed. After the sewage has been diverted to Honouliuli, the interim facilities will be removed from the project.

Other items relating to the interim sewage facilities are noted below:

- (1) The Makalena Golf Course would be using 400,000 gpd for irrigation. If a total of 500,000 gpd treated effluent is required to be treated before the Honouliuli Facility is operating, the excess 100,000 gpd effluent would be stored in an existing reservoir (approximately 7 million gallon capacity) within the project site and will be used

¹ Letter from the Board of Water Supply to William Hee and Associates, Inc., dated May 16, 1972.

for irrigating the undeveloped areas. The development will be constructed incrementally, therefore, we do not anticipate the flow to reach 500,000 gpd until mid-1981, based on occupancy schedule. The sewage from Gentry-Waipio will be diverted to Honouliuli Wastewater Treatment Plant which is scheduled to be completed in 1980.

- (2) The existing ponds within the golf course has a capacity of 4 plus million gallons and with an available storage of 3 million gallons during rain-storms which is sufficient for over one week of storage.
- (3) The liquid will be chlorinated effluent that has been given secondary treatment and will not create any odor or algae problem.
- (4) The onsite sewerage treatment plant would be located in the vicinity shown in Figure 8a, Proposed Location - Interim Sewage Treatment Plant, page 1-25c.
- (5) Some other effluent disposal methods that were investigated for the interim period were:
 - (a) Subsurface disposal - Restriction imposed by the Board of Water Supply. Subsurface disposal will not be permitted within the immediate vicinity of the project site. Deep injection well close to the existing Waipahu Pump Station site is subject to review after subsurface investigation (boring). Shallow disposal wells will be permitted within this area but because of the anticipated soil formation (tight alluvium) chances of success would be slim.
 - (b) Irrigation of the project site - treated effluent would be stored in an existing reservoir within the project site and the effluent would be used to irrigate to undeveloped portion of the project.
 - (c) Restrictions imposed by the Department of Health as to the effluent quality discharging into streams and near shore waters.
- (6) Interim Sewage Treatment and Disposal Facilities

There are two alternative solutions for the interim sewage treatment and disposal facilities to handle the initial requirement of 0.50 mgd.

(a) Modification of the Existing Waipahu Stabilization Ponds

The various methods to upgrade the existing facilities to handle the additional flow from the project considered were:

- Primary sedimentation
- Secondary treatment by activated sludge a portion of the in-sewer
- Post treatment by chemical coagulation accompanied by sludge dewatering
- Post treatment with mechanical filtration

After coordinating our effort with the Division of Sewers and the Department of Health, the chemical coagulation method appears to be technically feasible.

- (b) Temporary "Factory Built" Secondary Treatment Plant with the Effluent Reclaimed for Golf Course Irrigation

From our discussions with the Department of Public Works and the Department of Parks and Recreation, locating the treatment facilities within the Gentry-Waipio project site appears to be the most feasible.

Effluent from the treatment plant will be reclaimed to irrigate the Ted Makalena Golf Course. The Department of Parks and Recreation have indicated that they are receptive in accepting the effluent.

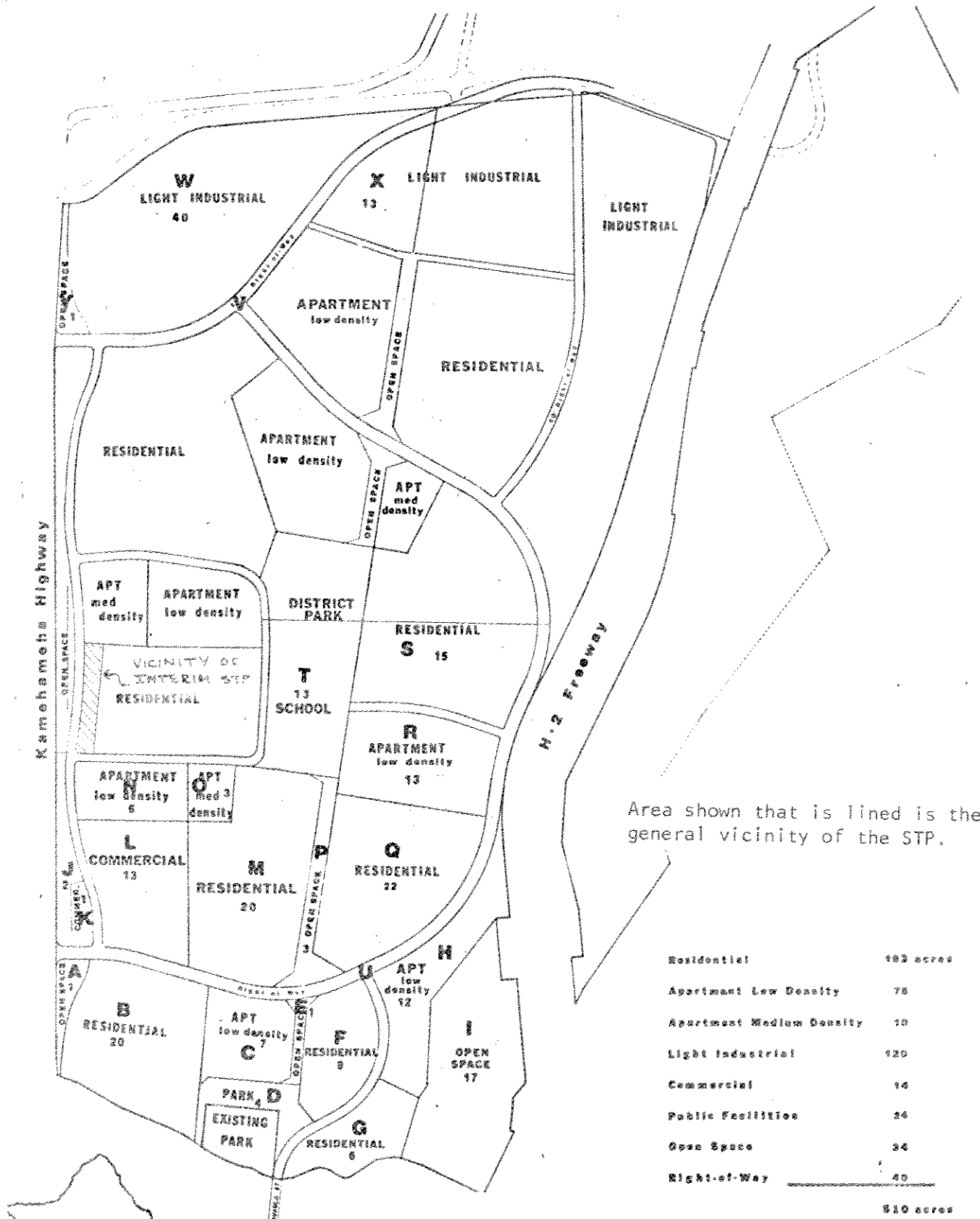


FIGURE 8a

PROJECT LOCATION - INTERIM
SEWAGE TREATMENT PLANT

DETAILED LAND USE MAP

Solid Waste. The total residential development will generate approximately 45 tons of solid waste per day when completed.¹ At this time, it has not been determined whether the City's Department of Public Works (Refuse Division) will collect and dispose of the solid waste or whether a private commercial collection company is required. The types of services required will be determined for each neighborhood and land uses (i.e. residential, light industrial park, shopping center).

Comment from the Department of Public Works relating to refuse collection² was received during the consultation period prior to the preparation of this EIS. Their response stated: "Refuse collection will be provided from the Pearl City Corporation Yard. Refuse will be hauled to the Waipahu Incinerator for final disposal. Two additional refuse collection crews will be required to serve the completed development at an annual cost of \$103,000."

Refuse generated by non-residential sources will be serviced by private refuse collection companies that normally provide these services. Those condominium projects with density rates exceeding the service levels normally met by the City refuse service, will also be covered by private collectors.

Electricity. The Hawaiian Electric Company has extensive electrical capacity on and adjacent to the subject property. Two 45 KVA transmission lines pass over the property in a north-south direction serving the Mililani and the upper Kipapa substations. While the size of the overhead line presently transversing the property precludes it being placed underground, it can be relocated to a less obvious place and still serve its intended use. The proposed development will require one substation taking an area of about 100 feet x 135 feet.

During the consultation period prior to the preparation of this EIS, the Hawaiian Electric Company was contacted and provided the following information³ to be included in the EIS:

- "1. Overhead 44 kv transmission lines will exist in the area. The 44 kv circuits may also have 12 kv circuits on the same pole lines. The existing circuits in the area will be relocated either totally or in part to new alignments which yet have to be agreed to by all parties concerned.
2. A 44 kv to 12 kv substation will be required to be installed to serve the area. The exact site is still under consideration. However, a proposed location is at the mauka end of the property. A HECO standard substation design will be employed. The specific configuration of the substation has yet to be determined.
3. The 12 kv electrical distribution system for the proposed housing in this area will be underground as required by City & County ordinances. This will also include underground services."

¹ On the basis that 7.8 pounds per person per day is the present per capita generation of urban waste on Oahu. Solid Waste Management Plan for City and County of Honolulu, Metcalf and Eddy, Inc., July 1971, page 7.

² Letter from the Department of Public Works, City and County of Honolulu, to Environmental Communications, Inc., dated September 10, 1976, see p. XI-70.

³ Letter from the Hawaiian Electric Company, Inc., to Environmental Communications, Inc., dated September 20, 1976, see p. XI-31.

Gas. There are no gas transmission lines for residential uses on the property. However, Gasco has a line going north along the east side of Kamehameha Highway serving Crestview and Seaview. Gasco also indicated that there is sufficient capacity to meet the future projected uses by the Gentry-Waipio residents and other tenants.

Telephone. Telephone service will be provided through a new feeder cable from the Waipahu Central Office when required. The development of the property will not affect a section of the Trans-Pacific cable which bisects the property and is buried 5 to 6 feet underground.

Public Elementary School. Based on the recommendation of the State's Department of Education, the Gentry-Waipio project will include as part of their plan an interim school (using the shell of residential buildings which will later be converted back to housing use) near Crestview Park. A permanent (6 acre) elementary school site has been reserved near the center of the project.¹ The interim and permanent elementary schools are anticipated to serve both the Gentry-Waipio development and the existing Crestview/Seaview subdivision; reducing the impact of the project on existing schools.

The current and projected status of the Waipahu Intermediate and High School facilities are adequate for these age groups. See letters from the State Department of Education to Norman Dyer, A.I.A., & Associates, dated April 22, 1975 and April 23, 1976 on PP. X-14 through X-17.

Recreational Areas and Facilities. Based on the projected population (11,500) of the residential development, the Department of Parks and Recreation recommended² that the project include a Community and District park. The developer has agreed to establish a 14-acre District Park and expand the existing 4-acre Crestview park to an 8-acre community park. The District Park site is centrally located within the overall project. The proposed District Park will serve an area 4 to 5 times larger than a community park and includes "structured" recreational facilities such as the sport fields for baseball, football and soccer; courts for tennis, basketball, volleyball; children's playground; gymnasium for supervised indoor activities; community swimming pool and parking. The existing 4-acre Crestview Park will be expanded to an 8-acre community park and will accommodate a multi-purpose building, tennis and basketball courts, in addition to two baseball fields. The Department of Parks and Recreation will be responsible for the development and maintenance of these facilities.

In addition to these proposed parks, a greenway system is planned which will provide the major pedestrian circulation system and define and connect the neighborhoods. These areas are planned for more casual activities and passive uses such as kickball, jogging, bicycling, etc. To maintain these

¹ According to the Department of Education letter to Norman Dyer, A.I.A., & Associates, dated April 22, 1975: "The exact location will require a site selection study by the Department of Accounting and General Services. Your proposal to designate a site immediately makai of the future regional park is acceptable; however, the site must be considered tentative until a site study is completed."

² Correspondence from the Department of Parks and Recreation to Gentry-Pacific, dated April 14, 1975.

semi-private areas, a Waipio Community Association will be established as a non-profit organization. Once totally developed, it is estimated that each homeowner will pay annually \$50 and commercial and industrial owners will pay \$500 per acre per year for the complete maintenance program.

The Department of Parks and Recreation, City and County of Honolulu, was contacted during the consultation period prior to preparing the EIS. Their response (p. XI-22) indicated that they find the project "generally acceptable". In respect to the proposed recreational plans for this project, they stated: "The recreation plan to establish a community park, district park, greenway system, and small recreational areas throughout the project is in conformance with the recommendations made by our Department."

The applicant fully intends to comply with the Park Dedication Ordinance #4621 and any revisions thereto. It should be noted that the amount of open space that is being proposed in the rezoning application and the overall plan for the project is being approximately double the current requirement of the Park Dedication Ordinance.

Pre-schools. Anticipating the need for pre-schools and day care centers, the first increment of the Gentry-Waipio development incorporates two sites reserved for pre-schools.

Retail and Service Commercial Facilities. At the lower thoroughfare intersection with Kamehameha Highway, a fourteen acre neighborhood shopping center is planned to be developed during the first phase. (See Figure 8, Community Facilities, p. I-24). This center is located for convenient vehicular access. The initial phase of the neighborhood shopping center will include a supermarket, drug store, smaller shops and office facilities. As the area matures, plans allow for a small department store plus additional shops.

A service station is proposed next to Kamehameha Highway. The service station will only sell gas and oil without a car maintenance and servicing area (to be located at the shopping center).

C. DESCRIPTION OF INCREMENT I

A development plan has been completed for Phase I, which will encompass the lower one-third of the project property (next to Crestview). A variety of housing types, community and institutional facilities are planned in this first increment. Specifically, plans include:

Housing:

Single Family - Single family detached housing is located in five subdivisions.

GentryPlan - Located in two areas; one area utilizes public rights-of-way, and the other is designed for private streets with parking separated from the unit.

Duplex - "zero side" yard design. There are three duplex locations. The units immediately adjacent to Crestview will be one story in order to preserve the rear yard privacy of the existing homes. Units near the interim elementary school are planned for government subsidized "moderate income" housing.

Low-rise Condominium - Proposed in the area overlooking Panakauahi Gulch towards Diamond Head are two and three story structures with living area oriented to maximize the views. The units mauka of the shopping center are

Based on 1975 costs, the Gentry-Waipio development is expected to provide 25% of the total housing units priced from \$40,000 to \$55,000. As the project progresses request for governmental (State and Federal) funds or assistance is likely to be pursued in order to provide this moderate income housing. The developer has made a commitment to provide a total of 10% of the residential land at cost to responsible government agency(s) for their subsidized or housing assistance programs that do not compete with open "market" development. Included are planned units for the elderly who will also be likely to require governmental assistance in some form.

F. HISTORIC PERSPECTIVE

John Ii, as a result of the Great Mahele (1848) acquired substantial land holdings in the Waipio area on Oahu. Upon his death, 1878, the estate controlled in excess of 16,000 acres.

In the early 1900's, the land was leased to Oahu Sugar Company and was planted in sugar cane. The property was purchased (1950) by the Hawaiian Pineapple Company and at that time was converted to pineapple.

Dole (the successor company) discontinued any new planting on the subject property in 1968 and 1970 (2 separate parcels) prior to the sale of the land. As a condition of the sale, all surface water rights to the Waiahole Irrigation System were discontinued.

Since 1972, the property has been owned by Tom Gentry and Gentry-Pacific, Ltd. During the State's Land Use Commission (LUC) 5 year boundary review, LUC was petitioned by the property owners to change the State agricultural designation to urban. This petition required the preparation of various support documents and received public review and hearing. On December 20, 1974, the Land Use Commission redesignated a total of 536 acres¹ to urban.

To continue the necessary land use approvals, the City Council, at the request of the landowner,² initiated earlier this year, an application to amend the General Plan/Detailed Land Use Map of the City and County of Honolulu from agriculture to a variety of urban uses. The General Plan amendment was passed³ by the City Council (Ordinance Nos. 4619 and 4620, see Appendix A).

In order to continue to obtain the necessary land use approvals, a rezoning application, on behalf of the owner, was submitted to the Department of Land Utilization. The rezoning is being requested for 263 acres of the total 510 acre project site (see Figures 5 and 8). Tables 3 and 4 provide a detailed description of the specific usage for the area proposed for rezoning.

An EIS was determined to be necessary for this applicant action by

¹ Of this acreage, 26 acres are not being requested for the General Plan Amendment.

² After attempts to process the General Plan Amendment through the Department of General Planning was not successful.

³ Over Mayor's veto of July 30, 1976.

the Department of Land Utilization. The EIS preparation notice was submitted to the Environmental Quality Commission (August 26, 1976). The EIS preparation notice and the Environmental Assessment/Determination are provided in Appendix B. The consultation period prior to preparing an EIS has been completed (the response date for the last consulting party was October 30, 1976).¹ Sixty (60) copies of the EIS was submitted to the Office of Environmental Quality Control on November 5, 1976.

The Revised Environmental Impact Statement was prepared from December 8 through 22, 1976. Responses were provided to all agencies/individuals providing significant comments (see Section XIV). Twenty (20) copies of the Revised EIS were submitted to the Environmental Quality Commission on December 22, 1976; concurrently, five (5) copies of the Revised EIS were submitted to the Department of Land Utilization, City and County of Honolulu.

¹ Various correspondence received and dispositions provided are provided in Sections X and XI.

Anticipated Impact. Minimal impact on the topography is anticipated. Based on the recently completed preliminary grading master plan, it has been estimated that approximately 1,000,000 cubic yards of grading will be required or roughly 2,000 cubic yards per acre. This does not include localized subdivision grading for streets, building pads, et cetera. All grading will conform to the Grading Ordinance, City and County of Honolulu. We believe this amount reflects minimal grading, compared to nearly any project on Oahu.

The gentle slopes make the property easily adaptable for the construction of residential units, structures, and the industrial park. Minimal grading property on Figure 9 will not be developed.

2. Soils

The soils on the project site are basically silty clays such as: Lahaina, Manana, Molokai, Wahiawa. Based on the soils test performed for the H-2 Freeway, firm and red silty clay is 15 to 25 feet deep, with rock formations thereafter encountered. The characteristic of these soils is generally as follows: easily trenched for drainage and underground utility systems; has good bearing capabilities to support residential and other structures. Gentry-Waipio soils are shown on page X-12. The approximate location and types of soils encountered on the project area. (Agricultural productivity of the project site is discussed in Section V.)

Anticipated Impact. There will be an impact on the soils of the project site. The removal of the vegetation on the project site will cause an alteration of existing nutrients being absorbed by the soil; however, it is felt that the removal of the present vegetation will be compensated by the planting of various ornamental plants and grasses grown in the landscaped areas of the dwelling units, commercial, open space, etc. Additionally, with the increased hard surfaces over the soil, the moisture in the soil will probably decrease.

During the site work and construction, the property must be graded before the installation of underground water and sewer lines, and the construction of the houses. The movement of soils, fill material, etc., will cause some alteration to the topsoil of the project site.

It is also noted that the following garden products may be applied to individual yards: fertilizers, weed killers, insecticides, and plant growth foods to the landscaped areas.

It is felt that this impact is not adverse and will be similar to that which occurs to the soils of other residential areas of this size and scope.

3. Microclimate¹

The mean rainfall on the subject property is 30.6 inches per year. During the 25 year period when rainfall was recorded on the property, the months of May through October were normally dry, having a median monthly rainfall of less than 1.4 inches. The median yearly daytime temperature is 82.6°F.

The observed surface winds at Wheeler Air Force Base (which would probably be characteristics of the project area) show that the predominant wind direction and higher wind speeds are from a northeast to east direction. Although 9.1% of the time winds blow from a northwest direction, these winds have lower wind speeds (4.4 knots per hour).

¹ Source of the rainfall and temperature data was the Hawaii Sugar Planters' Association rain gauge and temperature station 825.3.

Anticipated Impact. The Gentry-Waipio development will not alter the present climate conditions.

B. FLORA AND FAUNA

1. Flora

The area is covered with scrub brush, "volunteer" pineapple plants, haole koa, wild bittermelon vines, a few Albizzia Montana trees and several African tulip trees. Aside from the royal poinciana and monkeypod trees along Kamehameha Highway and the mango and banyan trees next to the reservoir, the area is dominated by scrub brush about 2-4 feet high and various weed-type grasses. On the Diamond Head (east) side the Panakauahi Gulch offers a thick and heavy forested area.¹

Anticipated Impact. Negligible impact on the flora of the site is expected. The development will not affect any endangered or rare endemic species of plant. The project site had been under agricultural cultivation since 1900's when its original flora was removed.

2. Fauna

A survey of the fauna in Panakauahi Gulch was undertaken by Thomas F. Sourisseau. Sourisseau's report, "A Species List of the Birds, Insects, and Mammals of Panakauahi Gulch, Oahu, Hawaii" is provided for specific information in Appendix D. Sourisseau's observations indicated that the insects, avifauna, and mammals living in the gulch are exotic species which are not rare or endangered. It is felt that the fauna in the gulch would be greater than that which is found in the more open project area. Various common bird species such as barred dove, common mynah, Japanese white-eye, lace-necked dove, and red-crested cardinal, may nest or frequent the project.

Also, some "pests", (house mouse, Polynesian rat, roof rat, and the Indian mongooses) are likely to be present in the project area.

Anticipated Impact. Impact on the fauna of the project is expected to be minimal. No rare or endangered species were observed by Sourisseau. Those mammals observed are considered to be "pests" and their displacement is not seen as being detrimental. Additionally, with the planting of various fruit trees, ornamental plants and trees as planned, it is anticipated that more suitable foods, and nesting areas will be created for the various birds. During site work and construction, these birds may be temporarily displaced; however, based on past local experience, these birds normally return and adapt well to urban/suburban environments.

¹ A result of a survey (1973) taken by Paul R. Weissich, A.S.L.A., Landscape Architect, A Preliminary Survey of the Plant Materials in Panakauahi Gulch is provided in Appendix C.

F. TRANSPORTATION

1. Highways and Streets

Every attempt has been made to secure convenient and generally efficient transportation and traffic modes with the objective of protecting the community from through traffic. In designing the internal street system, major considerations were given not to engineering techniques producing the most economical cost consistent with the level of transportation services desired, but to the creation of the maximum social and economic values related to welfare, such as the separation of automobile and pedestrian traffic, the elimination of through traffic, reduction in neighborhood traffic and the enjoyment and use of open space. Thus, the major vehicular pattern is laid out along the perimeter of the residential neighborhood with pedestrian movement directed through the middle on pedestrian ways and bicycle paths.

Primary vehicular access will be to Kamehameha Highway with a secondary connection to the H-2 Freeway if permitted by the State Department of Transportation.

Land Use control and distribution are also used to maintain an effective internal street system through balancing of land uses to achieve complementary traffic flow patterns and more efficient utilization of the highway and transportation facilities. Through the balanced mixture of residential, commercial, and industrial land uses, optimum use of the over-all highway system will result and minimum overlaps of traffic concentration will reduce the possibility of unusually high traffic peaks.

Two street layout schemes are proposed and considered in Figures 11 and 12. Each street layout scheme provides for streets of adequate widths in the proper locations for the distribution of traffic to the main traffic arteries. The alternate scheme, Scheme B, differs from Scheme A in that there is access to the H-2 Freeway with the construction of a new interchange or interconnecting ramps. Scheme B is the preferred scheme and offers the best design that will reduce traffic congestion, provide greater flexibility, capacity and speed the movement of traffic.

Until the H-2 Freeway is completed in 1977, Kamehameha Highway is the only major arterial serving the Waipio District. With the exception of the H-2 Freeway scheduled for completion in 1977, the future highway system is the same as the existing highway system. Kamehameha Highway must continue in use, but can be improved to higher standards and capacity for future traffic volumes.

There are no plans presently existing to widen Kamehameha Highway to four lanes. In the long-term, however, the developer foresees that a need to widen Kamehameha Highway will exist. When constructed according to the findings and recommendations of the State Department of Transportation, the H-2 Freeway will be consist of six lanes and be a high capacity divided highway. This future highway system was also analyzed and investigated by the State Department of Transportation for classification in accordance with existing and anticipated uses.

4. The development of the light industrial and distribution center should provide approximately 3,000 jobs. It is expected that many of the employees will live nearby. The design and regulations established for the industrial park will be compatible with surrounding land uses.
5. The size and proximity of the project with the existing Crestview/Seaview subdivision is likely to absorb the present subdivision within its activities, social and economic interactions.
6. A new life-style will develop as the project is implemented and new residents begin to move in.
7. Land values will increase and tax revenue from various businesses and sales tax will be generated by this project.
8. The economic benefits accruable to the State of Hawaii and City and County of Honolulu are described on the "Waipio-Economics Employment Compensation" Chart on Table 17.

In general, a new community will be created and the various ramifications of the new community are infinite. It is difficult to predict the character of the community; however, this brief analysis does indicate the type of community anticipated.

Assessment and Valuation. In 1970, the property was assessed at \$206,499. Upon the sale to Gentry in 1972, the assessed valuation was dramatically increased 33 times to a current assessed value of \$6,806,576. The annual land tax bill is now approximately \$160,000. Based on the previous agricultural use of the land, property taxes were \$5,000.

Community Support. The adjoining Crestview/Seaview communities which are most affected by the proposed development support the Gentry-Waipio development. The Waipahu Business Men's Association, representing 330 firms, and petitions with names of over 450 residents from the Waipahu/Pearl City area also favor the development. The Mililani Town Association, had (February, 1976) raised objections to this project based primarily on traffic congestion.¹ (A copy of the EIS will be sent to this association to provide an opportunity for the association to provide comments).

¹ No comments were ever received from the Mililani Two Association until a Planning Commission Public Hearing held in February, 1976.

IV. ANY PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

It must be emphasized that the section of impact is an important concern in this EIS. We note that, in general, people and their activities generate various magnitudes of environmental impact. Each individual produces and generates various forms of wastes and chemicals, ranging from discarded food packaging to vehicular emissions and applications of fertilizers to supplement plant growth. Land modifications and buildings of structures and infrastructures included in this and other housing projects also cause impact to the environment. Also, one must not forget that people's views, interaction, economic inter-relationships affect the socioeconomic environment.

The proposed Gentry-Waipio development will create a new community on lands formerly utilized for agriculture. The topography of the land (gently sloping), its mild climatic conditions, fertile soils, and other positive physical traits make the land ideal for both agricultural and residential/urban usage. The highest and "best" use would be for residential/urban use. There is a desire by some to keep maintaining this parcel in some form of agricultural use. However, the decision of the State Land Use Commission to redesignate the land to an urban classification has now increased the land's value, almost eliminating the agricultural use for the 510-acre parcel.

In most cases, the Gentry-Waipio development will construct or fund the needed infrastructures, services and facilities. Additionally, correspondence with various public and semi-public agencies indicates that no adverse demands will be made on the use of the existing resources and facilities.

In reviewing the physical environmental impacts, it is concluded that this proposed project will increase air and water pollution.¹ Air pollution will be from vehicular emissions which will result from the origins and destinations created by the development. There are two practical methods of mitigating this form of pollution, the first involves the reduction of the number of residential units. It should be emphasized that there has already been significant reductions in the residential units since the project's inception. Secondly, the highways serving the area could be widened or the number of highways and accesses increased. This would mean that the flow would be free from congestion and thus would generally result in less air pollution.

The socioeconomic and land use impact (as described above) is seen to be the most significant. The development of a community of this magnitude (11,500 people) within the Ewa District will inevitably create new needs, provide new labor resources, and develop new social and economic relationships

¹ Section VII, provides discussion on mitigation measures for air and water pollution.

with the rest of the adjacent communities. The direction of urbanization will continue to be in the Ewa and Wahiawa direction on property located at a greater distance from the Central Honolulu and employment centers. Certainly the actions of other developers in this area must also be viewed in a cumulative total as well as with their individual impact.

In the comments submitted by the Office of Environmental Quality Control on the Environmental Impact Statement (letter of December 8, 1976 to the Department of Land Utilization), it was stated that this section (Section VII) required further expansion regarding the project's consistency with Chapter 344, State Environmental Policy, Hawaii Revised Statutes, and an explanation as to the rationale for proceeding with the project although adverse environmental impacts are likely to occur. Therefore, below we have addressed these two concerns:

1. Chapter 344, sub-sections 344-3 and 344-4, identifies the policies relating to population, energy, community life and housing, education and culture, and citizen participation. In reviewing these policies, it was found that each of these were general in nature and that the Gentry-Waipio project where applicable will adhere to these policies. Given the broad nature of these policies we realize that our determination is subjective in nature. It is felt that this project can be consistent with the applicable policies and especially sub-section 344-4 (item 8), regarding community life style and housing.
2. As pointed out above in this section, the project will have significant impact in terms of socioeconomic and potential adverse impact on air and water quality. The rationale for continuing with the project in view of the potential adverse impacts is based on the contention that normal population increase results in increased pollution. People's activities and their use of the environment around them generates various types of pollution including: air emissions, solid waste, water pollution, socioeconomic changes, et cetera. We feel that the Gentry-Waipio project, in establishing a community of over 11,000 people will create adverse environmental effects; however, as suggested above, this adverse environmental effect would occur on the basis of any population increase of this magnitude. We feel that the planned nature of the community does provide advantages to the extent that a complete drainage system will be provided, recreational facilities will be planned and provided, (park lands dedicated to the County), various commercial facilities will be developed nearby, educational facilities are planned, and a community association will be established. The scope and magnitude of this project dictate that integrated planning of this type be developed and approved prior to implementation.

IX. AN INDICATION OF WHAT OTHER INTERESTS AND CONSIDERATIONS OF GOVERNMENTAL POLICIES ARE THOUGHT TO OFFSET THE ADVERSE ENVIRONMENTAL EFFECTS OF THE PROPOSED ACTION

In reviewing the physical impacts of the proposed project, two aspects relating to environmental quality will be detrimental to the existing environment of the project site and the region. These two aspects are water pollution and air pollution. Water pollution is in form of increasing the quantity of runoff and some constituents (e.g. phosphorus and nitrogen). This will affect the receiving waters of Middle Loch, Pearl Harbor to some degree. In the case of air pollution, it was noted by the air pollution consultant that: "There is no question that a project of this size will create some measurable impact on the air quality of the area." The findings of the air pollution consultant concluded that the methodology utilized indicates that the one-hour carbon monoxide standards (State of Hawaii) might be exceeded within 10 meters of Kamehameha Highway intersections.

Certainly, both these environmental aspects relate to the urban development of any region, an example of this are the impacts which occurred in the Kaneohe Bay region due to the significant population growth and urbanization occurring in the past three decades. However, it must be recognized that if population growth is to be accommodated,¹ then subsequently, housing, economic opportunities, and public facilities and services will be demanded. Thus, population growth will continue to produce pollutants based on the present affluent lifestyle of our society. At this point, it is felt that our society, by not changing our lifestyles, can direct population growth through planning policies. Simply speaking, an area or region in which population growth or urbanization is planned, will very likely witness an increase in environmental pollution.

¹ Since population at this point cannot be significantly curtailed for the State or County.

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PREFACE

The Environmental Impact Statement (EIS) for the proposed Gentry-Waipio project was prepared to comply with the environmental impact statement process as stated in the State's Environmental Quality Commission's "Environmental Impact Statement Regulations". An Environmental Impact Statement is defined as:

... an informational document prepared in compliance with Chapter 343, Hawaii Revised Statutes, applicable rules, and these Regulations, and which discloses: the environmental effects of a proposed action, the effects of the economic and social welfare of the community and State, the effects of the economic activities arising out of the proposed action, the measures proposed to minimize adverse effects, and the alternatives to the action and their environmental effects.

This EIS is being processed as an applicant action with the Department of Land Utilization, City and County of Honolulu.

The Environmental Impact Statement was prepared during the month of October, 1976, for the applicant, Gentry-Pacific, Ltd. This Environmental Impact Statement was prepared by Environmental Communications, Inc.

During the preparation of this EIS, information relating to the physical environmental and socioeconomic aspects was obtained through technical reports specifically prepared for this project, and correspondence received from various governmental agencies. The technical reports include:¹

"A Preliminary Survey of the Plant Materials in Panakauahi Gulch", prepared by Paul R. Weissich, A.S.L.A. (Landscape Architect). September, 1973.

"Agricultural Assessment." prepared by George Myers and Oscar A. Lorenz. September, 1974.

¹ Because some of the technical reports were prepared between nine and 30 months ago, the project scope as described in some reports may differ. Earlier plans proposed more residential units than presently being considered. Additionally, acreage figures may differ. However, because in all cases a slightly larger figure or area was used, it is felt that these technical reports are viable and can be accurately used to discuss the impact of Gentry-Waipio.

"A Comparative Analysis of Agricultural Soils", prepared by George Myers and Oscar A. Lorenz. September, 1974.

"Master Plan List for Tree Program", prepared by Paul R. Weissich. April 27, 1975

"Traffic Impact Statement for Gentry-Pacific, Waipio Development", prepared by Henry Tuck Au, Consulting Engineer, Revised August, 1976.

"Surface Water Runoff and Water Considerations for the Gentry-Waipio Project near Pearl Harbor, Oahu, Hawaii", prepared by Michael J. Chun, Ph.D. and Gordon L. Dugan, Ph.D. October 3, 1974.

"A Species List of the Birds, Insects, and Mammals of Panakauahi Gulch, Oahu, Hawaii", prepared by Thomas F. Sourisseau. November, 1973.

"Survey of Demand & Availability of Industrial Space in Selected Areas of Oahu", prepared by Loren Peiterson. December, 1973.

"Carbon Monoxide Impact Analysis for the Gentry-Waipio Project, Waipio, Oahu, Hawaii", prepared by Barry Root, M.A., M.P.H., Air Pollution Consultant. November 1, 1976.

Additionally, the documents entitled, "General Plan Amendment, City and County of Honolulu: Gentry-Waipio", (December, 1975), and "Rezoning Application - Gentry-Waipio", (August, 1976) both prepared by Norman Dyer, A.I.A. & Associates, provides the basis for the project description and objectives sections in this EIS.

These technical reports provide detailed information on the existing environmental setting and analyzes probable impacts, therefore, no attempt was made in the EIS to extensively restate the materials found in each report. Instead, emphasis in this EIS was placed on reviewing the findings of each report and identifying singular, combined, and cumulative impacts on the local and regional environment.

All the technical and support documents mentioned above have been filed with the Office of Environmental Quality Control (2 sets). They will be available at the Office (located at 550 Halekauwila Street, Room 301, phone 548-6915). Should the reviewer find the need for additional materials or information, Environmental Communications, Inc., (521-8391) should be contacted.

SUMMARY

The Gentry-Waipio project proposes to develop a multi-functional community on 510 acres of land at Waipio, Ewa District, Oahu. A major part of the Gentry-Waipio plan is the construction of 3,700 housing units (different types, densities and prices). The Gentry-Waipio plan also calls for the development of 120 acres for light industrial uses. Other land uses will include a commercial area, a school, community and district parks, open space and rights-of-way. The proposed Gentry-Waipio Community is anticipated to be developed incrementally over an eight (8) year period.

The proposed site is located north of the Crestview subdivision and bounded by Kamehameha Highway, Mililani Memorial Road and the H-2 Freeway, one mile from the Waiawa Interchange.

The project site is presently vacant. Agricultural use was discontinued by Castle and Cooke in 1968 and 1970 (2 land parcels). The land was initially planted in sugar cane until 1950, when the property was purchased by Hawaiian Pineapple Company (later Dole Company) and pineapple was grown. Since 1972, the property has been owned by Tom Gentry and Gentry-Pacific, Ltd.

During the State's Land Use Commission (LUC) second five-year boundary review, the present property owners requested that the LUC change the agricultural land use designation to urban. On December 20, 1974, the Land Use Commission redesignated a total of 536 acres urban. The 1964 General Plan for the City and County of Honolulu designated the property Agriculture. Ordinance No. 4619, 4620, effective August 11, 1976, changed the General Plan/Detailed Land Use Map (DLUM) designation to a variety of urban uses. The present zoning of the 510-acre project site is Agriculture 1.

Supportive facilities for the community, such as infrastructures, internal and access roadways, utilities, recreational and community meeting areas, will be provided as part of the Gentry-Waipio plan. When a County or State agency assumes the cost of providing some facilities to specifically serve the Gentry-Waipio community, the developer is normally assessed a pro-rated share of the construction costs.

Economic impact will be in form of direct and indirect income generated by the proposal (individual, community, and businesses), effects on employment and the labor force (the light-industrial park will employ an estimated 3,000 persons; construction workers will also be employed via the various contractors over the 8+ year implementation schedule), property taxes, governmental expenditures especially in the area of operational and personnel costs needed to support the project. In the long-term view, the proposal could be expected to foster economic growth in the surrounding community.

Social impact will occur. There will be increased demands on community facilities and services (i.e. police and fire protection, water, electricity).

Educational and recreational facilities will be provided. Land use will be significantly altered from its present vacant and past uses (agriculture). The population distribution pattern for the Ewa District will be altered to a variety of urban uses. New social and economic patterns and relationships will be developed within the community (including Crestview/Seaview), as well as relationships of the community with the existing urban center (Waipahu). Impact on traffic will also occur. The proposed project could also directly and indirectly affect the land use or population growth in the adjacent areas.

There will also be a wide range of physical environmental effects. Air quality would be affected by increase in air emissions (construction oriented point sources for the short-term, but vehicular emissions in the long-term). Water quality could be affected in a variety of forms, both short-term and long-term: erosion and siltation during construction; urban surface run-off affecting the waters of Pearl Harbor. From an individual standpoint, there will be a loss of open space and alterations to the visual landscape.

It is felt that another major finding presented in this document is that the project is consistent with the draft report (October 6, 1976) of the City and County of Honolulu's New General Plan. Although this report is tentative, it is consistent with previous drafts and statements (by elected and administrative officials) in establishing the Ewa district as the most likely area for primary and secondary urban expansion.

II. PROJECT DESCRIPTION

A. PROJECT LOCATION

The Gentry-Waipio project site (510 acres) is centrally located in the Ewa District about 1 mile north of the Waiawa Interchange. More specifically, the site is contiguous with the existing Crestview/Seaview Subdivision and is bounded by the Kamehameha Highway on the west, the H-2 Freeway on the east, and the Mililani Memorial Road on the north. The site is identified by Tax Map Key 9-4-06:08.

Figures 1, 2, and 3 show the relationship of the Gentry-Waipio site to the island of Oahu, and the immediate area (USGS Quadrangle Map and an aerial photograph of the surrounding areas) respectively.

B. DESCRIPTION OF THE PROPOSED ACTION AND STATEMENT OF OBJECTIVES

The Gentry-Waipio project proposes to develop a multi-functional community on 510 acres of land at Waipio, Ewa District, Oahu. A major part of the Gentry-Waipio plan is the construction of 3,700 housing units at different types, densities and prices. The Gentry-Waipio plan also calls for the development of 120 acres for light industrial uses. Other land uses will include a commercial area, a school (elementary), churches and private school, community and district parks, open space, and rights-of-way taking 112 acres. The housing units will be constructed on 268 acres of the 510-acre project site.

Supportive facilities for the community, such as infrastructures, internal and access roadways, utilities, recreational and community meeting areas, will be provided as part of the Gentry-Waipio plan. When a County or State agency assumes the cost of providing some facilities to specifically serve the Gentry-Waipio community, the developer will be assessed a pro-rated share of the construction costs.

The proposed Gentry-Waipio community is anticipated to be developed over an eight-year period. In the first and second year, 300 and 400 units are planned to be constructed, respectively. Thereafter, an average of 500 units per year will be constructed (to total 3,700 housing units).

1. The Proposed Land Use Plans

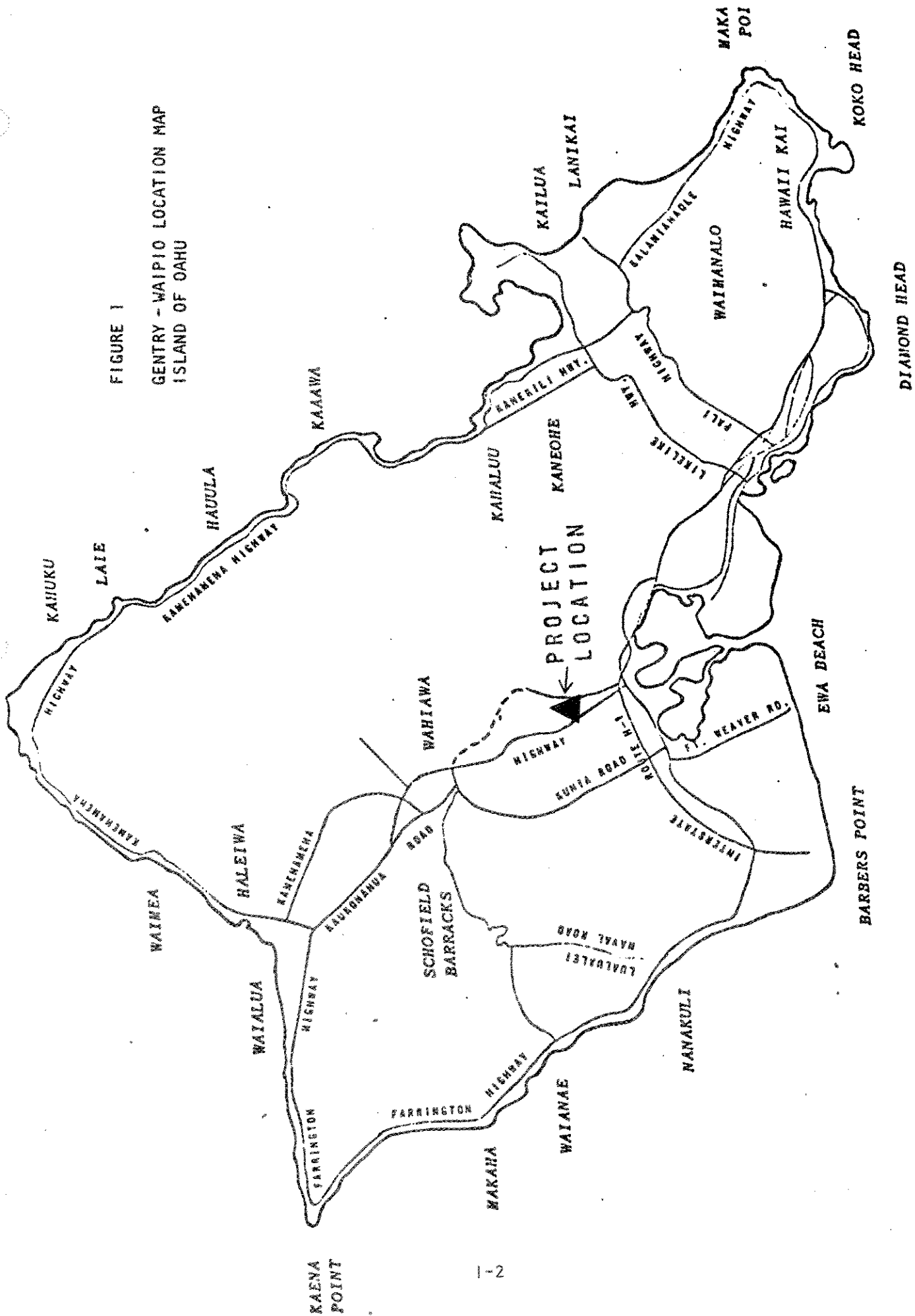
Table 1 provides the proposed Gentry-Waipio land uses. Figure 4, the Proposed Detailed Land Use Map, on p. 1-5, shows the location of these land uses being requested for the rezoning application.

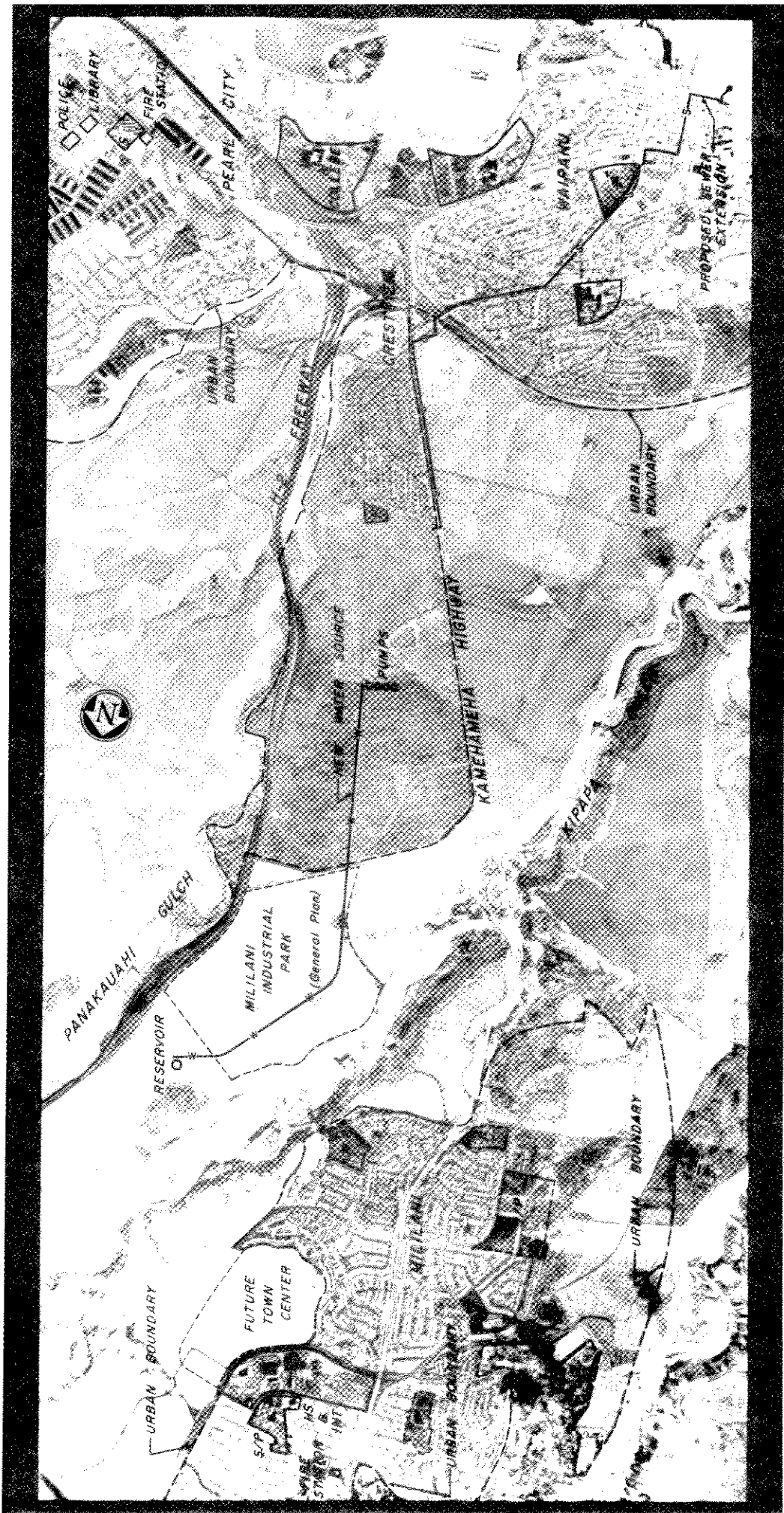
2. The Residential Development

Statement of Needs and Objectives. The Ewa Census District, defined as Hickam-Aiea-Pearl City-Ewa-Waipahu (Census Tracts 73 through 89), has

FIGURE 1

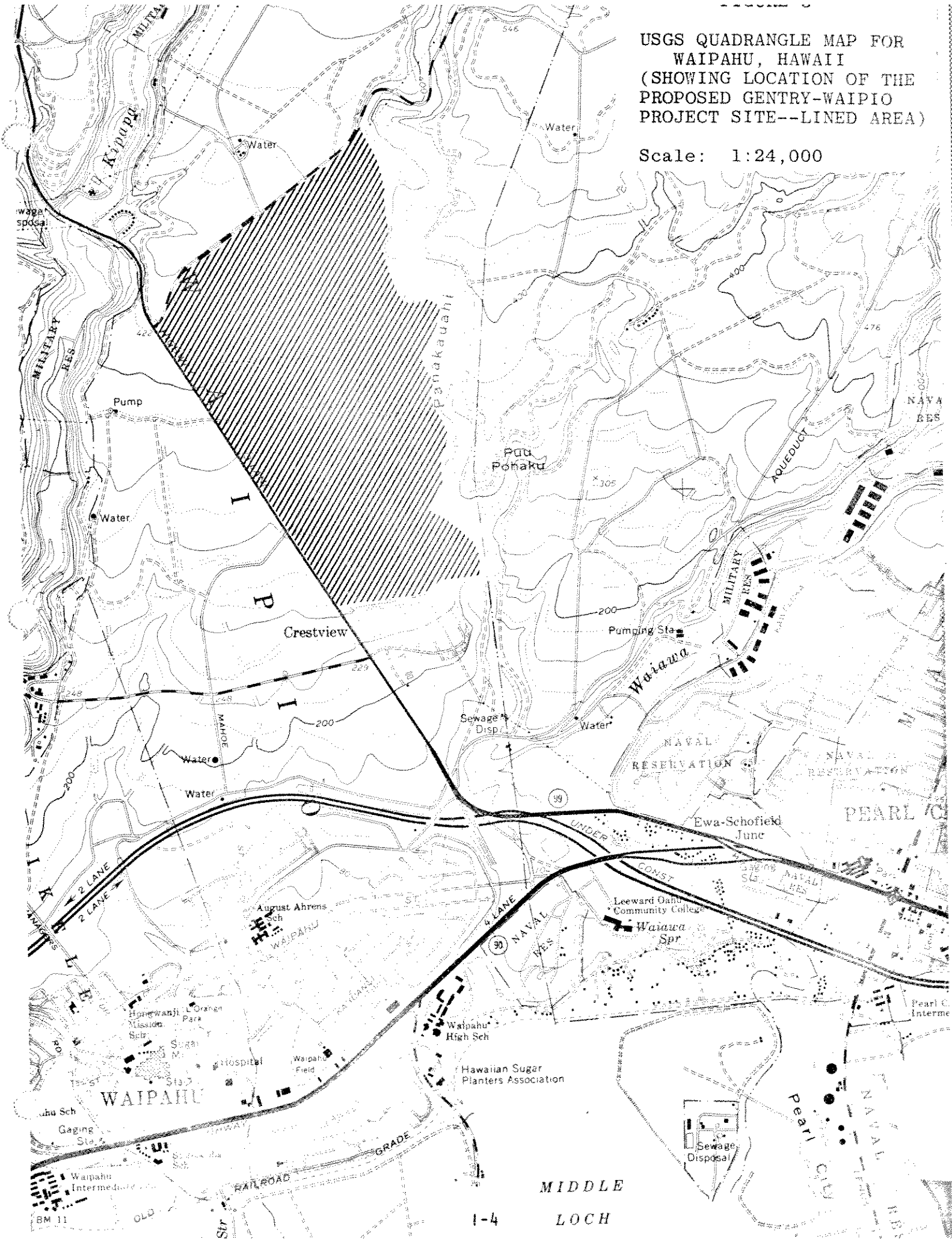
GENTRY - WAIPIO LOCATION MAP
ISLAND OF OAHU





USGS QUADRANGLE MAP FOR
WAIPAHU, HAWAII
(SHOWING LOCATION OF THE
PROPOSED GENTRY-WAIPIO
PROJECT SITE--LINED AREA)

Scale: 1:24,000



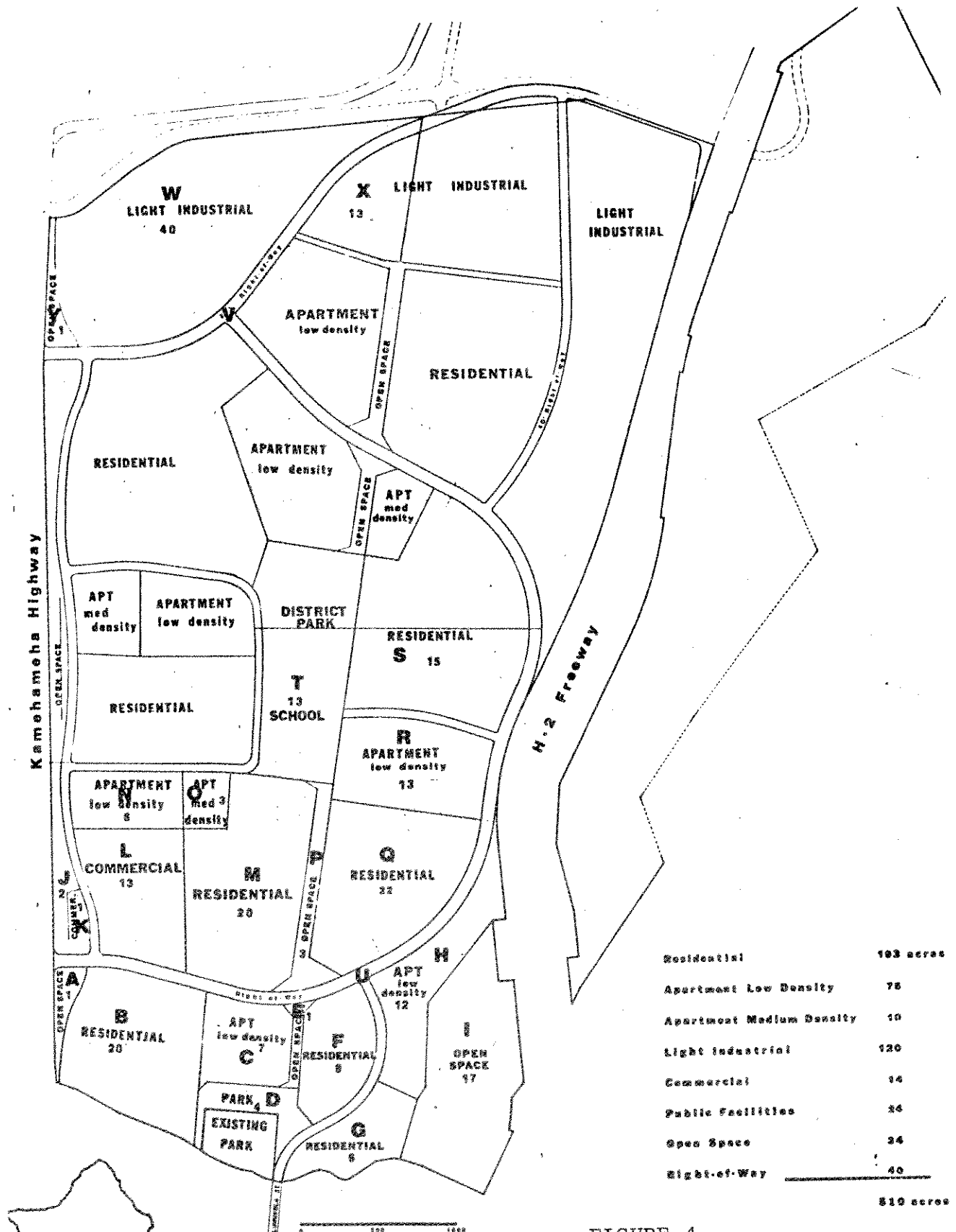


FIGURE 4
 DETAILED LAND USE
 GENTRY-WAIPIO

DETAILED LAND USE MAP

TABLE 1
GENTRY-WAIPIO PROPOSED LAND USE PLANS

Residential	193 acres
Low-Density Apartments	75 acres
Medium-Density Apartments	10 acres
Light Industrial	120 acres
Commercial	14 acres
Public Facilities	24 acres
Open Space	34 acres
Right-of-Way	<u>40 acres</u>
	<u>510 acres</u>

witnessed a tremendous growth in the last decade. In 1960, the population was 79,000; in 1970, the population was 132,000 for a 67% increase over ten years. More recently the July 1974 population estimate of the Ewa District was 157,500, a 19% increase in population over 1970, with an average increase of 6,000 to 7,000 residents per year. This District has the greatest percentage of increase growth on the island of Oahu. Continued growth of the Ewa District is anticipated due to the historical path of urbanization on Oahu, the planned residential proposals, the convenient accessibility to this area, and the extensive CIP scheduled for Leeward Oahu. (H-2, Honouliuli STP, Mililani High School and others.)

Based on the projected population increases including the Department of General Planning, City and County of Honolulu, it has been estimated that 3,300 to 4,300 new housing units are required between 1970 and 1985 (see Table 2, Housing Demand - Ewa District). The Gentry-Waipio plan anticipated providing 15% of that requirement.

Moreover, several Statewide and County housing studies show the need for housing prices which are within the range of the moderate income families.¹ In 1970, the U. S. Census classified 36,155 families on Oahu as those having moderate income. Moderate income families can qualify for a purchase of housing up to \$45,000 with substantial equity payments on the assumption that monthly housing expenditures do not exceed 25% to 30% of the gross monthly income.² Based on 1975 costs, the Gentry-Waipio development is expected to provide 25% of the total housing units priced from \$40,000 to \$50,000. Housing prices can be further reduced if governmental assistance is provided.³

Another critical need to be considered is housing for the elderly.⁴ In 1970, there were 31,385 persons in this category representing 5% of the Oahu population. The State Commission on Aging estimates (as of June, 1975) that an additional 1,400 to 1,600 housing units are needed on Oahu to house retired, elderly people. Based on elderly income data, this requirement can be included in the moderate income category. However, details such as size, location, access and other physical requirements create a separate housing type. The Hawaii Housing Authority recommends one-story studio or one bedroom units with less parking requirements compared to family housing units. The Gentry-Waipio development proposes a total of 90 dwelling units for the elderly.

¹ The Hawaii Housing Authority defines moderate income families as those whose incomes in 1973 were \$12,000 to \$20,000 which are equivalent to the category of \$10,000 to \$15,000 of 1969 income.

² Relates to mortgage loans in 1974.

³ At this time governmental housing assistance is proposed; however, no commitments from housing assistance agencies have been finalized.

⁴ The State Commission on Aging defines the elderly as those who are over 60 years of age and the retired elderly who are over 65 years who aren't gainfully employed. Comprehensive Master Plan for the Elderly, prepared by Gordon Associates, Inc., for the State Commission on Aging, State of Hawaii, December, 1974, P.V.

TABLE 2

EWA CENSUS DISTRICT - HOUSING DEMAND

	<u>1960</u>	<u>1970</u>	<u>1980</u>	<u>1985</u>
POPULATION	78,666	132,299	172,000 ¹	199,000 ¹
NO. DWELLING UNITS BASED ON POPULATION			203,000 ²	230,000 ²
AVERAGE PERSONS PER UNIT		28,992	48,000	59,000
		4.0	3.6	3.4
NEW DWELLING UNITS REQUIRED ANNUALLY BASED ON POPULATION (1970-1985)			3,000	3,900
NEW DWELLING UNITS BASED ON REPLACEMENT/VACANCY (1970-1985)			330	430
TOTAL ANNUAL NEED (1970-1985)			3,300	4,300
			Low Density	1,800-2,400
			High Density	1,500-1,900

SOURCE:

1. Department of General Planning
2. Department of General Planning and Economic Development, General Plan Revision Program, Part IV Population Projections

This would include 40 studios of 400 square feet and 50 one bedroom units of 600 square feet. These units are planned to be single story with each unit having its own small yard area for gardening needs.

Description of the Proposed Residential Development. It is proposed that there be five (5) different housing types: single family-detached homes, the GentryPlan (attached homes), duplexes, townhouses, low-rise condominiums, and mid-rise condominiums. The locations of these residential uses are shown on Figure 4, p. 1-5. The rezoning application presently being filed with the Department of Land Utilization is for 52% of the total Gentry-Waipio project. A more detailed description is provided in Tables 3 and 4 specifically for the 52% of the area for which the rezoning request is being requested.

Figure 5 shows the proposed zoning map for the Gentry-Waipio project. Figure 8 indicates the specific uses in the parcels to be developed from 1977 to 1980.

Description of the Proposed Gentry-Waipio Housing Units.*

SINGLE FAMILY - (3 and 4 Bedrooms) 1,200 to 1,800 sq. ft., \$70,000 to \$90,000, (\$50 - \$58 per sq. ft.)

Land subdivided into lots (5,000 to 6,000 sq. ft.) fronting on public rights-of-way. Obvious visual definition of ownership. Traditional form of shelter. Rigid improvement standards and increased construction costs have a significant effect on the total sales price. Based on a usable enclosed area analysis, the single family has better value than many of the higher density residential types. There has been a dramatic reduction in new housing of this type over the last few years throughout the island.

GENTRYPLAN - Duplex, Zero Side Yard (2 and 3 Bedrooms) 900 to 1,600 sq. ft., \$55,000 to \$75,000, (\$47 - \$61 per sq. ft.)

The GentryPlan and zero side yard design is an attached patio oriented one-story concept which has the attributes of single family detached, with a smaller lot (2,000 to 4,000 sq. ft.) on public rights-of-way. The advantages of these housing type are of high quality visual and sound privacy, low maintenance, with the single family "territory" definition of property. The courtyards and atriums are protected-enclosed areas ideal for smaller children. Having no common areas, this concept precludes the additional burden of a homeowner's association.

The Duplex is planned on lots averaging 7,000 sq. ft. with a common party wall separating the enclosed living area.

TOWNHOUSE - (2 and 3 Bedrooms) 900 to 1,400 sq. ft., \$45,000 to \$60,000 (\$43 - \$50 per sq. ft.)

Due to lower lot improvement costs and smaller enclosed living area, savings up to \$25,000 per dwelling unit is possible when compared to Single Family and GentryPlan. Maintenance is controlled through a homeowner association's regulations which add approximately \$60 to \$80 to each monthly payment. This program is attractive to investors and owner/occupants wanting more freedom from maintenance and gardening.

*All based on the 1975 dollar.

† Enclosed living area.

LOW-RISE CONDOMINIUM - (Studio to 3 Bedrooms) 400 to 1,200 sq. ft.,
\$24,000 to \$60,000 (\$44 - \$60 per sq. ft.)

This housing type (two and three stories) can be designed for level and moderately sloping land, is a higher density than most other categories and still provides many amenities. The design can orient the living areas toward the views and maintain a high level of privacy. Convenient covered parking within a short distance of each entrance to dwelling units is included. Each unit has its own exterior entrance way and, where possible, only one flight of stairs to the front entrance. Improvement costs for this housing type are normally less than lower density concepts and it is one of the most economical designs being considered. Association fees are normally less than townhouses.

Specifically designed housing for the elderly are one story studio and one-bedroom units.

MID-RISE CONDOMINIUM - (1 and 2 Bedrooms) 600 to 1,200 sq. ft.,
\$45,000 to \$70,000 (\$58 - \$75 per sq. ft.)

The mid-rise condominium structures planned for Gentry-Waipio are between six and eight stories with a residential density of 50 units per acre (considerably lower than most multi-story developments). Lower site improvement cost per unit helps reduce the sale price. Due to higher building costs, the enclosed usable living area is more expensive per sq. ft. than the other housing types. This housing type is suited for singles, younger couples without children, and older people who wish to live in a rigid and controlled environment.

3. The Development of a Light Industrial Park¹

Statement of Needs and Objectives. During the initial planning phase of the Gentry-Waipio development, a study entitled, "Survey of Demand & Availability of Industrial Space in Selected Areas of Oahu," was prepared. This survey found that the present General Plan designation of industrial lands does not adequately meet the present demand, and it is unlikely that future needs for industrial lands can be met. Table 5 shows the available vacant land for light industry in 1971; Table 6 shows the industrial land requirements for Oahu from 1970 to 1985. In addition to the quantity of land and the need for affordable rates, the tenants' requirements include: relationship with the service area, attractive surroundings, affordable land and development costs, accessibility and lack of congestion.

¹ For detailed information on the analysis for light industrial land needs, see the report entitled, "Survey of Demand & Availability of Industrial Space in Selected Areas of Oahu," prepared by Loren Peiterson (December, 1973). A copy of this report is filed in the Office of Environmental Quality Control (as part of Exhibit IV). Additional information is also available on pages 83 to 91 in Exhibit III (also filed with OEQC).

TABLE 3
SUMMARY OF REZONING REQUEST
GENTRY-WAIPIO

AREA	ACRES	GENERAL PLAN DESIGNATION	CZC DESCRIPTION	HOUSING TYPES	NO. OF DWELLING UNITS	ESTIMATED RESIDENTIAL POPULATION
A	1	Open Space	P-1	---	---	---
B	20	Residential	R-6	Cluster, Duplex, Single Family, Church	160	630
C	7	Apt. Low Density	A-1	Low Rise Condo- minium	140	420
D	4	Park	P-1	---	---	---
E	1	Open Space	P-1	---	---	---
F	9	Residential	R-6	Church, Duplex, Single Family	50	210
G	6	Residential	R-6	Church, Private School, Single Family	6	24
H	12	Apt. Low Density	A-1	Low Rise Condo- minium	240	720
I	17	Open Space	P-1	---	---	---
J	2	Open Space	P-1	---	---	---
K	1	Commercial	PD-SC(B-2)	---	---	---
L	13	Commercial	PD-SC(B-2)	Townhouse	50	150
M	20	Residential	R-6	Duplex, Cluster, Single Family	100	420

(continued)

TABLE 3
(Continued)

AREA	ACRES	GENERAL PLAN DESIGNATION	CZC DESCRIPTION	HOUSING TYPES	NO. OF DWELLING UNITS	ESTIMATED RESIDENTIAL POPULATION
N	6	Apt. Low Density	A-1	Low Rise Condominium	120	360
O	3	Apt. Med. Density	A-3	Mid-Rise Condominium	150	300
P	3	Open Space	P-1	---	---	---
Q	22	Residential	R-6	Single Family, Cluster, Duplex	200	840
R	13	Apt. Low Density	A-1	Low Rise Condominium	260	780
S	15	Residential	R-6	Single Family, Cluster, Duplex	130	546
T	13	School-Park	P-1	---	---	---
U	15	Rights-of-way	---	---	---	---
V	6	Rights-of-way	---	---	---	---
W	40	Light Industrial	I-1	---	---	---
X	13	Light Industrial	I-1	---	---	---
Y	<u>1</u>	Open Space	P-1	---	---	---
	263				<u>1,606</u>	<u>5,400</u>

Single Family, Cluster, Duplex: 686 Low Rise Condo.: 760 Mid. Rise Condo.: 150

TABLE 4

DESCRIPTION OF SPECIFIC PARCELS: REZONING
(See Figure 5)

AREA	APPROXIMATE SIZE	DESCRIPTION
A	1 acre	<p>Area A is to be zoned P-1. This parcel has been designated an Open Space on the General Plan/Detailed Land Use Map and will be landscaped by the developer and dedicated to the Waipio Community Association for maintenance. Besides serving as a setback and buffer zone from Kamehameha Highway for adjacent housing units, its purpose is also to help maintain an attractive rural atmosphere while driving north/south on Kam Highway.</p>
B	20 acres	<p>Area B is to be zoned R-6 and is designated Residential on the General Plan/ Detailed Land Use Map. This area will accommodate an estimated 150 units. The subject parcel will be subdivided into two housing categories: single family detached and duplex units. The anticipated price range for these dwelling units is between \$55,000 to \$90,000.* The enclosed living area of the dwelling units range from 900 sq. ft. to 1,500 sq. ft. The plans for this area include a modest community swimming pool, a cabana, a tot play area, and other recreation facilities.</p>
C	7 acres	<p>The Mormon Church has indicated interest in building a church on a 2-1/2 acre site within Area B. The building of a church is permitted in the R-6 zone.</p> <p>Area C is designated for Low Density Apartments on the General Plan/ Detailed Land Use Map. Area C is to be zoned A-1 and will accommodate 140 units. This area is planned for 2 and 3 story structures and is primarily designed for 2 and 3 bedroom condominium units. Central bay parking (2 spaces per unit) will be provided with some covered. The dwelling units will range from 800 to 1,200 sq. ft. with estimated price range of \$45,000 to \$65,000. In addition, approximately twenty of these units will be studio and/or one bedroom (400 to 600 sq. ft.) on the ground level to be reserved for the elderly that can be administered under a governmental agency for housing assistance.</p>

* All estimated price ranges are based upon the 1976 Cost Index.

APPROXIMATE
AREA SIZE DESCRIPTION

Next to the Crestview Park expansion, residential shells will be made available for an elementary school until the permanent site has been developed.

D	4 acres	<p>Area D is to be zoned P-1 and is designated Park on the General Plan/Detailed Land Use Map. This acreage is intended to expand the facilities of the existing Crestview/Seaview Park. The park will include a multi-purpose building, tennis and basketball courts, baseball fields and other recreational facilities.</p>
E	1 acre	<p>Area E is to be zoned P-1 and is designated Open Space on the General Plan/Detailed Land Use Map. This acreage is intended to be a part of the overall greenway system. The open space/greenway system proposes non-vehicular corridors to separate non-vehicular uses from automobile traffic. Generally, a 60' to 100' wide open space traverses the residential area with pedestrian underpasses at the inter-sections of major thoroughfares. A major tree planting program will extend from the greenways throughout the residential neighborhoods designed to provide an attractive shaded tropical pathway system.</p>
F	9 acres	<p>Area F is designated Residential and is to be zoned R-6. It is planned that this area accommodate 50 single family and duplex units. The standard lot subdivision will be planned for 1,100 to 1,600 sq. ft. dwellings. The estimated price range of the units will be from \$60,000 to \$90,000.</p> <p>In this area, the Catholic Diocese intends to acquire approximately 2 acres near the Crestview public park. The building of the church is permissible under the R-6 zoning.</p>
G	6 acres	<p>Area G is to be zoned R-6. This area is designated Residential on the General Plan/Detailed Land Use Map. Approximately 4 acres in this area will be acquired by the Lanakila Baptist Church and School. Under the R-6 zoning, the building of the school and church is permissible.</p> <p>The church intends to provide facilities for a kindergarten through 12th grade educational curriculum and provide ancillary religious and recreational facilities. At its present location in Waipahu, the Lanakila Church and school have more than outgrown its present location.</p> <p>The remaining 2 acres will be subdivided into R-6 lots. The dwelling units will be 1,100 to 1,600 sq. ft. The price of the units will range from \$70,000 to \$90,000.</p>

AREA	APPROXIMATE SIZE	DESCRIPTION
H	12 acres	<p>Area H is designated for Low Density Apartments on the General Plan/Detailed Land Use Map. This area is to be zoned A-1 and will accommodate 240 condominium units within two and three story structures and with one to three bedroom units. The size of the dwelling units is between 600 to 1,400 sq. ft. and the price range is estimated from \$50,000 to \$80,000. This parcel lies between the major roadways and a portion of Panakauahi Gulch. There are excellent vistas in the Pearl Harbor/Diamond Head/Koolau direction. Central bay parking will principally be covered. Recreational facilities will include a modest community swimming pool, a cabana, a tot area, and other recreational facilities.</p>
I	17 acres	<p>Area I is to be zoned P-1 and is designated Open Space on the General Plan/Detailed Land Use Map. Because of its limited access to the more leveled portion near the H-2 Freeway, only minor recreational use is expected. Most of the area will remain a natural setback from the freeway to the housing and use of Areas G and H.</p>
J	2 acres	<p>Area J is to be zoned P-1. This parcel has been designated an Open Space on the General Plan/Detailed Land Use Map and will be landscaped by the developer and dedicated to the Waipio Community Association for maintenance. Besides serving as a setback and a buffer zone from Kamehameha Highway for adjacent housing units, its purpose is also to help maintain a rural and attractive atmosphere while driving north/south on Kamehameha Highway.</p>
K	1 acre	<p>Area K is to be zoned PD-SC (B-2). This area is designated Commercial on the General Plan/Detailed Land Use Map. The proposed use is a gas station which will provide fast service for customers requiring only gas and oil. Primarily, there will be no above ground structures other than those necessary to support the gas service facilities.</p>
L	13 acres	<p>Area L is to be zoned PD-SC (B-2). This area is designated Commercial on the General Plan/Detailed Land Use Map. The primary use is a community shopping center. It is planned that the center's first increment will be approximately seven (7) acres, which will include a 30,000 sq. ft. supermarket, 24,000 sq. ft. drug store and variety shoppes, and 15,000 sq. ft. of bank and other office facilities are planned. As part of the Planned Development provisions, approximately 50 studio and one bedroom dwelling units are planned in conjunction with the commercial uses.</p>

APPROXIMATE
SIZE

DESCRIPTION

M 20 acres

Area M is designated Residential on the General Plan/Detailed Land Use Map and is to be zoned R-6. The development of this area will include single family detached, duplex and cluster type homes. Size of the dwelling units are planned for 900 to 1,600 sq. ft. The price of the units will range from \$50,000 to \$90,000.

N 6 acres

Area N is designated Low Density Apartment on the General Plan/Detailed Land Use Map, is to be zoned A-1 and will accommodate 120 units. This area is planned for 2 and 3 story structures and is primarily designed for 2 and 3 bedroom condominium units. Parking will be central bay with some covered spaces. Most of the dwelling units will be 900 to 1,200 sq. ft. with an estimated price range of \$40,000 to \$55,000. Some of the units, studio and one bedroom, on the ground level, are planned to be reserved for the elderly citizens.

O 3 acres

Area O is to be zoned A-3 and is designated Apartment Medium Density on the General Plan/Detailed Land Use Map. The site will accommodate 150 units with one and two bedrooms and from 650 to 900 sq. ft. Near the major community facilities, this area is planned for 8 to ten story structures with covered parking. The orientation of these units will not detract from neighboring land uses, but still maximize the views towards the mountain ranges and Pearl Harbor. A swimming pool, cabana and other recreational facilities will be included.

P 3 acres

Area P is to be zoned P-1 and is designated Open Space on the General Plan/Detailed Land Use Map. This area is designed to be part of an overall open space/greenway system, which includes non-vehicular corridors to separate bicycles and pedestrians from automobile traffic. A 60' to 100' wide open space corridor traverses the residential area with pedestrian underpasses at the intersections of major thoroughfares. A major tree planting program will extend from the greenways throughout the residential neighborhoods providing an attractive shaded tropical pathway system.

Q 22 acres

Area Q is designated Residential on the General Plan/Detailed Land Use Map, is to be zoned R-6, and will accommodate 200 dwelling units. The subject parcel will be subdivided into three housing categories: single family detached, duplex and cluster patio houses. The anticipated price range for these dwelling units is between \$50,000 to \$90,000. The enclosed living area of each dwelling unit ranges from 900 sq. ft. to 1,500 sq. ft. This area will include a modest community swimming facility, a cabana, a tot play area and other recreational facilities.

AREA	APPROXIMATE SIZE	DESCRIPTION
R	13 acres	<p>Area R is designated Low Density Apartments, is to be zoned A-1, and will accommodate 260 units. This area is planned for a 2 and 3 story structures and is primarily designed for 2 and 3 bedroom condominium units. Parking will be centrally located with some covered spaces. The size of the dwelling units are planned to be between 800 to 1,200 sq. ft. with an estimated price range of \$40,000 to \$55,000. Thirty (30) of these units will be studio and one bedroom, located on the ground level and are planned for the housing of the elderly.</p>
S	15 acres	<p>Area S is designated Residential on the General Plan/Detailed Land Use Map. It is to be zoned R-6 and will accommodate 130 units. The subject parcel will be subdivided into three housing categories: single family detached, duplex, and cluster. The anticipated price range for these dwelling units is between \$50,000 to \$90,000. The enclosed living area ranges from 900 sq. ft. to 1,500 sq. ft. This area will include a modest community swimming pool, a cabana, a tot play area, and other recreational facilities.</p>
T	13 acres	<p>Area T is 13 acres and is to be zoned P-1. The six acre area designated for an elementary school site and the seven acres represents 1/2 of the proposed District Park.</p> <p>Based on the projected enrollment for the area, the Department of Education recommended that an elementary school site be reserved near the center of the project adjacent to the district park complex. The elementary school will provide needed facilities for the Gentry-Waipio residents and Crestview/Seaview students.</p> <p>The District Park complex is planned for a variety of acilities for all age groups. Structured recreational facilities of a District Park include the sports field for baseball, football and soccer; courts for tennis, basketball, volleyball; children's playground; gymnasium for supervised indoor activities; community swimming pool and adequate parking.</p>
U	40 acres	<p>Area U is to be zoned I-1. This area is designated Light Industrial on the General Plan/Detailed Land Use Map. This area is planned for an employment/ industrial area for service and distribution oriented businesses. The job opportunities will help to build and strengthen the economic base of the development and surrounding communities. Landscape standards, setbacks, and buffers reflect nearby residential uses. In general, service and loading activities will be non-visible from the major roadways.</p>

FIGURE 5
 PROPOSED ZONING MAP
 GENTRY-WAIPIO
 August, 1976

(Proposed areas in the rezoning request are shaded.)

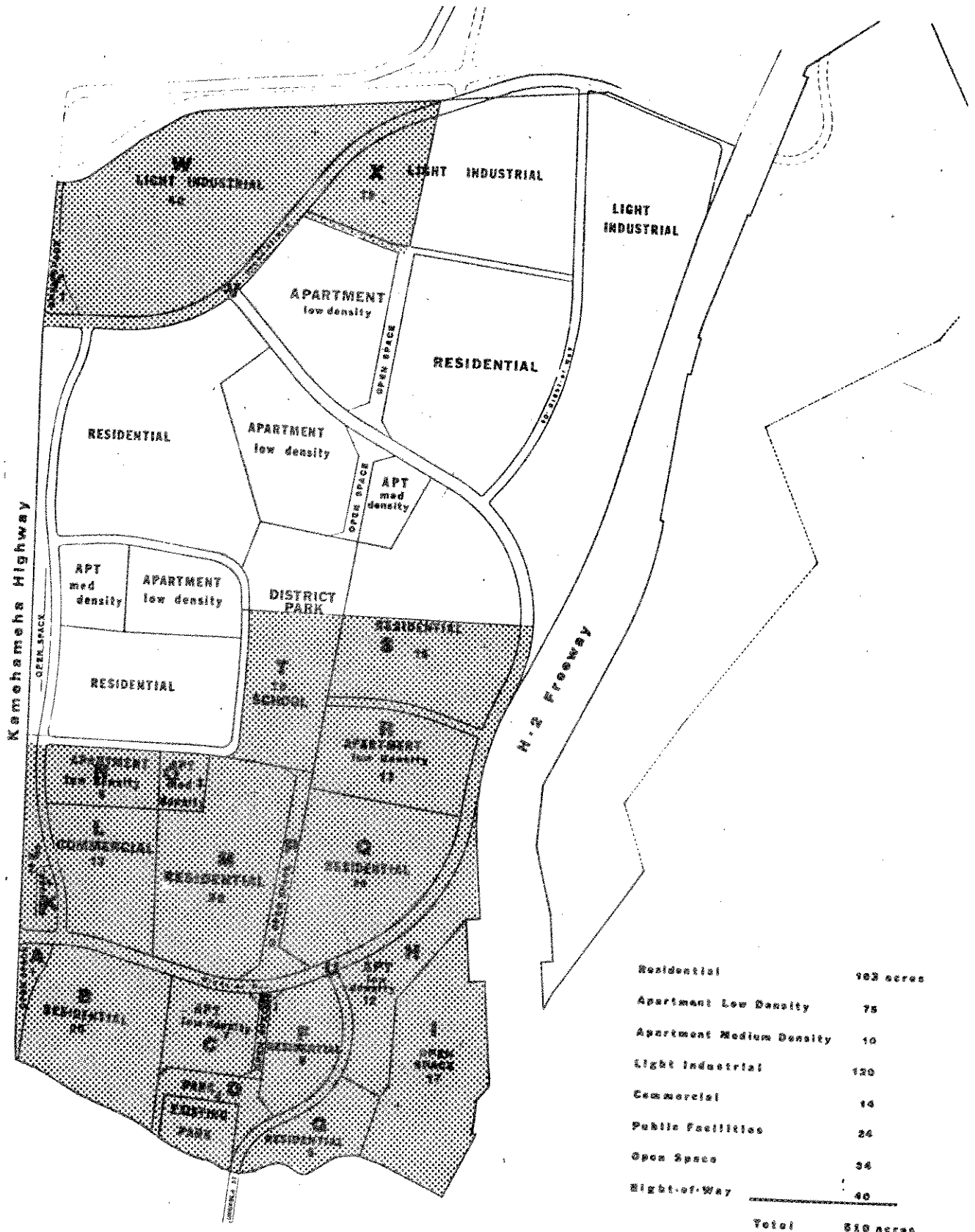


TABLE 5

GENERAL PLAN DESIGNATED INDUSTRIAL LANDKALIHI TO WAIPAHU (JUNE 1971)

Area	Total Acres	Existing Use Industry	Existing Other Use	Unusable*	Vacant Usable Acres	Vacant Land for Light Industry
Kalihi	1,009	562	99	339	9	9
Sand Island	508	175	--	32	301	--
Mapunapuna	186	174	2	--	10	10
Airport	156	143	7	--	6	6
Halawa-Pearl City	239	196	7	--	36	36
Waipahu	258	90	136	--	32	32
TOTAL	2,356	1,340	251	371	394	93

*Submerged

Source: Department of General Planning, Staff Report, 85/C2/32, et al.

TABLE 6*
INDUSTRIAL LAND REQUIREMENTS
Oahu 1970-85

<u>Industrial Category</u>	<u>Projected¹ Employment Increase</u>	<u>Land² Absorption Coefficient</u>	<u>Acreage Required</u>
Diversified Manufacturing	7,100 - 11,400	0.027 ³	192 - 308
Wholesale Trade	8,410 - 17,110	0.04	336 - 684
TOTAL	15,510 - 28,510		528 - 992

1. Planning for Oahu, Employment and Population: Trends and Projections, City and County of Honolulu Planning Department, July 1971.
2. The land absorption coefficient expresses acreage needed per employee. Oahu Transportation Study, Volume 1, 1967.
3. Weighted average, based on 1970 employment levels, of coefficients for durable and non-durable manufacturing categories.

*This table was prepared by the applicant and was originally included in the "General Plan Amendment, City and County of Honolulu (for) Gentry-Waipio."

Based on the need for light industrial space, especially in the rapid growing Ewa District, a 120-acre light industrial park was incorporated into the Gentry-Waipio development. When compared to other existing and planned industrial parks, it was felt that the location provides convenient access to major thoroughfares, proximity to the markets, a nearby (within walking distance) residential population which could be a potential labor force, and an attractive setting for image conscious business. Of equal importance is the planned development and land costs would be more affordable than other light industrial parks. Fully implemented, it will provide jobs for approximately 3,000 people. This employment center will also complement and be in balance with the residential areas by providing jobs within the community.

Description of the Proposed Light Industrial Park. The 120-acre light industrial park is proposed to be situated at the upper end of the project site (see Figure 4, p. 1-5). This location is adjacent to the existing General Plan Industrial area of Mililani. The industrial park will be utilized for service and distribution oriented businesses. However, at this time there are no details on the individual lot sizes, and specific users and their activities.

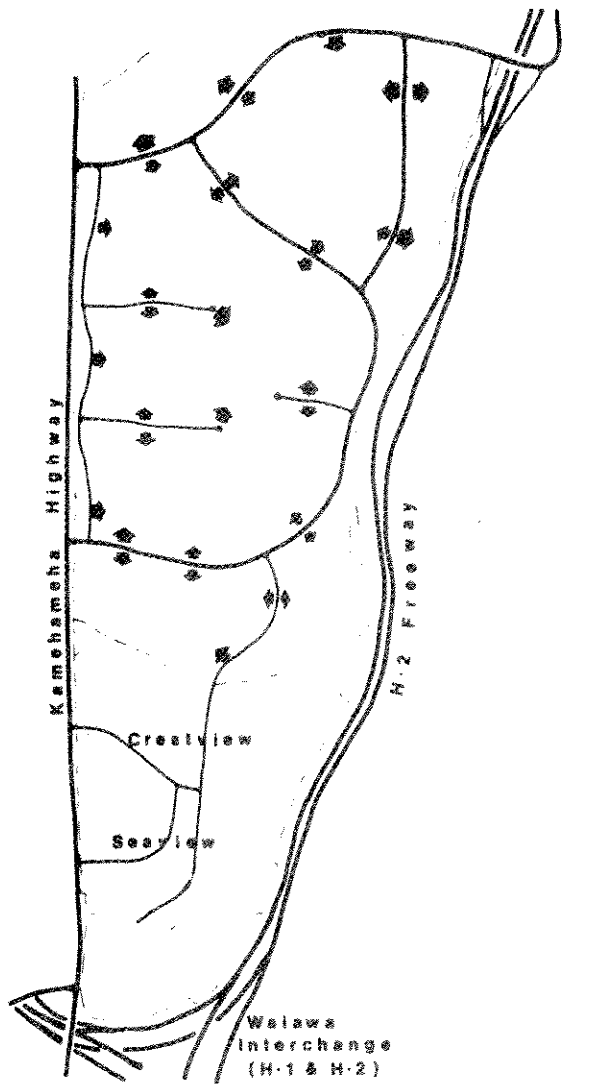
4. The Proposed Development of Infrastructures and Supporting Facilities

Circulation. The circulation plan within the Gentry-Waipio development proposes two vehicular outlets onto Kamehameha Highway. To improve the overall access flexibility and convenience to the subject property and adjacent lands, an interchange with the H-2 Freeway at the Mililani Memorial Road overpass is proposed.

The major thoroughfares are principally located along the perimeter of the property and are planned to direct vehicular traffic easily from residence to destination, whether within or outside the project area. (See Figure 6, Vehicular Circulation, p. 1-23). The land use distribution in relation to the circulation system will maintain an efficient internal street system, and a complementary utilization of highway facilities.

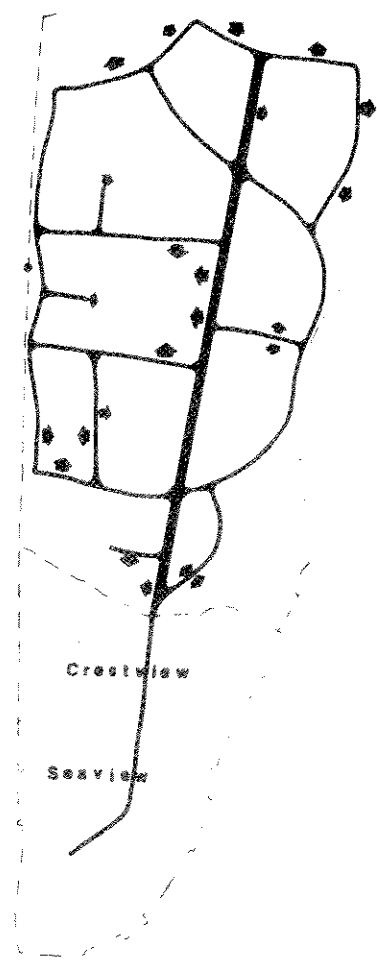
The open space/greenway planning concept proposes non-vehicular "corridors" to separate bicycles and pedestrians from automobile traffic. This can be accomplished by widening a planting area along one side of the major thoroughfare to 30 feet and providing a meandering walkway which connects to the central school/park complex and greenways. (See Figure 7, Pedestrian Circulation, p. 1-23). An 80 to 100 foot wide open space corridor traverses the residential area with pedestrian underpasses at the intersections with the major thoroughfare. A tree planting program will extend from the greenways throughout the residential neighborhoods providing an attractive shaded tropical pathway system.

Potable Water Supply. Based on the proposed land uses, water demands have been translated into the need for approximately 2.5 million gallons per day (mgd) or two well fields with each having two wells. Each well shall be capable of pumping 1,050 gallons per minute (gpm), plus a three million gallon storage reservoir at the appropriate elevation above Mililani Memorial Road.



VEHICULAR CIRCULATION

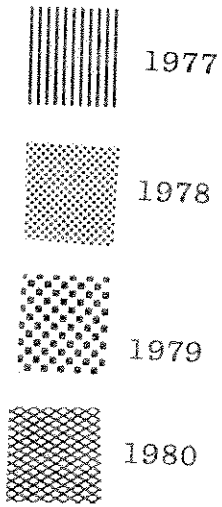
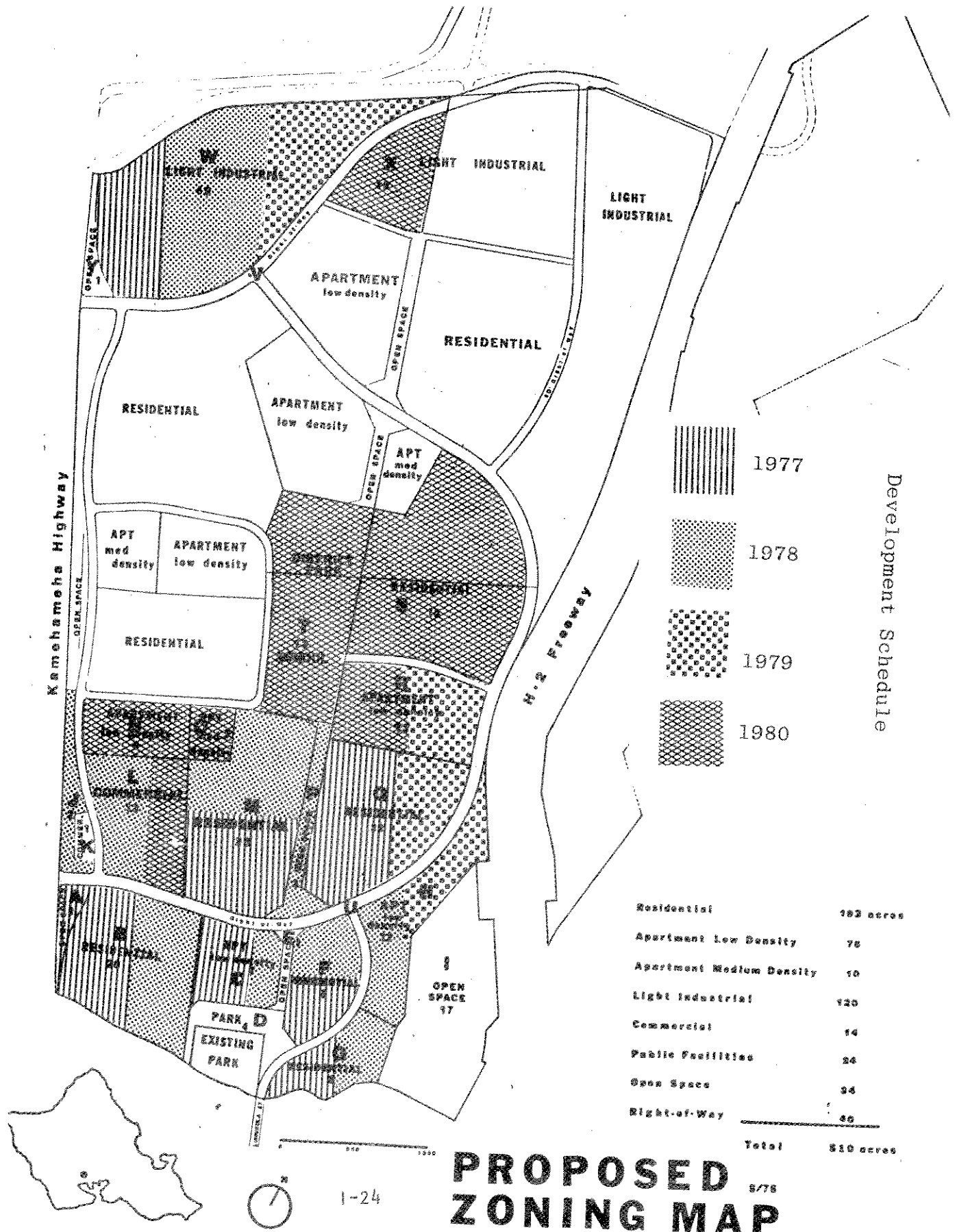
FIGURE 6



PEDESTRIAN CIRCULATION

FIGURE 7

FIGURE 8
 REZONING REQUEST-DEVELOPMENT
 SCHEDULE
 GENTRY-WAIPIO



Residential	163 acres
Apartment Low Density	78
Apartment Medium Density	10
Light Industrial	120
Commercial	14
Public Facilities	24
Open Space	94
Right-of-Way	60
Total	610 acres

PROPOSED ZONING MAP 5/78

The Board of Water Supply has given their preliminary approval (in principle) to the development¹ of new wells within the project area and the location of the reservoir. The Board of Water Supply's most recent letter (relating to the EIS, see p. XI-15) also indicated that procedures call for a water master plan to be submitted for review and approval. (This will be complied with by the engineering consultants, Community Planning, Inc. and William Hee and Associates, Inc.)

The existing reservoir near the center of the project area will continue to serve the Crestview/Seaview subdivision.

The Gentry-Waipio project is included in the capacity for the proposed Honouliuli Sewage Treatment (completion date - early 1980). As stated by the Department of Public Works, see their letter of September 10, 1976 on p. XI-70:

"The proposed development is within the tributary areas of the proposed Honouliuli sewer system. As of this date, no component of the system has been completed although construction contracts for the ocean outfall sewer, the modification of the Waipahu pump station, and the preliminary treatment facility of the Honouliuli wastewater treatment plant (WWTP) have been awarded. The proposed treatment, disposal and interceptor sewer systems will be adequate to serve the proposed development; however, the anticipated completion date is early 1980, assuming that Federal, State and local funds will be or become available."

For the interim period, the retained engineering firm, Park Engineering, Inc. has reported that the plan is to provide onsite sewage treatment (minimum secondary treatment) and transport the effluent to the Waipio Peninsula, Makalena Golf Course for irrigational use.

Negotiations are proceeding between the applicant (through Park Engineering) to achieve concurrence with the Department of Parks and Recreation and the Department of Public Works for the treatment and disposal of sewage effluent from approximately 1,600 units comprising the Phase I development (the interim sewage treatment proposal).

The applicant would pay for all onsite improvements as well as the transmission lines and forced pump station. Any storage required will be lined at the applicant's expense to mitigate potential impact on water quality in Pearl Harbor. The anticipated volume of treated effluent is 500,000 gpd.

¹ Letter from the Board of Water Supply to William Hee and Associates, Inc., dated May 16, 1972, see

Solid Waste. The total residential development will generate approximately 45 tons of solid waste per day when completed.¹ At this time, it has not been determined whether the City's Department of Public Works (Refuse Division) will collect and dispose of the solid waste or whether a private commercial collection company is required. The types of services required will be determined for each neighborhood and land uses (i.e. residential, light industrial park, shopping center).

Comment from the Department of Public Works relating to refuse collection² was received during the consultation period prior to the preparation of this EIS. Their response stated: "Refuse collection will be provided from the Pearl City Corporation Yard. Refuse will be hauled to the Waipahu incinerator for final disposal. Two additional refuse collection crews will be required to serve the completed development at an annual cost of \$103,000."

Electricity. The Hawaiian Electric Company has extensive electrical capacity on and adjacent to the subject property. Two 45 KVA transmission lines pass over the property in a north-south direction serving the Mililani and the upper Kipapa substations. While the size of the overhead line presently transversing the property precludes it being placed underground, it can be relocated to a less obvious place and still serve its intended use. The proposed development will require one substation taking an area of about 100 feet x 135 feet.

During the consultation period prior to the preparation of this EIS, the Hawaiian Electric Company was contacted and provided the following information³ to be included in the EIS:

- "1. Overhead 44 kv transmission lines will exist in the area. The 44 kv circuits may also have 12 kv circuits on the same pole lines. The existing circuits in the area will be relocated either totally or in part to new alignments which yet have to be agreed to by all parties concerned.
2. A 44 kv to 12 kv substation will be required to be installed to serve the area. The exact site is still under consideration. However, a proposed location is at the mauka end of the property. A HECO standard substation design will be employed. The specific configuration of the substation has yet to be determined.
3. The 12 kv electrical distribution system for the proposed housing in this area will be underground as required by City & County ordinances. This will also include underground services."

¹ On the basis that 7.8 pounds per person per day is the present per capita generation of urban waste on Oahu. Solid Waste Management Plan for City and County of Honolulu, Metcalf and Eddy, Inc., July 1971, page 7.

² Letter from the Department of Public Works, City and County of Honolulu, to Environmental Communications, Inc., dated September 10, 1976, see p. XI-70.

³ Letter from the Hawaiian Electric Company, Inc., to Environmental Communications, Inc., dated September 20, 1976, see p. XI-31.

Gas. There are no gas transmission lines for residential uses on the property. However, Gasco has a line going north along the east side of Kamehameha Highway serving Crestview and Seaview. Gasco also indicated that there is sufficient capacity to meet the future projected uses by the Gentry-Waipio residents and other tenants.

Telephone. Telephone service will be provided through a new feeder cable from the Waipahu Central Office when required. The development of the property will not affect a section of the Trans-Pacific cable which bisects the property and is buried 5 to 6 feet underground.

Public Elementary School. Based on the recommendation of the State's Department of Education, the Gentry-Waipio project will include as part of their plan an interim school (using the shell of residential buildings which will later be converted back to housing use) near Crestview Park. A permanent (6 acre) elementary school site has been reserved near the center of the project.¹ The interim and permanent elementary schools are anticipated to serve both the Gentry-Waipio development and the existing Crestview/Seaview subdivision; reducing the impact of the project on existing schools.

The current and projected status of the Waipahu Intermediate and High School facilities are adequate for these age groups. See letters from the State Department of Education to Norman Dyer, A.I.A., & Associates, dated April 22, 1975 and April 23, 1976 on pp. XI-17 and XI-14.

Recreational Areas and Facilities. Based on the projected population (11,500) of the residential development, the Department of Parks and Recreation recommended² that the project include a Community and District park. The developer has agreed to establish a 14-acre District Park and expand the existing 4-acre Crestview park to an 8-acre community park. The District Park site is centrally located within the overall project. The proposed District Park will serve an area 4 to 5 times larger than a community park and includes "structured" recreational facilities such as the sport fields for baseball, football and soccer; courts for tennis, basketball, volleyball; children's playground; gymnasium for supervised indoor activities; community swimming pool and parking. The existing 4-acre Crestview Park will be expanded to an 8-acre community park and will accommodate a multi-purpose building, tennis and basketball courts, in addition to two baseball fields. The Department of Parks and Recreation will be responsible for the development and maintenance of these facilities.

In addition to these proposed parks, a greenway system is planned which will provide the major pedestrian circulation system and define and connect the neighborhoods. These areas are planned for more casual activities and passive uses such as kickball, jogging, bicycling, etc. To maintain these

¹ According to the Department of Education letter to Norman Dyer, A.I.A., & Associates, dated April 22, 1975: "The exact location will require a site selection study by the Department of Accounting and General Services. Your proposal to designate a site immediately makai of the future regional park is acceptable; however, the site must be considered tentative until a site study is completed."

² Correspondence from the Department of Parks and Recreation to Gentry-Pacific, dated April 14, 1975.

semi-private areas, a Waipio Community Association will be established as a non-profit organization. Once totally developed, it is estimated that each homeowner will pay annually \$50 and commercial and industrial owners will pay \$500 per acre per year for the complete maintenance program.

The Department of Parks and Recreation, City and County of Honolulu, was contacted during the consultation period prior to preparing the EIS. Their response (p. XI-22) indicated that they find the project "generally acceptable". In respect to the proposed recreational plans for this project, they stated: "The recreation plan to establish a community park, district park, greenway system, and small recreational areas throughout the project is in conformance with the recommendations made by our Department."

Pre-schools. Anticipating the need for pre-schools and day care centers, the first increment of the Gentry-Waipio development incorporates two sites reserved for pre-schools.

Retail and Service Commercial Facilities. At the lower thoroughfare intersection with Kamehameha Highway, a fourteen acre neighborhood shopping center is planned to be developed during the first phase. (See Figure 8, Community Facilities, p. 1-24). This center is located for convenient vehicular access. The initial phase of the neighborhood shopping center will include a supermarket, drug store, smaller shops and office facilities. As the area matures, plans allow for a small department store plus additional shops.

A service station is proposed next to Kamehameha Highway. The service station will only sell gas and oil without a car maintenance and servicing area (to be located at the shopping center).

C. DESCRIPTION OF INCREMENT 1

A development plan has been completed for Phase 1, which will encompass the lower one-third of the project property (next to Crestview). A variety of housing types, community and institutional facilities are planned in this first increment. Specifically, plans include:

Housing:

Single Family - Single family detached housing is located in five subdivisions.

GentryPlan - Located in two areas; one area utilizes public rights-of-way, and the other is designed for private streets with parking separated from the unit.

Duplex - "zero side" yard design. There are three duplex locations. The units immediately adjacent to Crestview will be one story in order to preserve the rear yard privacy of the existing homes. Units near the interim elementary school are planned for government subsidized "moderate income" housing.

Low-rise Condominium - Proposed in the area overlooking Panakauahi Gulch towards Diamond Head are two and three story structures with living area oriented to maximize the views. The units mauka of the shopping center are

for governmental participation for moderate income families. Next to Crestview Park, 20 units will be initially used as school rooms until the permanent school has been completed. These will be converted to residential use when no longer required for school use.

Mid-rise Condominium - A three-acre site is designed for mid-rise (six to eight stories) condominiums. Covered parking will be provided with the upper decks planned for tennis courts if marketing and economics are acceptable.

Public and Semi-Public Facilities:

The Crestview Neighborhood Park - Expanded to 8 acres, the park will provide enclosed facilities in addition to the normal field and court activities. A multi-functional building has been budgeted by the City Council and is scheduled for construction in 1977. Hard surface courts and parking will be part of the park expansion.

Greenway - The first increment of the greenway system will be built extending from the Crestview Park to the elementary school site. Also, the pathway next to the main thoroughfare will be improved as the road is completed.

Commercial Facilities:

The neighborhood shopping center first increment will be seven to eight acres. Approximately 30,000 to 35,000 sq. ft. for the supermarket, 24,000 to 30,000 sq. ft. for the drug store, 15,000 sq. ft. for variety shops, banks and other office facilities.

D. PHASING AND TIMING

Detailed planning for the first increment, adjacent to the Crestview community, is completed. Construction is anticipated to start immediately upon zoning approval and the issuance of building permits. It is also proposed that the employment generating industrial area (light industrial park) near Mililani Memorial Road be initiated during the first stages of development.

Presently, it is anticipated that the entire project will be completed within eight to ten years. Table 7 shows the tentative development schedule. Figure 8, shows the proposed development schedule for requested rezoning portions of the site.

E. USE OF PUBLIC FUNDS

Presently, there are no governmental commitment of funds or assistance for the proposed project or portions of the residential units to be built. A portion of the units may be financed conventionally, and/or by the use of Federal Housing Authority (FHA) insured programs. The type of financing used will be determined by the mortgage market conditions at the time of development.

TABLE 7
TENTATIVE DEVELOPMENT SCHEDULE
GENTRY-WAIPIO PROJECT

<u>INCREMENT</u>	<u>YEAR</u>	<u>NO. OF UNITS</u>
1	1977	300
2	1978	400
3	1979	500
4	1980	500
5	1981	500
6	1982	500
7	1983	500
8	1984	<u>500</u>
	TOTAL UNITS	3,700

It is anticipated that 25% of the homes built will be affordable by moderate income families. As the project progresses request for governmental funds or assistance is likely to be pursued in order to provide this moderate income housing. The developer has made a commitment to provide a total of 10% of the residential land at cost to responsible government agency(s) for their subsidized or housing assistance programs that do not compete with open "market" development. Included are planned units for the elderly who will also be likely to require governmental assistance in some form.

F. HISTORIC PERSPECTIVE

John II, as a result of the Great Mahele (1848) acquired substantial land holdings in the Waipio area on Oahu. Upon his death, 1878, the estate controlled in excess of 16,000 acres.

In the early 1900's, the land was leased to Oahu Sugar Company and was planted in sugar cane. The property was purchased (1950) by the Hawaiian Pineapple Company and at that time was converted to pineapple.

Dole (the successor company) discontinued any new planting on the subject property in 1968 and 1970 (12 separate parcels) prior to the sale of the land. As a condition of the sale, all surface water rights to the Waiahole Irrigation System were discontinued.

Since 1972, the property has been owned by Tom Gentry and Gentry-Pacific, Ltd. During the State's Land Use Commission (LUC) 5 year boundary review, LUC was petitioned by the property owners to change the State agricultural designation to urban. This petition required the preparation of various support documents and received public review and hearing. On December 20, 1974, the Land Use Commission redesignated a total of 536 acres¹ to urban.

To continue the necessary land use approvals, the City Council, at the request of the landowner,² initiated earlier this year, an application to amend the General Plan/Detailed Land Use Map of the City and County of Honolulu from agriculture to a variety of urban uses. The General Plan amendment was passed³ by the City Council (Ordinance Nos. 4619 and 4620, see Appendix A).

In order to continue to obtain the necessary land use approvals, a rezoning application, on behalf of the owner, was submitted to the Department of Land Utilization. The rezoning is being requested for 263 acres of the total 510 acre project site (see Figures 5 and 8). Tables 3 and 4 provide a detailed description of the specific usage for the area proposed for rezoning.

An EIS was determined to be necessary for this applicant action by

¹ Of this acreage, 26 acres are not being requested for rezoning.

² After attempts to process the General Plan Amendment through the Department of General Planning was not successful.

³ Over Mayor's veto of July 30, 1976.

the Department of Land Utilization. The EIS preparation notice was submitted to the Environmental Quality Commission (August 26, 1976). The EIS preparation notice and the Environmental Assessment/Determination are provided in Appendix B. The consultation period prior to preparing an EIS has been completed (the response date for the last consulting party was October 30, 1976).¹ Sixty (60) copies of the EIS was submitted to the Office of Environmental Quality Control on November 5, 1976.

¹ Various correspondence received and dispositions provided are provided in Sections X and XI.

II. DESCRIPTION OF THE ENVIRONMENTAL SETTING AND THE PROBABLE IMPACT OF THE PROPOSED ACTION ON THE ENVIRONMENT

The description of the environmental setting (also termed existing environmental conditions) and the identification of probable impacts are included in this section. The purpose in combining these two aspects is to provide the reviewer with the existing condition and impact on that condition side by side. This eliminates repetition, and allows for a more continuous narrative.

Impacts of the Gentry-Waipio project will occur in many forms, and in different magnitudes. Therefore, impacts identified and discussed in the context of their relationship to the applicable governmental standards and regulations of their relationship to the applicable governmental standards and regulations (i.e. air quality, water quality, noise, solid waste, sewage treatment and disposal), established historical values (the National and Hawaii Historic Registers), and whether the needs (e.g. roadways, utilities, schools, recreation) could be adequately provided by the existing and/or proposed infrastructures. Where no applicable statements of standards existed (e.g. scenic beauty, erosion, aesthetics, preservation of flora and fauna), attempts were made to determine its present quality and/or value, then assess the impact of the project.

Additionally, the impact of the proposed project was viewed primarily in two categories. The first would be the site and construction work impacts. These are considered to be short-term, temporary effects. Although temporary, the activities involved include land modification which is likely to generate noise, fugitive dust and potential soil erosion (resulting in water pollution) under conditions of heavy rainfall. The second category of impacts falls under residential occupancy. These impacts would be continual and, in all probability, long-term effects. It involves people's activities and their individual and collective modifications to the environment to satisfy their needs and wants.

In viewing the probable impacts of the project, both the short-term and long-term effects were identified and examined.

A. PHYSICAL GEOGRAPHY

1. Topography

In general, the project site lies on a gently rolling plateau at an elevation ranging from 300 feet above sea level at the southern portion of the area (next to Crestview) to 525 feet at the northwest corner near Mililani Memorial Road. The United States Department of Agriculture survey dated August, 1972, evaluated the topography of the property (see Figure 9). Approximately 92% of the property is between 0 to 7% slope.

Classification	Description	Approx. Area	% of Area
A	Level (0-3% slope)	37 ac.	7%
B	Mild (3-7% slope)	433 ac.	85%
C	Moderate (7-15% slope)	20 ac.	4%
D	Steep Slope (15-25% slope)	20 ac.	4%

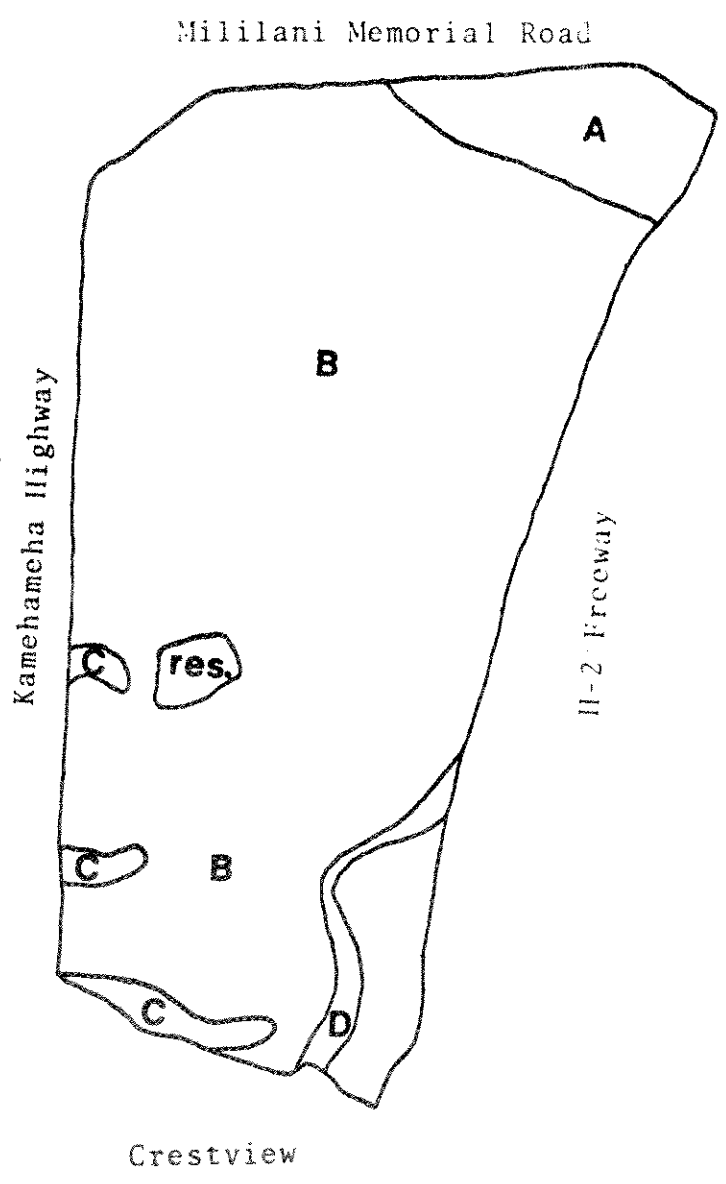


FIGURE 9
TOPOGRAPHY - GENTRY-WAIPIO

Anticipated Impact. Minimal impact on the topography is anticipated. The gentle slopes make the property easily adaptable for the construction of residential units, structures, and the industrial park. Minimal grading is planned. The steep slope (D) shown on the southeast corner of the property on Figure 9, will not be developed.

2. Soils

The soils on the project site are basically silty clays such as: Lahaina, Manana, Molokai, Wahiawa. Based on the soils test performed for the H-2 Freeway, firm and red silty clay is 15 to 25 feet deep, with rock formations thereafter encountered. The characteristic of these soils is generally as follows: easily trenched for drainage and underground utility systems; has good bearing capabilities to support residential and other structures. Figure 10, Gentry-Waipio Soils Map, p. XI-4, shows the approximate location and types of soils encountered on the project area. (Agricultural productivity of the project site is discussed in Section V.)

Anticipated Impact. There will be an impact on the soils of the project site. The removal of the vegetation on the project site will cause an alteration of existing nutrients being absorbed by the soil; however, it is felt that the removal of the present vegetation will be compensated by the planting of various ornamental plants and grasses grown in the landscaped areas of the dwelling units, commercial, open space, etc. Additionally, with the increased hard surfaces over the soil, the moisture in the soil will probably decrease.

During the site work and construction, the property must be graded before the installation of underground water and sewer lines, and the construction of the houses. The movement of soils, fill material, etc., will cause some alteration to the topsoil of the project site.

It is also noted that the following garden products may be applied to individual yards: fertilizers, weed killers, insecticides, and plant growth foods to the landscaped areas.

It is felt that this impact is not adverse and will be similar to that which occurs to the soils of other residential areas of this size and scope.

3. Microclimate¹

The mean rainfall on the subject property is 30.6 inches per year. During the 25 year period when rainfall was recorded on the property, the months of May through October were normally dry, having a median monthly rainfall of less than 1.4 inches. The median yearly daytime temperature is 82.6°F.

The observed surface winds at Wheeler Air Force Base (which would probably be characteristics of the project area) show that the predominant wind direction and higher wind speeds are from a northeast to east direction. Although 9.1% of the time winds blow from a northwest direction, these winds have lower wind speeds (4.4 knots per hour).

¹ Source of the rainfall and temperature data was the Hawaii Sugar Planters' Association rain gauge and temperature station 825.3.

Anticipated Impact. The Gentry-Waipio development will not alter the present climate conditions.

B. FLORA AND FAUNA

1. Flora

The area is covered with scrub brush, "volunteer" pineapple plants, haole koa, wild bittermelon vines, a few Albizzia Montana trees and one small African tulip tree. Aside from the poinsetta and monkeypod trees along Kamehameha Highway, and the trees next to the reservoir, the area is dominated by scrub brush about one to two feet high. On the Diamond Head (east) side the Panakauahi Gulch offers a thick and heavy forested area.¹

Anticipated Impact. Negligible impact on the flora of the site is expected. The development will not affect any endangered or rare endemic species of plant. The project site had been under agricultural cultivation since 1900's when its original flora was removed.

2. Fauna

A survey of the fauna in Panakauahi Gulch was undertaken by Thomas F. Sourisseau. Sourisseau's report, "A Species List of the Birds, Insects, and Mammals of Panakauahi Gulch, Oahu, Hawaii" is provided for specific information in Appendix D. Sourisseau's observations indicated that the insects, avifauna, and mammals living in the gulch are exotic species which are not rare or endangered. It is felt that the fauna in the gulch would be greater than that which is found in the more open project area. Various common bird species such as barred dove, common mynah, Japanese white-eye, lace-necked dove, and red-crested cardinal, may nest or frequent the project.

Also, some "pests", (house mouse, Polynesian rat, roof rat, and the Indian mongooses) are likely to be present in the project area.

Anticipated Impact. Impact on the fauna of the project is expected to be minimal. No rare or endangered species were observed by Sourisseau. Those mammals observed are considered to be "pests" and their displacement is not seen as being detrimental. Additionally, with the planting of various fruit trees, ornamental plants and trees as planned, it is anticipated that more suitable foods, and nesting areas will be created for the various birds. During site work and construction, these birds may be temporarily displaced; however, based on past local experience, these birds normally return and adapt well to urban/suburban environments.

¹ A result of a survey (1976) taken by Paul R. Weissich, A.S.L.A., Landscape Architect, A Preliminary Survey of the Plant Materials in Panakauahi Gulch is provided in Appendix C.

C. HISTORICAL OR ARCHAEOLOGICAL SITES

There are no known sites of historical, archaeological or religious significance on the project site. This finding was reached as a result of research into the records of Bishop Museum, and the Hawaii State Archives. The nearest site of any importance appears at the location of the Battle of Kipapa. This ancient battlefield is located four miles to the northwest of the subject property. Two ancient Heiaus now destroyed, are located approximately one mile north on the floor and side of Kipapa gulch. Journals indicate that the area was not forested during the days of early settlers. The Panakauahi Gulch, located mauka of the H-2 Freeway, is now a thick and heavily forested area that was planted in the late 1920's under the direction of Dr. Lyon who later became Director of the Foster Botanical Garden.

D. ENVIRONMENTAL CONSIDERATIONS

1. Water Runoff and Drainage

Chun and Dugan¹ determined that with the present topography and drainage system, approximately 60% of the surface water runoff drains into the Panakauahi Gulch and eventually into Middle Loch of Pearl Harbor. The remaining 40% tends to flow toward Oahu Sugar Company's sugar cane fields to the south and west and a portion will eventually reach the West Loch of Pearl Harbor through Kipapa and Waikele Streams.

The retained engineering firm preparing the drainage plans, William Hee and Associates, Inc., has prepared: a description of the existing drainage, the proposed drainage plan (in concept), and the proposed increase (quantity). This information is related below:

Approximately 300 acres of the project site contribute storm water runoff directly into Panakauahi Gulch. This tributary area discharges approximately 1200 cubic feet per second of storm water in its existing state. This eventually flows downstream to Waiawa Stream. The remaining area (approximately 200 acres) slopes toward Kamehameha Highway, which acts as a berm and cuts off the storm water runoff from flowing onto the agricultural fields across the highway.

Kamehameha Highway, from Mililani Cemetery Access Road, slopes constantly downwards toward Crestview Subdivision on to Waiawa Interchange. From field observation, the storm water runs along Kamehameha Highway (mauka side) until it reaches Waiawa Interchange where the water is discharged and eventually ends up in Waiawa Stream. The amount of storm water generated from this source is approximately 800 cfs. There are several existing culverts that cross Kamehameha Highway which convey portion of the above storm water across the highway. The quantity of water that these culverts can carry is approximately 100 cfs (25 acres tributary). Thus, at present, about 475 acres of the project site generates storm water that flows into the Waiawa Stream

¹ Michael J. Chun, Ph.D., and Gordon L. Dugan, Ph.D., "Surface Water Runoff and Water Considerations for the Gentry-Waipio Project". October, 1974.

tributary (approximately 1950 cfs) during a peak storm.

The development plans call for a network of underground pipe system and open channels to convey the storm water from the site into Panakauahi Gulch. A minimal portion of the storm water will continue to flow by way of a swale down along Kamehameha Highway.

Use of the existing culverts crossing Kamehameha Highway will be considered during the design stages of the project. Should the site be developed for urban use, the City and County Storm Drainage Standards would be used to design the drainage system for the developed areas. The discharge quantity derived from the criteria set by the Storm Drainage Standards would be approximately 2250 cfs (475 acres). This quantity, as compared to the discharge quantity under existing conditions, generates approximately 300 cfs additional runoff.

The tributary for Waiawa Stream (where storm water from the site eventually flow to) was planimetered from a U.S.G.S. map and found to be approximately 17,000 acres. This area generates approximately 20,000 cfs of storm water (peak discharge). The additional 300 cfs is about 1.5% of the total discharge, and considered minimal as compared to the total 20,000 cfs.

2. Water Pollution

Chun and Dugan¹ also analyzed the impact of the proposed project in terms of impact of the receiving water. A summary of their findings is provided in Appendix E, pp. A-37 to A-41.² Chun and Dugan's findings regarding nitrogen, phosphorus, and suspended solids changes as a result of the proposed project are provided below:

"The calculated incremental change in nitrogen, phosphorus, and suspended solids output, due to project construction for the various storm intensities and durations under review ranged from an increase of 32 to 322 lbs/event and 63 to 630 lbs/event, respectively, for nitrogen and phosphorus to a decrease of 8 to 75 tons/event for suspended solids. The decrease in suspended solids is a direct result of stabilization and covering of the soil. However, the output from the approximately 40 percent of the property which presently drains toward Kipapa and Waikele Streams and into West Loch Pearl Harbor would decrease by 26 to 258 lbs/event, 3 to 27 lbs/event, and 15 to 155 lbs/event for nitrogen, phosphorus, and suspended solids, respectively.

"Based on the extreme incremental change situation per storm event for 510 acres of the proposed development, (the 100 yr storm with a 24 hr duration) in comparison to the constituent yield, from the entire 4,400 acre Panakauahi Gulch drainage area, the nitrogen and phosphorus would theoretically increase by 2.5 and 48%, respectively, and suspended solids would decrease by 0.6%. While the incremental change, even for the 100-year event, is relatively insignificant for nitrogen and suspended solids, the phosphorus is significant.

1 Op. Cit., Surface Water Runoff and Water Considerations for the Gentry-Waipio Project.

2 It should be emphasized that the impact findings prepared by Chun and Dugan in October, 1974, was based on 646 acres (the project site at that time. Consequently, the project size and intensity of urban use has been reduced.

"However, the coastal receiving waters are nitrogen sensitive, thus, increases in phosphorus alone do not tend to stimulate aquatic production. In terms of Pearl Harbor per se, silt mainly resulting from suspended solids, is reported to be the major detriment to the marine environment.

"During construction activities, extreme care should be exercised in erosion control measures to prevent a significant impact on the receiving waters, Panakauahi Gulch, Waiawa Stream, and Pearl Harbor, particularly if a major storm occurs. However, construction activities are relatively short-term in comparison to the project life; thus if stringent erosion control measures are followed, any quality change to the biological, chemical, and physical properties of the receiving waters should be minimal."

Table 8 provides quantitative results of Chun and Dugan's findings.

3. Erosion

Due to the relatively flat topography, the development is not expected to generate any significant erosion problem. However, during construction activities, extensive care will be exercised in erosion control measures to prevent any impact on the downstream waters, particularly if a major storm occurs. Specifically, the drainage engineering consultants have identified the following.

"Grading, soil erosion and sedimentation will be controlled by construction phasing.

"The project will be developed in phases which would reduce the maximum allowable construction area and erosion rate. As a result, the development will require no "special" measures to reduce hazards of erodibility and sedimentation based on City Standards. But the basic erosion control procedure as follows is recommended to insure control:

- "1. Follow sequence of operation as recommended on Page 26 of the "Soil Erosion Standards and Guidelines".
- "2. The Contractor shall minimize the amount of land to be exposed at any one time.
- "3. Grading operations shall proceed from the higher ground area first, where grading operations is necessary. The existing vegetation on the lower area shall be left in place as long as feasible to serve as a filtering medium.
- "4. If the excavated material from the higher area is needed to fill the lower areas described in #3 above, filling operations shall be done in phases in order that erosion and sedimentation problems can be held to a minimum.
- "5. Grassing (common bermudagrass or stargrass cuttings at the rate of 50 bushels per acre or an average of 2 sprigs per square foot) of all areas graded shall be done immediately after final grades are established.

TABLE 8

ESTIMATED STORM WATER RUNOFF AND CONSTITUENT INCREMENTAL CHANGES
DUE TO THE DEVELOPMENT OF THE GENTRY-WAIPIO PROJECT

Duration hrs	Storm Recurrence Interval		Storm Quantity in.	Storm Water Runoff-Incremental Changes				
	hrs	yrs		Hydraulic cfs	Nitrogen acre-ft	Phosphorus lbs/event	Suspended Solids lbs/event	
1	1	1	1.4	390	32	+ 33	+ 63	- 8
1	5	5	2.1	585	48	+ 50	+ 94	- 11
1	10	10	2.4	669	55	+ 57	+108	- 13
1	25	25	2.8	780	64	+ 66	+126	- 15
1	50	50	3.1	864	71	+ 73	+139	- 17
1	100	100	3.5	975	81	+ 83	+157	- 19
6	1	1	2.4	111	55	+ 57	+108	- 13
6	5	5	4.6	214	106	+109	+207	- 25
6	10	10	5.6	260	129	+132	+252	- 30
6	25	25	6.6	306	152	+156	+297	- 36
6	50	50	7.7	358	177	+182	+346	- 41
6	100	100	8.7	404	200	+205	+391	- 47
24	1	1	3.4	39	78	+ 80	+153	- 18
24	5	5	7.0	81	161	+165	+315	- 38
24	10	10	8.7	101	200	+205	+391	- 47
24	25	25	10.5	122	242	+248	+472	- 57
24	50	50	12.0	139	276	+283	+540	- 65
24	100	100	14.0	163	322	+330	+630	- 75

1. From U.S. Weather Bureau "Rainfall-Frequency Atlas of the Hawaiian Islands," Ref. No. 5.
2. Based on a nitrogen value of 1.25 mg/L before development and 0.60 mg/L after development.
3. Based on a phosphorus value of 0.13 mg/L before development and 0.57 mg/L after development.
4. Based on a suspended solids value of 1500 mg/L before development and 250 mg/L after development.

- "6. Graded areas that are not at final grade and is expected to be exposed for more than 30 days, shall be mulched (at the rate of 45 cubic feet per 1,000 square feet) in order to prevent erosion and silt runoff.
- "7. When installing the drainage system for the project, filtering material (jute strips or equal at the inlets to the system shall be provided to prevent silt from entering the system.

"Each phase of the project will be analyzed in detail for erosion and sedimentation hazards, and remedial measures will be taken if necessary."

4. Air Quality

The Department of Health, State of Hawaii, was consulted (prior to preparing any detailed air study) to advise the environmental consultants in the appropriate methodology to utilize to prepare an analysis of the project's impact on air quality. Their letter of October 18, 1976 (Subject: Suggestions for Addressing Air Quality Impact of the Proposed Gentry-Waipio Project), is provided on p. A-46. In complying with the suggestions in the Department of Health's letter, Barry Root, M.A., M.P.H., air pollution consultant, was retained. Root's recently completed study¹ "Carbon Monoxide Impact Analysis for the Gentry-Waipio Project, Waipio, Oahu, Hawaii", provides the following methodology, assumptions, and findings:

"This analysis is based exclusively on techniques and procedures specified in EPA's Guidelines for Air Quality Maintenance and Planning, Vol. 9 (1). Morning peak hour traffic levels are based on 1992 forecasts provided by Henry T. Au, the traffic consultant. The two traffic schemes presented differ only in that Scheme A does not provide an access from the project directly onto the H-2 Freeway, while Scheme B includes such an access. For this analysis, it is assumed that the predicted 1992 traffic loadings will actually occur by 1986, i.e. after completion of the project but six years sooner than expected. It is additionally assumed that by 1986 vehicular CO emissions will have been reduced only to levels that EPA had expected by 1980, i.e. 0.4 times 1975 emission levels. One reference indicates that the CO emission correction factor for 1986 ought to be about 0.27 times 1975 values (3). The traffic and emissions data used in this analysis are thus considerable overestimates compared to other predicted values that could be used.

"Conservatism in this area is offset to a certain degree, however, by the fact that the indirect source analysis technique developed by EPA is based on what is called atmospheric stability category D. This category represents the most stable atmospheric condition that is likely to occur in a major urban area, but it probably underestimates the stable situation that is likely to occur at a rural location such as the one occupied by this project..."

¹ November 1, 1976. A copy of Root's report is available to reviewers upon request to Environmental Communications, Inc. Because of its technical nature, the report is not included in the EIS.

"Assumptions included in the peak hour carbon monoxide impact analysis of the Gentry-Waipio project are summarized as follows:

- 1) 1992 peak morning traffic flow forecasts assumed to occur by 1986.
- 2) 1980 vehicular carbon monoxide emissions expected to be representative of emissions from 1986 vehicles (CO emission correction factor of 0.4).
- 3) Worst case wind direction, wind speed of 1 m/sec, stability category D.
- 4) Impacts at 10 m from roadways except where otherwise specified¹ (site 2).
- 5) 70 % of traffic leaving the proposed project via Kamehameha Highway headed toward Pearl City during the oncoming rush hour.
- 6) All traffic leaving the proposed project via the H-2 Freeway headed toward Pearl City during morning rush hour.
- 7) A G/Cy ratio of 0.5 for signalized intersections.
- 8) Eventual cruise speeds of 35 mph for vehicles leaving this signalized Kamehameha Highway intersection.
- 9) Road capacities as follows:

H-2 Freeway	= 2,000 vehicles/lane/hour
Kamehameha Highway	= 1,600 vehicles/lane/hour ²
Proposed project roadways	= 1,200 vehicles/lane/hour ²

- 10) Conversion factor for CO concentrations - 1 ppm = 1.15 mg/m .

"In the final analysis (Table 8) it appears that State of Hawaii one-hour carbon monoxide standards might be exceeded within 10 meters of Kamehameha highway intersections under either of the peak hour morning traffic flow schemes proposed for the Gentry-Waipio project. Predicted peak hour carbon monoxide concentrations for most sites analyzed would, however, be less than half of the one hour Federal carbon monoxide standard.

"On the Kamehameha Highway side of the Crestview subdivision, the one hour State CO standard might also be exceeded under proposed traffic Scheme A, but utilization of traffic Scheme B (with an H-2 Freeway access) would reduce peak hour CO impact at this site to a value below even the stringent State limit. In fact, traffic Scheme B would result in lower peak hour CO values at most sites and from this standpoint, would obviously be the best traffic flow pattern for the project (especially in unsignalized form)."

¹ The method uses 10 meters from the roadway. It is noted, however, that the development plans call for the minimum distance (setback) from the highway be 50 meters.

² These road capacities have subsequently been revised by the traffic consultant to 1,000 vehicles/lane/hour.

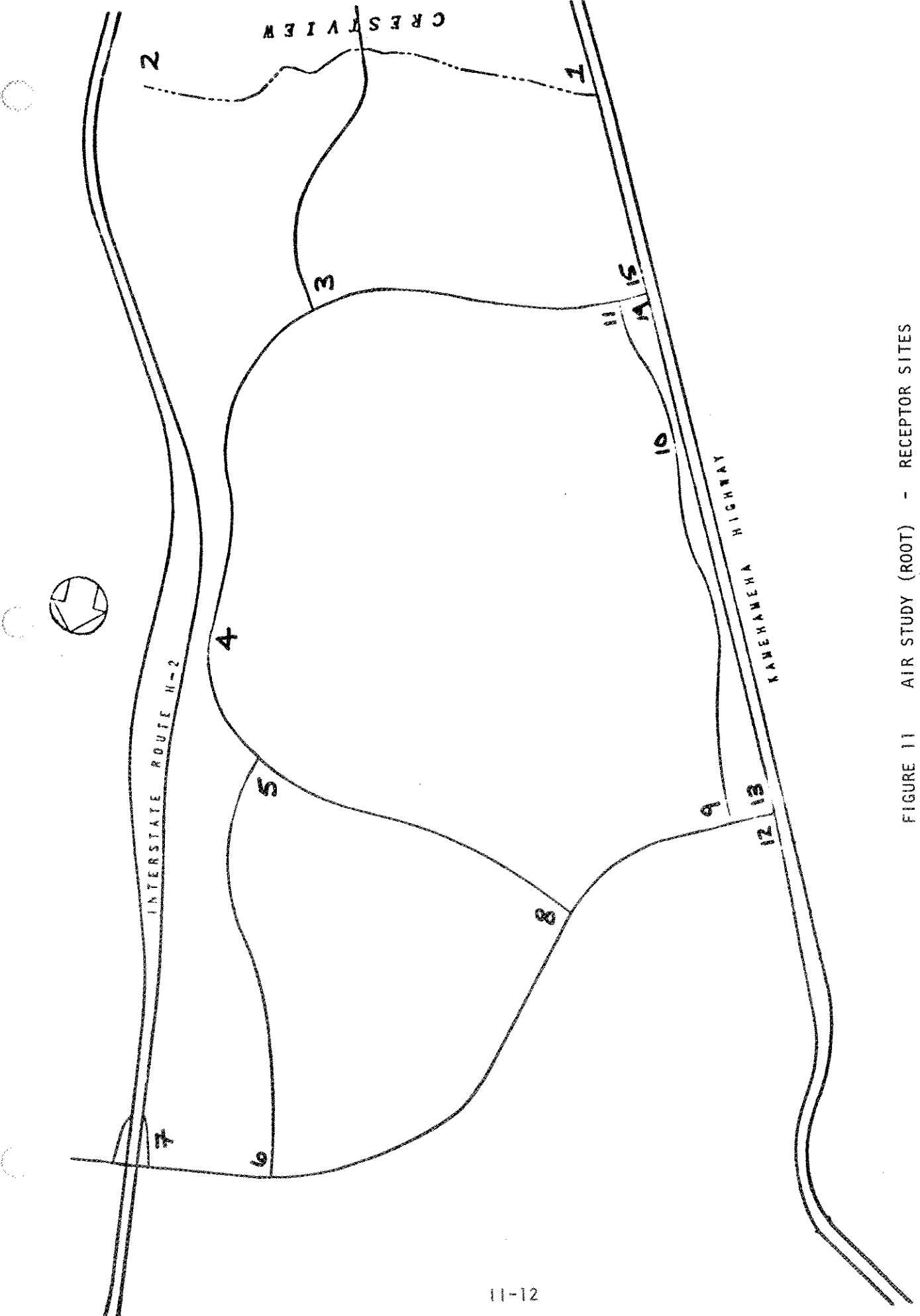


FIGURE 11 AIR STUDY (ROOT) - RECEPTOR SITES

TABLE 9

ESTIMATED 1986 PEAK ONE-HOUR CARBON MONOXIDE CONCENTRATIONS (mg/M³)WITHIN OR NEAR THE PROPOSED GENTRY-WAIPIO PROJECT^a

<u>Site</u>	<u>Without Development</u>	<u>With Traffic Scheme A</u>	<u>Development Traffic Scheme 2</u>	<u>State Standard</u>	<u>Federal Standard</u>
1	5.4	10.3	9.3	10	40
2	2.9/6.7 ^b	2.9/6.7 ^b	3.5/7.3 ^b	"	"
3	2.0	3.0	3.0	"	"
4	3.3	3.8	4.0	"	"
5	2.0	2.8	2.8	"	"
6	2.0	3.0	6.8	"	"
7	6.7	6.7	7.8	"	"
8	2.0	4.2	3.8	"	"
9	3.1	9.7/11.3 ^c	8.1/10.6 ^c	"	"
10	4.1	5.2	5.1	"	"
11	3.1	11.9/12.6 ^c	9.7/12.1 ^c	"	"
12	5.4	13.9/17.5 ^c	11.9/16.5 ^c	"	"
13	5.4	13.3/18.5 ^c	11.5/17.1 ^c	"	"
14	5.4	18.6/23.3 ^c	15.3/22.4 ^c	"	"
15	5.4	17.8/20.3 ^c	14.7/19.6 ^c	"	"

a See Figure 5 for location of sites.

b In gulch 10 m from H-2 Freeway.

c If Kamehameha Highway intersection is signalized, G/cy = 0.5.

Additionally, Root noted that fugitive dust will be generated during construction. He states:¹ "Assuming that no more than 170 acres of the site are under construction at any one time the total project fugitive dust emission factor would be about 68 grams/sec."

In order to mitigate fugitive dust, the contractor will take normal and effective practices and methods of controlling dust (e.g. watering down the site under construction, immediately planting the affected and open areas).

5. Noise Considerations

Noise is defined as unwanted sound. Based on the surrounding uses of the site and the current vacant use of the site itself, noise pollution was found to be non-existent at most locations within the project area. However, at the perimeter of the project, those areas adjacent to the H-2 Freeway and Kamehameha Highway, noise from passing vehicles was evident. Vehicular noise was heard up to a distance of about 150 to 200 feet within the site. Additionally, during weekends, "dirt bikes" (motorcycles) are using the site for recreational runs through the area. These "dirt bikes" create much noise and can be heard from several hundred yards away.

Anticipated Impacts. Noise during site preparation and construction can be anticipated. This noise may disturb the Crestview subdivision (the upper northern portion); however, it is felt that this noise will not be significant because:

- a. The existing park at the northern portion of the subdivision acts as a buffer between the phase 1 development and the subdivision.
- b. The noise created will be primarily during working hours and not during normal leisure time family hours.

The permanent existence of a community on this site will create some noise from normal indoor and outdoor activities. Such activities include children playing, vehicles passing on streets, etc. These sounds are generally not annoying to the surrounding neighbors. It is felt that these sounds will be within the acceptable residential noise limits.

Additionally, noise from the Kamehameha Highway will be reduced because of the planned buffer areas (open space and green belts). The H-2 Freeway is substantially lower than the elevation of the residential areas where adjacent. The massive tree planting program would also have a tendency to absorb some noise which will mitigate some noise.

Because of the development of this project, the "dirt bikes" use of the area will be eliminated.

¹ Correspondence from Barry Root to Environmental Communications, Inc., October 20, 1976

6. Aesthetics

Presently, the site is primarily covered with various "weed type" exotic vegetation. It is felt that the removal of this vegetation will not be adverse from the standpoint of aesthetic qualities or values. Because of the flatness of the area, the view of the property from Kamehameha Highway and the H-2 Freeway is limited and is not considered to be of unique scenic value. However, with the construction of elevated structures future residents of the project will have scenic corridors toward the Koolau and Waianae Ranges, Diamond Head to Pearl Harbor plus the interior orientations of large greenways.

Anticipated Impacts. Gentry-Waipio plans call for low profile structures which would not disturb the present scenic corridors of adjacent lands. Medium rise structures will be placed at locations where minimal visual obstructions occur. Respect for the existing Crestview neighborhood and the relationship with designated industrial use above Mililani Memorial Road is incorporated into the plan.

E. INFRASTRUCTURES AND SUPPORT FACILITIES

Discussion on infrastructures and support facilities was provided on pp. 1-22 - 1-28. Because the previous discussion on these items has indicated the existing condition and planned improvements, it is felt that further repetition is needed here. However, the general evaluation of the project's impact on these infrastructures is provided below.

Anticipated Impacts. The project will primarily construct or improve new facilities in the following areas: public elementary school site (and some development costs to build the school), parks, potable water resources, redirection of drainage, neighborhood shopping center, and service and employment center. In other areas, the project will extend the services required onto the site. These include: solid waste collection and disposal (probably for low density residential units only, commercial firms will likely be retained for the commercial and light industrial areas), sewage collection, electrical power, gas (possibly), and telephone. And in a few cases the project will utilize existing facilities such as fire and police services and intermediate and high school.

Public and semi-public facilities are vital to new residential developments. Need for various facilities is generally met by: 1) utilizing excess capacity of existing facilities, 2) over-extending existing facilities or, 3) constructing new facilities to meet added demand. In Gentry-Waipio, most of the essential facilities will be developed, and some nearby existing facilities such as fire and police can be utilized without over-extending their capacities.

The development of this project will mean that the developer will absorb much of the "normally" governmental provided costs of infrastructures, roadways, etc. Although some governmental costs would still be evident, such as funding the operation, maintenance, and personnel expenses, much of the initial construction costs will be paid for by the developer. The developer is providing adequate facilities required to support this community without infringing upon or having a detrimental impact on other residential areas using the same resource or facility.

F. TRANSPORTATION

1. Highways and Streets

Every attempt has been made to secure convenient and generally efficient transportation and traffic modes with the objective of protecting the community from through traffic. In designing the internal street system, major considerations were given not to engineering techniques producing the most economical cost consistent with the level of transportation services desired, but to the creation of the maximum social and economic values related to welfare, such as the separation of automobile and pedestrian traffic, the elimination of through traffic, reduction in neighborhood traffic and the enjoyment and use of open space. Thus, the major vehicular pattern is laid out along the perimeter of the residential neighborhood with pedestrian movement directed through the middle on pedestrian ways and bicycle paths.

Primary vehicular access will be to Kamehameha Highway with a secondary connection to the H-2 Freeway if permitted by the State Department of Transportation.

Land Use control and distribution are also used to maintain an effective internal street system through balancing of land uses to achieve complementary traffic flow patterns and more efficient utilization of the highway and transportation facilities. Through the balanced mixture of residential, commercial, and industrial land uses, optimum use of the over-all highway system will result and minimum overlaps of traffic concentration will reduce the possibility of unusually high traffic peaks.

Two street layout schemes are proposed and considered in Figures 11 and 12. Each street layout scheme provides for streets of adequate widths in the proper locations for the distribution of traffic to the main traffic arteries. The alternate scheme, Scheme B, differs from Scheme A in that there is access to the H-2 Freeway with the construction of a new interchange or interconnecting ramps. Scheme B is the preferred scheme and offers the best design that will reduce traffic congestion, provide greater flexibility, capacity and speed the movement of traffic.

Until the H-2 Freeway is completed in 1977, Kamehameha Highway is the only major arterial serving the Waipio District. With the exception of the H-2 Freeway scheduled for completion in 1977, the future highway system is the same as the existing highway system. Kamehameha Highway must continue in use, but can be improved to higher standards and capacity for future traffic volumes.

When constructed according to the findings and recommendations of the State Department of Transportation, Kamehameha Highway will ultimately be four lanes and the H-2 Freeway six lanes, high capacity divided highways. This future highway system was also analyzed and investigated by the State Department of Transportation for classification in accordance with existing and anticipated uses.

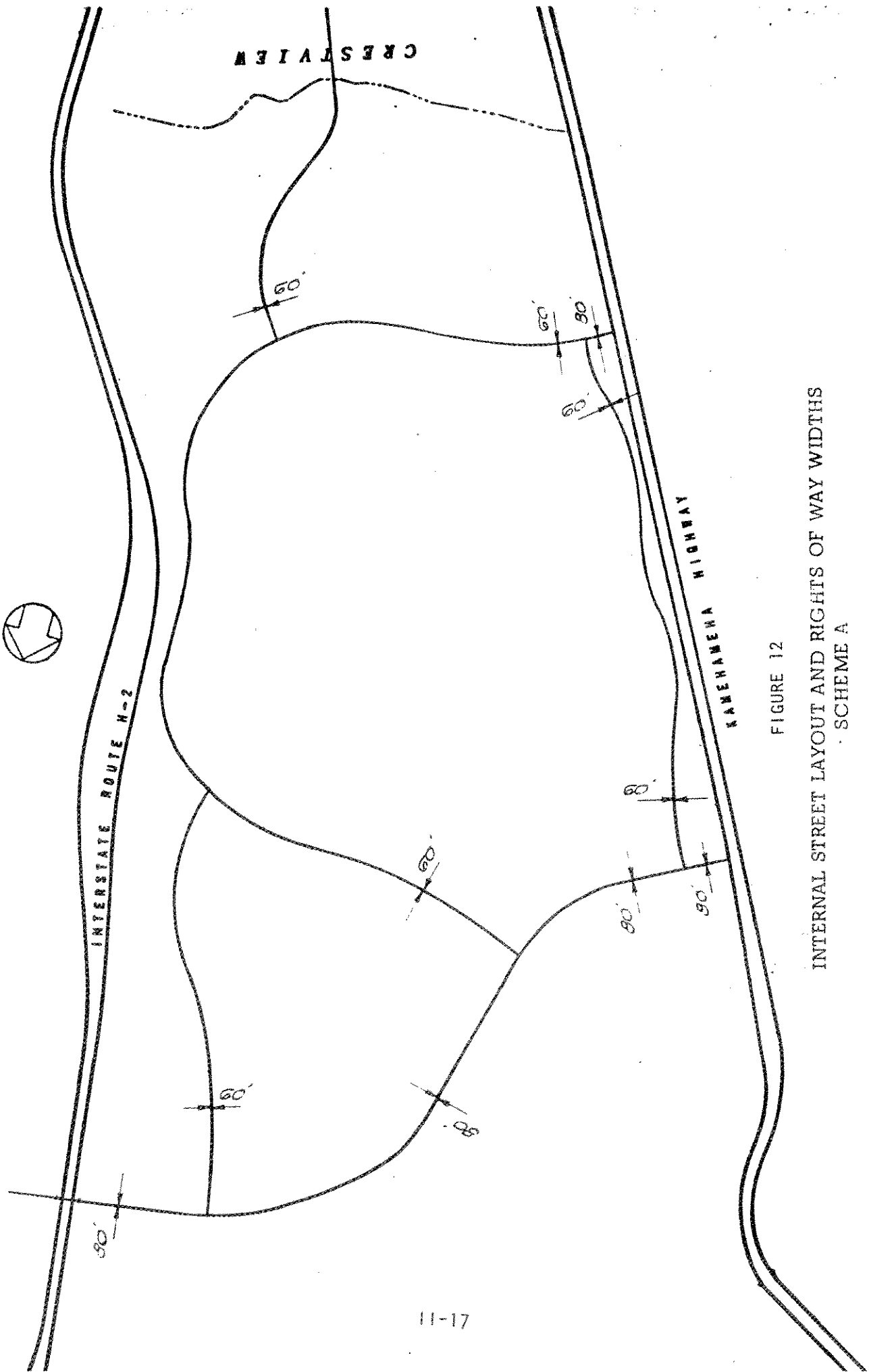
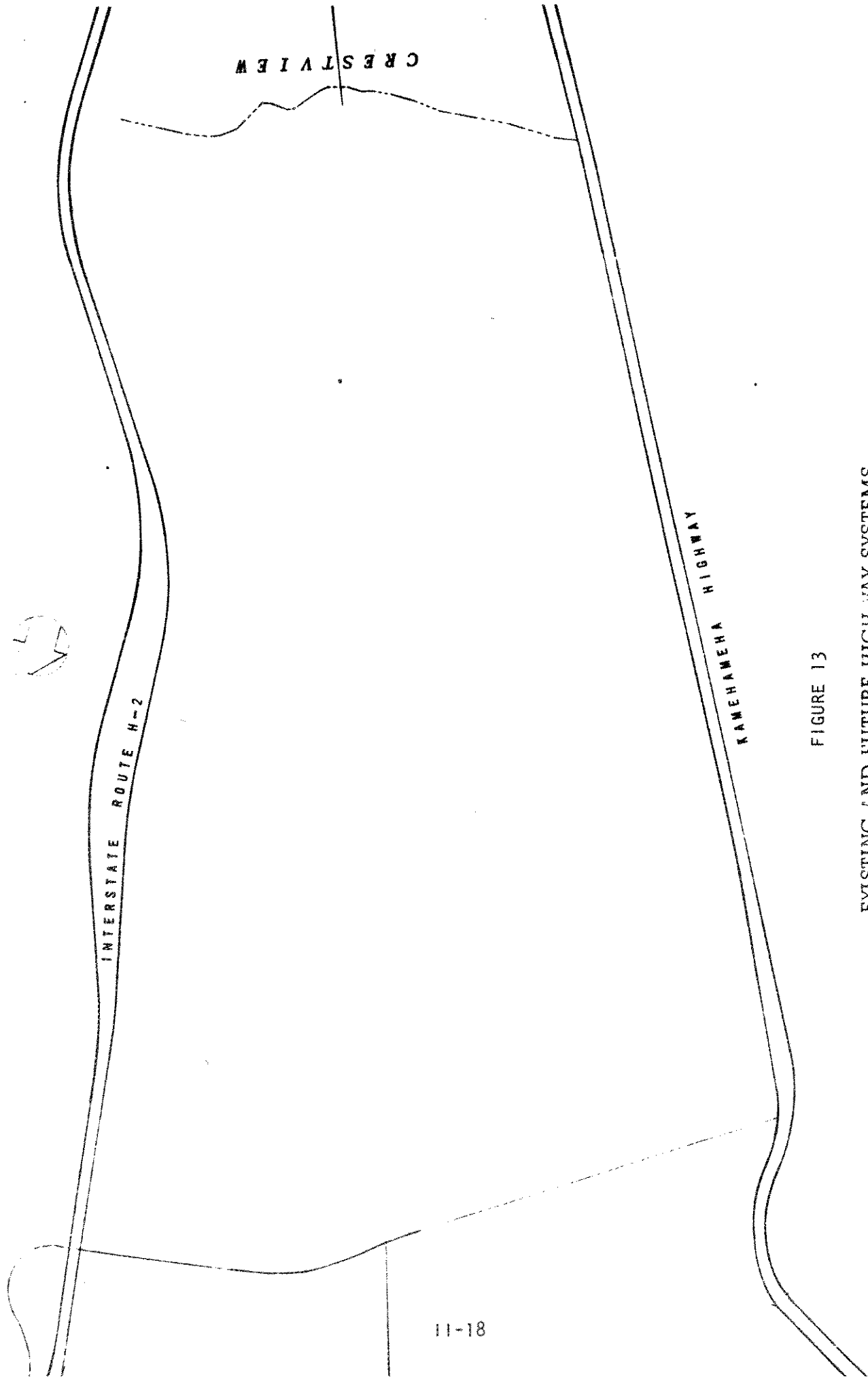


FIGURE 12
 INTERNAL STREET LAYOUT AND RIGHTS OF WAY WIDTHS
 SCHEME A



CRESTVIEW

INTERSTATE ROUTE H-2

KAMEHAMEHA HIGHWAY

FIGURE 13

EXISTING AND FUTURE HIGHWAY SYSTEMS

Based on the existing and future highway systems with the proposed connections and using the calculated capacities of the highways, the internal street system will be adequate to meet not only present vehicular demands but also future increases as well. There will be an ultimate of 3,700 dwelling units in the development and the overall peak hour volume in one direction will total only 2,960.

Since there is the question of whether or not the additional traffic generated by the "Gentry-Pacific, Waipio" development will have adverse effects on the main traffic arteries, it would be appropriate to investigate and determine how many additional cars can be accommodated by the main highway network as planned by both the City and State. The two traffic arteries are Kamehameha Highway and the H-2 Freeway and the traffic volume capacities of only 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.

Kamehameha Highway has been classified as a principal arterial and the H-2 Freeway as an Interstate highway, both intended to provide good service for high volumes of traffic. Using average values, the capacity of a multi-lane highway is approximately 1,275 vehicles per lane per hour in one direction. The H-2 Freeway is a higher use facility and its capacity is usually a much higher value than the approximately 1,275 vehicles per lane per hour. For a multi-lane highway of this type, the largest number of vehicles that can pass a point one behind the other in a single lane, under ideal conditions, averages between 1,900 and 2,200 passenger vehicles per hour. The lower capacity figure, however, will be used for design purposes.

Excluding the traffic volume generated by the "Gentry-Pacific, Waipio" development, the projected future traffic volumes for both directions at the A.M. peak hour are 1,834 for Kamehameha Highway and 4,660 for the H-2 Freeway. The A.M. peak hour volume generated by the "Gentry-Pacific, Waipio" development will total only 2,960 trips for both directions. The major highway network, therefore, will have adequate capacities to accommodate the development with the improvement of Kamehameha Highway to a four-lane highway.

Assuming that Kamehameha Highway will not be improved to a four-lane highway but will remain a basic two-lane highway with the center lane reserved or utilized for left turns in both directions or for passing movements in one direction only, the capacity of Kamehameha Highway should range between 1,000 to 1,200 vehicles per lane per hour in one direction to provide for level of Service C. Following the completion of the H-2 Freeway in 1977, the peak hour volume in one direction on Kamehameha Highway should show a decrease to 650 vehicles in one direction. Thus, it would require the completion of between 693 to 1,091 dwelling units before the capacity of Kamehameha Highway is exceeded.

It should be emphasized that Kamehameha Highway is more than a two-lane highway, since it has a center lane for passing and for left turns. For design purposes, the design capacity of a three-lane highway is greater than a two-lane highway. (As set forth in the manual "A Policy On Highway Types--Geometric", Page 21, published by the American Association of State Highway Officials. For practical purposes, the capacity value of Kamehameha Highway, therefore,

should be between that of a two-lane highway and a three-lane highway. If the increase is taken at the midpoint ($12 \text{ of } 75 + 100 \div 2$) or 43.5 per cent, the number of dwelling units that may be constructed will increase from 693 to 994 for the 1,000 capacity value and from 1,091 to 1,556 for the 1,200 capacity value. The lower capacity values ranging from 1,000 to 1,200 vehicles per lane per hour, however, will be used.

In order to accommodate the traffic generated by the remaining dwelling units of the total 3,700 dwelling units, Kamehameha Highway must then be widened to a four-lane highway.

On the assumption that no improvements are made to existing Kamehameha Highway and in order to maintain the capacity of Kamehameha Highway, some form of improvement may become necessary at the connections to Kamehameha Highway. This may consist of a flared intersection to provide an added lane for two lanes of left turning movements, after which the traffic may again merge into one through lane. The approaches to the intersection may also be flared to accommodate right turning movements to and from the development.

2. Public Transportation

Presently, there are no buses serving the project area. Buses do, however, travel between Wahiawa and Honolulu along Kamehameha Highway with bus stops for Crestview/Seaview residents.

Improved public transportation should mitigate in the future the adverse consequences of traffic and improve the traffic flow on the highway and street systems. Each additional bus added to the route will reduce the peak hour traffic on the highway by a minimum of 38 vehicles with an average headway of 12 minutes during the peak hour, the 5 buses will reduce the number of passenger vehicles on the highway by 190 vehicles.

Although each bus will reduce the total peak hour traffic volume on Kamehameha Highway by 38 vehicles, it is not expected that the "Gentry-Pacific, Waipio" development alone will undergo such a reduction in peak hour volumes with improved bus service. The motor vehicle trip volumes generated by the development should also show a decrease by 20% for the 12 minute headway bus service and by 25% for the 5 minute headway bus service.

Anticipated Impact. An internal bus system, funded by Gentry-Waipio Community Association may be implemented depending upon the need for such services. It is also anticipated that a proposed community of this size would create public transportation demands so that services of "The Bus" may be requested and provided.

Detailed analysis of the traffic impact is set forth in a separate report entitled "Revised Traffic Impact Statement for 'Gentry-Pacific, Waipio' Development, Revised August, 1976", prepared by Henry Tuck Au, Consulting Engineer.

It is noted that the Traffic Impact Statement prepared by Henry Au was provided to the State Department of Transportation. Their latest letter regarding the report is on the next page.

GEORGE R. ARIYOSHI
GOVERNOR



file
E. ALVEY WRIGHT
DIRECTOR

DEPUTY DIRECTORS
WALLACE AOKI
RYOKICHI HIGASHIONNA
DOUGLAS S. SAKAMOTO
CHARLES O. SWANSON

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
669 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

IN REPLY REFER TO.

September 15, 1976

STP 8.3846

Mr. Norman Dyer
Vice President
Gentry Pacific
P.O. Box 295
Honolulu, Hawaii 96809

Dear Mr. Dyer:

Subject: Traffic Impact Statement
Re: Gentry-Waipio Project

This confirms our statement to you on August 10, 1976, that your traffic impact statement gives a reasonable and fair assessment of the traffic and its impact on our major highway facilities, and is acceptable to the Department of Transportation.

As agreed, your subsequent submission on the traffic analysis and impact is to include the following:

1. The need to modify the Kamehameha Highway in the area of the proposed intersections be identified; and
2. The traffic consultant incorporate information and impact of other transit means such as buses would have on traffic generation.

Sincerely,

E. Alvey Wright
E. ALVEY WRIGHT
Director

TABLE 10

PROJECTED TRAFFIC DATA

PROJECTED DWELLING CHARACTERISTICS FOR GENTRY-WAIP10

<u>Type</u>	<u>No. of Units</u>	<u>Persons Per Unit</u>	<u>Population</u>
Single Family	500	4.0	2,000
Gentry Plan	600	3.5	2,100
Townhouse	600	3.5	2,100
Low Rise	1,500	2.5	3,750
Mid Rise	<u>500</u>	<u>2.5</u>	<u>1,250</u>
Total	3,700	3.03	11,200

PROJECTED HOUSEHOLD CHARACTERISTICS FOR GENTRY-WAIP10

<u>Auto Per Dwelling Unit</u>	<u>Persons Per Dwelling Unit</u>	<u>Employed Persons Per Dwelling Unit</u>
1.8 Range 1.6 to 2.0	4.1 Range 1.7 to 4.5	1.6 Range 1.1 to 1.9

PROJECTED TRIP CHARACTERISTICS FOR GENTRY-WAIP10

<u>Trips Per Person</u>	<u>Trips to Work Per Employed Person</u>	<u>Trips Per Dwelling Unit</u>
2.1 Range 0.7 to 2.9	0.7 Range 0.5 to 0.7	8.0 Range 3.2 to 12.0

PROJECTED CAR OCCUPANCY FACTORS FOR GENTRY-WAIP10

<u>Work</u>	<u>Shop</u>	<u>Other</u>	<u>Non-Home Based</u>
1.19	1.39	1.74	1.54

G. SOCIOECONOMIC ASPECTS

Provided below, and on Tables 11 to 16, is a review of the socio-economic characteristics of the Ewa District and the communities surrounding the Gentry-Waipio project area:

The proposed Gentry-Waipio project adjoins the various urban uses of the surrounding area on the present General Plan/Detailed Land Use Map. More specifically, it abuts the existing 270-acre Crestview/Seaview subdivision of 450 single family units and 100 multi-family units to be added in the near future. The existing housing units were developed during the 1960's. Mainly due to strong community action, land for a four-acre neighborhood park site was acquired by the City from Gentry and the park was completed in 1974. It is proposed that the park be expanded to eight acres in the near future as it represents the only public facility in the Crestview/Seaview community.

Approximately two miles north of the Gentry-Waipio project, Mililani Town was started in 1967 as a "New Town" on 3,660 acres owned by Castle and Cooke. Approximately 2,200 single family units and 1,600 multi-family units (including 232 H.H.A. units) have been completed. Community facilities include schools, parks, fire station, town and shopping center.

The Ewa Census District has one island-wide activity center (the Aloha Stadium), one regional activity center (the Leeward Community College) and numerous community activity centers. Overall, the district is adequately serviced by education and religious institutions, park, library, police and fire facilities. However, the Crest/Seaview community is isolated and other public and private facilities are needed.

Between 1960 and 1970, the population for the Ewa Census District increased 68% (the highest rate of any Oahu Census District) compared to a 25% increase overall on Oahu.

The average number of persons per dwelling unit in the Ewa Census District has traditionally been larger than the overall Oahu ratio. While the average household size throughout Oahu is decreasing, the Ewa Census District household remains higher than the Oahu average. Mililani and Crestview/Seaview have even larger households. Traditionally, family oriented projects have been developed in the Ewa Census District and specifically in the area of Crestview and Mililani. Crestview/Seaview families also include more grandparents which adds to a larger family size compared to other communities within the Ewa Census District.

The 1969 family income level of the Ewa Census District is slightly lower than that of Oahu. However, the family income in Mililani and Crestview/Seaview is slightly higher than that of Oahu. Nearly one half of the married women who live in Mililani and Crestview are employed which is a ratio similar to that of the overall island. Also within the families living in Mililani and Crestview/Seaview, a slightly higher percentage of women with children

TABLE 11
POPULATION (1960-1970 CENSUS)

CENSUS TRACT	AREA	1960	1970	GROWTH TREND (1960-1970)
73-89	Ewa Census District	78,666	132,299	68.2%
89.02	Millilani/Waipio	---	4,420	---
89.03	Crestview/Seaview	---	2,369	---
1-113	Oahu	500,393	630,528	26.0%

TABLE 8
NUMBER OF HOUSEHOLDS AND PERSONS (1960-1970 CENSUS)

CENSUS TRACT	AREA	HOUSE-HOLD	PERSON/HOUSEHOLD	HOUSE-HOLD	PERSON/HOUSEHOLD	GROWTH TREND (1960-1970)
73-89	Ewa Census District	14,813	4.4	27,748	4.1	87.3%
89.02	Millilani/Waipio	---	---	1,056	4.2	---
89.03	Crestview/Seaview	---	---	534	4.4	---
1-113	Oahu	117,856	3.9	164,763	3.6	39.8%

TABLE 12
FAMILY INCOME CHARACTERISTICS (1969 INCOME)¹

CENSUS TRACT	73-89	90.02	89.03	1-113
AREA	Ewa Census District	Millilani/Waipio	Crestview/Seaview	Oahu
Less than \$3,000	1,656 (6.17%)	54 (5.45%)	26 (5.01%)	8,751 (6.32%)
\$3,000 - \$4,999	1,347 (5.02%)	20 (2.02%)	23 (4.43%)	8,710 (6.29%)
\$5,000 - \$7,999	4,389 (16.36%)	115 (11.62%)	69 (13.29%)	21,072 (15.23%)
\$8,000 - \$9,999	3,264 (12.17%)	73 (7.37%)	65 (12.52%)	15,233 (11.01%)
\$10,000 - \$14,999	7,835 (29.20%)	322 (32.53%)	206 (39.69%)	36,155 (26.13%) ²
\$15,000 - \$24,999	7,078 (26.38%)	365 (35.96%)	121 (23.31%)	36,703 (26.53%)
\$25,000 - \$49,999	1,169 (4.36%)	50 (5.05%)	9 (1.73%)	10,486 (7.58%)
\$50,000 and over	93 (.35%)	---	---	1,259 (.91%)
TOTAL	26,831 (100%)	990 (100%)	519 (100%)	138,369 (100%)
MEDIAN FAMILY INCOME	10,575	13,698	11,739	12,035

1. Approximately 50% of the families are owner/occupants.

2. 35% of the families living on Oahu have sufficient income to qualify as a buyer under the current market prices.

TABLE 13
LABOR FORCE CHARACTERISTICS OF MARRIED WOMEN (1970 CENSUS)

CENSUS TRACT	73-89	89.02	89.03	1-113
AREA	Ewa Census District	Millilani/Waipio	Crestview/Seaview	Oahu
MARRIED WOMEN, HUSBAND PRESENT	24,552	944	467	124,914
IN LABOR FORCE	10,515 (42.8%)	460 (48.7%)	217 (46.5%)	59,652 (47.8%)
WITH CHILDREN UNDER SIX (6) YEARS	10,147	368	152	41,441
IN LABOR FORCE	3,355 (33.1%)	143 (38.9%)	68 (44.7%)	15,158 (36.6%)

TABLE 11
OCCUPANCY AND UTILIZATION OF HOUSING UNITS (1970 CENSUS)

CENSUS TRACT	78.89	89.02	89.03	1-113
AREA	Ewa Census District	Millilani/Waipio	Crestview/Seaview	Oahu
OWNER/OCCUPIED	14,251 (49.15%)	859 (72.28%) ¹	366 (60.30%)	74,184 (42.61%)
RENTER/OCCUPIED	13,471 (46.46%)	197 (17.27%)	168 (27.68%)	90,579 (52.02%)
VACANT	1,270 (4.38%)	85 (7.45%)	73 (12.03%)	9,344 (5.37%)
TOTAL	28,992 (100%)	1,141 (100%)	607 (100%)	174,107 (100%)

1. Competitive projects in addition to Millilani will increase the opportunity of owner/occupants.

TABLE 14

VALUE OF HOUSING UNITS (1970 CENSUS)
SPECIFIED OWNER-OCCUPIED UNITS¹

CENSUS TRACT	73-89	89.02	89.03	1-113
AREA	Ewa Census District	Milliani/Waipio	Crestview/Seaview	Oahu
LESS THAN \$10,000	34 (.25%)	---	6 (1.69%)	809 (1.24%)
\$10,000 - \$24,999	1,158 (10.96%)	25 (2.09%)	10 (2.82%)	8,098 (12.46%)
\$25,000 - \$34,999	6,267 (45.26)	114 (13.57%)	38 (10.73%)	18,755 (28.85%)
\$35,000 - \$49,999	5,300 (38.28%)	686 (81.57%)	291 (82.20%)	23,304 (35.84%)
\$50,000 OR MORE	727 (5.25%)	15 (1.79%)	9 (2.54%)	14,051 (21.61%)
TOTAL	13,846 (100%)	840 (100%)	354 (100%)	65,017 (100%)
MEDIAN VALUE (\$)	32,250	34,100	30,200	38,100

1. Limited to one-family homes on less than 10 acres and no business on property.

TABLE 15
HOUSING UNITS AND YEAR BUILT (1970 CENSUS)

CENSUS TRACT	73.89	89.02	89.03	1-113
AREA	Ewa Census District	Millilani/Waipio	Crestview/Seaview	Oahu
1969-3/1970	2,886 (10.2%)	403 (35.6%)	72 (12.2%)	11,268 (6.5%)
1965-1968	6,153 (21.8%)	218 (19.3%)	199 (33.7%)	28,031 (16.1%)
1960-1964	6,205 (22.0%)	284 (25.1%)	115 (19.5%)	35,251 (20.2%)
1950-1959	7,760 (27.5%)	199 (17.6%)	104 (17.6%)	46,457 (26.7%)
1940-1949	2,917 (10.3%)	14 (11.2%)	74 (12.5%)	25,193 ()
1939 OR EARLIER	2,293 (8.1%)	13 (1.2%)	26 (4.4%)	27,898 (16.0%)
TOTAL:				
(Year Round Housing)	28,214 (100%)	1,131 (100%)	590 (100%)	174,098 (100%)

TABLE 16

CONTRACT RENT (1970 CENSUS)
SPECIFIED RENTER OCCUPIED UNITS¹

CENSUS TRACT	73-89	89.02	89.03	1-113
AREA	Ewa Census District	Mililani/Waipio	Crestview/Seaview	Oahu
LESS THAN \$100	2,709 (20.37%)	11 (5.58%)	58 (38.16%)	23,124 (25.71%)
\$100 - \$149	3,824 (28.62%)	47 (23.86%)	31 (20.39%)	25,460 (28.31%)
\$150 - \$199	2,341 (17.60%)	90 (45.69%)	11 (7.24%)	15,915 (17.70%)
\$200 or MORE	2,111 (15.80%)	42 (21.32%)	24 (15.79%)	13,816 (15.36%)
NO CASH RENT	2,377 (17.79%)	7 (3.55%)	28 (18.42%)	11,624 (12.92%)
TOTAL	13,362 (100%)	197 (100%)	152 (100%)	89,939 (100%)
MEDIAN CONTRACT RENT (\$)	134	171	105	130

1. Excludes one-family homes on 10 acres or more

under six years of age are working and this situation creates an additional need for child care facilities.

In relationship to Oahu, a slightly higher percentage of families own their homes in the Ewa Census District. The percentage of owner-occupants in Mililani and Crestview are far greater compared to Oahu.

The median rent of housing is slightly higher than that of Oahu and substantially greater in Mililani. Median value of housing units is lower in the Ewa Census District compared to that of Oahu.

Available 1970 Census data does not show an actual count of housing conditions specifically identifying dilapidated units. Assuming a housing unit has an average life of 45 years, it is fair to anticipate that many of the dwellings built before 1939 are presently in a deteriorated condition, and many will need to be demolished and replaced by 1985. Many of the older neighborhoods with low density land use have been or will be converted and redeveloped with new, more intense residential uses.

Anticipated Impact. It is felt that this project, in total, will have a beneficial impact on the socio-economic aspects of the surrounding communities and the Ewa District. It is recognized that the socio-economic impact is subjective by nature and is dependent upon an individual's perception and standards. Therefore, only the probable impacts on socio-economic aspects were identified and no attempt was made to judge the beneficial or adverse characteristics of the impact.

1. The site is vacant, therefore, no families will be displaced or relocated by the project. On the other hand, the project will relieve the "isolated" feeling of the Crestview/Seaview subdivision residents and provide additional community facilities.
2. The population which will be generated by the development is a function of the number and size of units and the number of persons per unit. The total population of the 3,700 new dwelling units will be approximately 11,500.
3. The target median family income for Gentry-Waipio will be similar to Mililani. Due to a broad spectrum of housing types, families with a variety of income will be attracted. As discussed earlier, opportunities for social interactions will be provided by a mixture of housing types in each neighborhood. Recreational facilities, tot lots, social and recreational uses will offer the residents a broad range of activities.

A Gentry-Waipio Community Association will be established to provide management for project activities within the neighborhoods and the community, and also be responsible for the maintenance of the private common areas.

4. The development of the light industrial and distribution center should provide approximately 3,000 jobs. It is expected that many of the employees will live nearby. The design and regulations established for the industrial park will be compatible with surrounding land uses.
5. The size and proximity of the project with the existing Crestview/Seaview subdivision is likely to absorb the present subdivision within its activities, social and economic interactions.
6. A new life-style will develop as the project is implemented and new residents begin to move in.
7. Land values will increase and tax revenue from various businesses and sales tax will be generated by this project.
8. The economic benefits accruable to the State of Hawaii and City and County of Honolulu are described on the "Waipio-Economics Employment Compensation" Chart on Table 17.

In general, a new community will be created and the various ramifications of the new community are infinite. It is difficult to predict the character of the community; however, this brief analysis does indicate the type of community anticipated.

Assessment and Valuation. In 1970, the property was assessed at \$206,499. Upon the sale to Gentry in 1972, the assessed valuation was dramatically increased 33 times to a current assessed value of \$6,806,576. The annual land tax bill is now approximately \$160,000. Based on the previous agricultural use of the land, property taxes were \$5,000.

Community Support. The adjoining Crestview/Seaview communities which are most affected by the proposed development support the Gentry-Waipio development. The Waipahu Business Men's Association, representing 330 firms, and petitions with names of over 450 residents from the Waipahu/Pearl City area also favor the development. The Mililani Community Association, had (1974) raised objections to this project based primarily on traffic congestion. (A copy of the EIS will be sent to this association to provide an opportunity for the association to provide comments).

TABLE 17

GENERAL EXCISE TAX WAPIO - ECONOMICS - EMPLOYMENT/COMPENSATION PROPERTY TAX

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
TEMPORARY (CONSTRUCTION)										
GROSS VOLUME	30,100,000	31,500,000	35,000,000	37,100,000	37,800,000	35,000,000	30,800,000	24,500,000	14,000,000	7,000,000
DIRECT ON-SITE										
WAGES (25%)	7,525,000	7,875,000	8,750,000	9,275,000	9,450,000	8,750,000	7,700,000	6,125,000	3,500,000	1,750,000
(Employment @ 22,000/yr avg)	342	360	398	422	430	398	350	278	159	80
OFF-SITE WAGES (5%)	1,505,000	1,575,000	1,750,000	1,855,000	1,890,000	1,750,000	1,540,000	1,225,000	700,000	350,000
(Employment @ 20,000/yr avg)	75	79	88	93	95	88	77	61	35	18
TOTAL WAGES	9,030,000	9,450,000	10,500,000	11,130,000	11,340,000	10,500,000	9,240,000	7,350,000	4,200,000	2,100,000
	417	439	486	515	525	486	427	339	194	98
PERMANENT RETAIL										
Employment		100	100	100	160	160	240	240	320	320
Wages (@ 10,000/yr avg)		1,000,000	1,000,000	1,000,000	1,600,000	1,600,000	2,400,000	2,400,000	3,200,000	3,200,000
WHOLESALE/MANUFACTURING										
Employment		300	600	900	1,200	1,500	1,950	2,400	2,700	3,000
Wages (@ 12,000/yr avg)		3,600,000	7,200,000	10,800,000	14,400,000	18,000,000	23,400,000	28,800,000	32,400,000	36,000,000
PUBLIC FACILITIES										
School Employment		40	40	40	65	65	65	65	65	65
Wages (@ 13,000/yr avg)		517,000	517,000	517,000	840,000	840,000	840,000	840,000	840,000	840,000
Parks Employment		4	4	4	10	10	10	10	10	10
Wages (@ 11,000/yr avg)	44,000	44,000	44,000	44,000	110,000	110,000	110,000	110,000	180,000	180,000
PRIVATE FACILITIES										
School/Day Care Employment		40	52	52	92	92	104	104	104	104
Wages (@ 12,000/yr avg)		480,000	624,000	624,000	1,104,000	1,104,000	1,248,000	1,248,000	1,248,000	1,248,000
Private Open Space Employment		6	6	8	8	8	8	10	10	10
Wages (@ 10,000/yr avg)	30,000	60,000	60,000	80,000	80,000	80,000	100,000	100,000	100,000	100,000
Condominium, Commercial, Industrial, Landscape, Maintenance, Open Space, Employment		11	17	23	30	36	41	44	46	47
Wages (@ 10,000/yr avg)	30,000	110,000	170,000	230,000	300,000	360,000	410,000	440,000	460,000	470,000
TOTAL PERMANENT EMPLOYMENT	104,000	501	819	1,127	1,565	1,871	2,420	2,873	3,261	3,562
TOTAL WAGES	104,000	5,811,000	9,165,000	13,295,000	18,434,000	22,094,000	28,508,000	33,938,000	38,428,000	42,038,000

TABLE 17 (continued)

GENERAL EXCISE TAX WAIPIO - ECONOMICS - EMPLOYMENT/COMPENSATION PROPERTY TAX

	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
PERMANENT EMPLOYMENT EXCLUDING WHOLESALE/MANUFACTURING	10	201	219	227	365	371	470	475	561	562
GENERAL EXCISE TAX (Based upon 4% of 75% Gross Volume) (\$8,484,000)	903,000	945,000	1,050,000	1,113,000	1,154,000	1,050,000	924,000	735,000	420,000	210,000
PROPERTY TAX										
Based upon assessed valuation of 70% of Market Value:	404 ac. 100%	361 ac. 89%	316 ac. 78%	266 ac. 66%	213 ac. 53%	159 ac. 39%	109 ac. 27%	65 ac. 16%	30 ac. 7%	10 ac. 2%
Land	11.00	9.79	8.58	7.26	5.83	4.29	2.97	1.76	.77	.22
Development	21.07	22.05	24.50	25.92	26.46	24.50	21.56	17.11	9.80	4.90
Assessed Valuation	32.07	31.84	33.08	33.23	32.29	28.79	24.53	18.87	10.57	5.12
Cumulative	32.07	63.91	96.99	130.22	162.51	191.30	215.83	234.70	245.27	250.39
Property Taxes (15.37 per 1,000)	\$ 447,000	\$ 967,000	\$ 1,475,000	\$ 1,986,000	\$ 2,482,000	\$ 2,925,000	\$ 3,302,000	\$ 3,592,000	\$ 3,754,000	\$ 3,883,000

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

As mentioned previously, the project has been subjected to reviews at both the State¹ and County² level. During these reviews, the developer, and his retained planner and consultants have developed materials relating to land use plans and policies of the State and County. These previous analyses are provided below.

One of the principal objectives of the revised charter for the City and County of Honolulu is to establish the desired sequence, patterns, and characteristics of the future physical, economic, and social elements of the city. An underlying intent is to channel or direct the urban growth in a manner which best enables the community to attain these goals in a thoughtful and logical manner.

Guided by these objectives, the Gentry-Waipio planning concept emphasizes:

(a) Residential land use is more than a "quantitative program and should not be viewed simply in terms of number and projected shelter requirements. Emphasis and planning attention is given to "qualitative" solutions with a variety of housing components in relation to community design and environment.

(b) The plan must be economically and socially sound and respect private and public responsibilities in financial resources employment opportunities and facilities

(c) With good planning and sensitive use of land, man-made environments can improve upon natural conditions. A massive tree planting program is a major design element providing for a shaded, tropical atmosphere. (See list of plant material proposed in Appendix C.)

The Gentry-Waipio project is also in the historic path of urbanization. Appendix G, Historical Urbanization-Oahu, traces the growth and distribution of Oahu's population to the present Ewa Census District.

Additionally, the latest³ draft report of the new General Plan (City and County of Honolulu) Statement of Objectives and policies was reviewed. (Although we recognize the tentative nature of this document, it was felt that the draft report conveys the basic goals and policies established in the past

¹ State Land Use Commission for State land use boundary change request (1974).

² City Council for General Plan/Detailed Land Use Map amendment request.

³ October 6, 1976, Exhibit A, Resolution No. 238.

IV. ANY PROBABLE ADVERSE ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED

It must be emphasized that the section of impact is an important concern in this EIS. We note that, in general, people and their activities generate various magnitudes of environmental impact. Each individual produces and generates various forms of wastes and chemicals, ranging from discarded food packaging to vehicular emissions and applications of fertilizers to supplement plant growth. Land modifications and buildings of structures and infrastructures included in this and other housing projects also cause impact to the environment. Also, one must not forget that people's views, interaction, economic inter-relationships affect the socioeconomic environment.

The proposed Gentry-Waipio development will create a new community on lands formerly utilized for agriculture. The topography of the land (gently sloping), its mild climatic conditions, fertile soils, and other positive physical traits make the land ideal for both agricultural and residential/urban usage. The highest and "best" use would be for residential/urban use. There is a desire by some to keep maintaining this parcel in some form of agricultural use. However, the decision of the State Land Use Commission to redesignate the land to an urban classification has now increased the land's value, almost eliminating the agricultural use for the 510-acre parcel.

In most cases, the Gentry-Waipio development will construct or fund the needed infrastructures, services and facilities. Additionally, correspondence with various public and semi-public agencies indicates that no adverse demands will be made on the use of the existing resources and facilities.

In reviewing the physical environmental impacts, it is concluded that this proposed project will increase air and water pollution. Air pollution will be from vehicular emissions which will result from the origins and destinations created by the development. There are two practical methods of mitigating this form of pollution, the first involves the reduction of the number of residential units. It should be emphasized that there has already been significant reductions in the residential units since the project's inception. Secondly, the highways serving the area could be widened or the number of highways and accesses increased. This would mean that the flow would be free from congestion and thus would generally result in less air pollution.

It is more difficult to provide feasible methods of mitigating water pollution (long-term). Therefore, at this time, no economically viable alternative to prevent long-term water pollution to Pearl Harbor is known.

The socioeconomic and land use impact (as described above) is seen to be the most significant. The development of a community of this magnitude (11,500 people) within the Ewa District will inevitably create new needs, provide new labor resources, and develop new social and economic relationships

with the rest of the adjacent communities. The direction of urbanization will continue to be in the Ewa and Wahiawa direction on property located at a greater distance from the Central Honolulu and employment centers. Certainly the actions of other developers in this area must also be viewed in a cumulative total as well as with their individual impact.

V. ALTERNATIVES TO THE PROPOSED ACTION

Given the relatively significant scope of the Gentry-Waipio project (in terms of housing units and acreage), the developer, his retained planner and other consultants have considered, in detail, alternatives to this project. Careful examination of the alternatives for this project was especially necessary during the Land Use Commission's review (for the State land use designation change) and, more recently, the City Council's review of the General Plan/Detailed Land Use Map amendment. Therefore, most of the alternatives developed below have been discussed in other documents prepared by the developer. For the purpose of this EIS document, however, the alternatives presented below are in an updated and concise summary form.

A. ALTERNATIVES AVAILABLE TO MEET THE PROBLEM OF RESIDENTIAL NEED

One of the objectives of the Gentry-Waipio project is provide the housing needed in the Ewa area and generally for the projected population growth of Oahu. Based on this objective, the developer has conducted an analysis of the alternative sites which could potentially provide the housing required for Oahu. This analysis is divided into two subsections below; the first discusses the three general areas for potential residential development, their economic aspects and land availability. The second subsection under this alternative is the selection of 11 possible alternative projects which could be developed (1975-1985) to meet the housing needs of Oahu. This second subsection reviews these projects on the basis of criterias for selecting the most desirable alternative.

1. Three Major Areas on Oahu Evaluated for Potential Residential

Development: Downtown, Fringe, and the Ewa Census District

It is evident that the present and future Oahu housing problem is the number of units in "affordable" price ranges to house the required number of families. Factors contributing to the high cost of housing are rising construction costs, scarcity of mortgage money, government requirements, high interest rates, and availability and control of land.

Consequently, to understand the alternatives to help resolve Oahu's housing problem, one should include an analysis of the available land areas which can produce the required residential communities at competitive prices. Land acquisition and site improvement costs have a direct relationship to housing prices. For the purpose of this analysis, Oahu is divided into three categories. The first is the DOWNTOWN Honolulu and Waikiki area. New developments within these areas may require few, if any, off-site improvement. However, land values are traditionally high in range from \$20 to \$50 per sq. ft.

The type of residential building from any economic analysis recommends a high-rise apartment or condominium with parking located within the structure. The units are generally small and at a price range of \$80 to \$120 per sq. ft. for the usable living area. Restriction on children and animals are usually included. Families (unless at the upper income levels) are rarely able to afford or interested in this type of housing.

The second category of land inventory is classified as FRINGE. These lands are in many cases considered marginal, requiring massive and costly improvements. Some examples are the Hawaii Kai, Enchanted Lake and New Town developments. A portion or all of the property(s) require substantial grading, and major off-site costs are relatively high. Improved land values in these areas are normally between \$8 and \$15 per sq. ft. (depending on its use and attractiveness). While less expensive than "Downtown" properties, the current sales prices and appraisals reflect the expensive improvements at \$50 to \$80 per sq. ft. for the usable living area. The housing provided in these developments are generally family oriented in the upper middle income category.

The third classification is the relatively flat property(s) principally located in the EWA CENSUS DISTRICT. Improvement costs are considerably lower than the marginal lands and property values are lower compared to "closer-in" areas. In most cases, the land is currently being used for pineapple and sugar cane cultivation. With the exception of coastal lands, soil conditions are ideal for site improvements and foundations. Improved land values range from \$5 to \$10 per sq. ft. and dwelling units are priced at \$50 to \$60 per sq. ft. for the usable living area. Each area does, however, have certain aspects affecting development costs and these should be clearly identified. Generally, the more moderate cost, family oriented housing is now provided in this area.

Within these three site classifications, a market study analyzed the available housing by type, sales price and usable living area (Table 18). This analysis should be considered only as a guide to future developments as it reflects on the existing market situation which is overbuilt and unaffordable by most. In each category, mid or high-rise condominiums are completed or under construction. Low-rise, townhouse and single family developments are found in the "Fringe" and "Ewa Census District."

At the high range, a two-bedroom condominium is priced at \$144,000 (\$120 per sq. ft.) in the Downtown-Waikiki area compared to \$36,900 (\$46 per sq. ft.) near Mililani. A three-bedroom townhouse in Hawaii Kai, Enchanted Lake and NewTown sells for \$70,000 (\$55 per sq. ft.). Slightly smaller three bedroom units at Mililani and Makakilo sell for \$48,000 (\$45 per sq. ft.). The four bedroom single family units in Hawaii Kai and Heeia sell for \$85,000 (\$55 per sq. ft.) compared to \$70,000 in Mililani (\$48 per sq. ft.). The overall trend is that condominiums being developed on downtown properties average \$80 to \$90 per sq. ft. for the usable living area. This housing type and locations result in a considerably smaller and more restrictive living environment than found on lands in the other two categories.

Within the Ewa Census District, the data compiled by the Department of General Planning reveals that as of December 1973 there were a total of 2,440 acres of vacant land available for single family residential use and

TABLE 18
OAHU HOUSING PRICE ANALYSIS (JULY 1975)

DOWNTOWN - WAIKIKI				FRINGE				EWA CENTRAL, OAHU				
LOCATION	PRICE (\$)	SIZE SQ. FT.	PRICE PER SQ. FT. (\$)	LOCATION	PRICE (\$)	SIZE SQ. FT.	PRICE PER SQ. FT. (\$)	LOCATION	PRICE (\$)	SIZE SQ. FT.	PRICE PER SQ. FT. (\$)	
<u>SINGLE FAMILY</u>												
				<u>SINGLE FAMILY</u>								
				Kaneohe*	79,000-85,000	1,706	53	Malanae	53,800-55,000	1,170	49	
				Hawaii Kai*	79,700-82,400	1,550	54	Mililani	64,500	1,150	51	
				Hawaii Kai*	92,500-105,000	1,819	54					
				Kaliua*	74,000-79,000	1,625	55					
<u>TOWNHOUSE</u>												
				<u>TOWNHOUSE</u>				<u>TOWNHOUSE</u>				
				Kaneohe*	47,600-50,000	802	55	Malanae	72,950	1,120	64	
				Kaneohe*	52,600-52,900	1,154	54	Makakilo*	48,000-51,100	1,157	41	
				Hawaii Kai*	66,400	1,356	49	Mililani	40,950	1,000	40	
				Kaliua*	61,500-68,000	940	69	Aiea*	74,000-75,000	1,460	53	
				Kaneohe*	67,000-69,000	1,008	62	Malanae*	38,500-41,600	815	49	
				Pearl City	64,250-71,250	1,497	45					
				New Town	53,950-54,550	940	58					
				Kaliua*	60,000-63,000	950	63					
<u>HIGH-RISE</u>												
				<u>HIGH-RISE</u>				<u>HIGH-RISE</u>				
				Pearl City*	44,500-48,000	736	62					
				Kaneohe*	48,000-56,000	1,000	52					
				Hawaii Kai*	81,800-86,000	1,338	63					
				Hawaii Kai*	35,700-37,700	446	82					
				Salt Lake*	42,950-43,950	593	69					
<u>DOWNTOWN - WAIKIKI</u>												
				<u>DOWNTOWN - WAIKIKI</u>								
				Waikiki*	45,500-50,000	599	80					
				Waikiki*	127,000-144,000	1,060	120					
				Waikiki*	39,500	610	70					
				Ala Moana*	62,300-68,600	724	96					
				Ala Wai*	51,650-57,700	545	99					
				Waikiki*	75,000-95,000	1,238	90					
				Liliha*	47,000	570	79					
				Waikiki*	41,800-56,850	568	85					
				Waikiki*	29,800-36,000	320	102					

* Leasehold

550 acres for multi-family uses based on the General Plan/Detailed Land Use Maps of the Ewa Census District (Table 19). Using their maximum residential density ratios, the following calculation provides an estimate of the number of dwelling units by category that can be built on vacant land.

Residential	2440 acres X 11 dwelling units/acre =	26,840
Apartment-Low Density	330 acres X 11 dwelling units/acre =	3,630
Apartment-Med. Density	18 acres X 40 dwelling units/acre =	720
Apartment-High Density	200 acres X 60 dwelling units/acre =	<u>12,000</u>
	TOTAL	43,190

The vacant land inventory appears to closely meet the estimated housing requirement in the Ewa Census District for 1985 (Table 2, p. 1-8). However, the above data does not establish whether the properties are in developable and reasonable conditions in terms of land price, ownership, physical site characteristics, access, topography, location or whether the area is ready to be developed.

Another consideration is land tenure. With the exception of Gentry-Waipio, New Town and Mililani, all major projects (existing or proposed) in the Ewa Census District are leasehold. Leasehold ownership also represents the bulk of land inventory for the residential uses in other districts on Oahu. Recently, lessees have found their lease rents dramatically increased, some as much as 300 to 400% or more. The result has been the public disenchantment with the leasehold system.

2. Review of Eleven (11) Alternative Project Areas

Six (6) expansion and new housing project areas within the Ewa Census District category, four (4) within the Fringe category and one (1) located in the Downtown category have been identified as possible alternatives available to meet the problem of residential need (Figure 14). These properties are described for comparison purpose on the basis of the general project and locational characteristics (Table 20 and 21).

For the purposes of establishing criteria for selecting the most desirable alternatives to meet the housing demand and industrial land requirements, these eleven projects have been designated as the most appropriate for this analysis. The Downtown area is represented by the (K) Kakaako, the Fringe area by (G) Hawaii Kai, (H) Waimanalo, (I) Heeia, (J) Waiahole-Waikane and the Ewa Census District by (A) Mililani, (B) Gentry-Waipio, (C) Waiawa, (D) Oahu West, (E) Village Park and (F) NewTown.

The first series of criteria (a and b) evaluates the probable impact upon change from the present land use to that being proposed. The next series (c,d,e,f, and g) considers the convenience, physical characteristics, utilities and environmental effects. The last series (h and i) compares the provisions for housing and community response.

TABLE 19

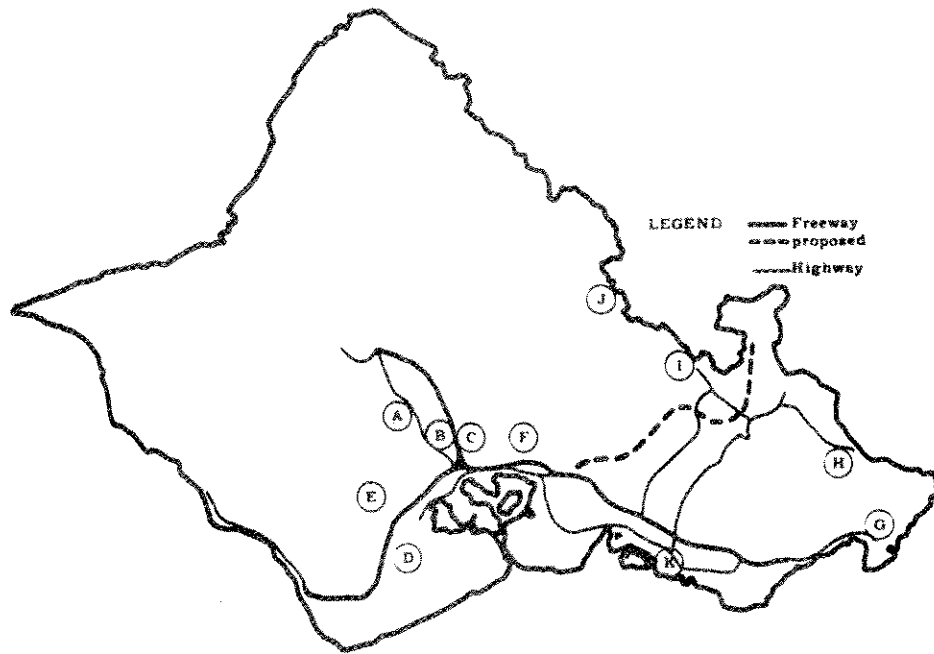
VACANT DEVELOPABLE LAND IN EWA CENSUS DISTRICT
GENERAL PLAN/DETAILED LAND USE MAP (DEC. 1973)

GENERAL PLAN/DETAILED LAND USE MAP DESIGNATION	VACANT DEVELOPABLE (Acres)
Residential	2,443.94
Low-Density Apartment	330.78
Medium Density Apartment	199.91
High Density Apartment	3.68
General Plan Apartment	17.74
TOTAL	2,996.05

SOURCE: Department of General Planning

FIGURE 14

11 Possible Alternative Areas to be Developed (1975-1985)



- A - Mililani
- B - Gentry-Waipio
- C - Waiawa
- D - Oahu West
- E - Village Park
- F - NewTown
- G - Hawaii Kai
- H - Waimanalo
- I - Heeia
- J - Waiahole-Waikane
- K - Kakaako

TABLE 20

GENERAL PROJECT CHARACTERISTICS OF POSSIBLE ALTERNATIVE AREAS TO BE DEVELOPED (1975-1985)

	Existing or New	Lease or Fee	Land Owner	Developer	Total Project Land Area (Acs)	Land Area to be Developed (Acs)	State Land Use	City General Plan	Status
(A)	Existing expansion	Fee	Oceanic Properties	Oceanic Properties	3,662	1,865	Urban & Agriculture	Various Urban	Incremental G.P. Amendment process
(B)	New	Fee	Gentry	Gentry-Pacific	646	510	Urban	Agri-culture	G.P. Amendment process
(C)	New	Lease	Bishop Estate	Lear Sigler	4,500	860	(1st increment) Agriculture	Agri-culture	G.P. Amendment process
(D)	New	Lease	Campbell Estate	Hirano Bros.	3,400	690	Urban (700) & Agriculture (2,700)	Agri-culture	G.P. Amendment process
(E)	New	Lease	Robinson Estate	Horita (HSN Venture)	311	311	Urban	Various Urban	Construction ready
(F)	Existing expansion	Fee	Horita	Horita	810	140	Urban	Various Urban	Zoning change process
(G)	Existing expansion	Lease	Bishop Estate	Kaiser Aetna Aetna Life Ins.	3,300	1,452	Urban	Various Urban	Incremental Zoning process
(H)	Renewal	Lease	State	State	1,000	?	Agriculture	Agri-culture	
(I)	Existing expansion	Lease	Bishop Estate	Foremost-McCormack	673	289	Urban	Various Urban	G.P. Amendment process
(J)	Renewal	Fee	Pao	Pao et al	1,606	894	Agriculture	Agri-culture	Has filed the application for an agricultural subdivision for 458 acres with 130 lots
(K)	Renewal	Lease	Bishop Dillingham Ward and other	?	278	?	Urban	Various Urban	State, City & private sectors separately studying the area; no apparent coordination yet.

TABLE 21
 LOCATIONAL CHARACTERISTICS OF THE POSSIBLE ALTERNATIVE AREAS TO BE DEVELOPED (1975-1985)

	Freeway & Highway Directly Servicing	Distance to the Closest * Proposed Transit Station (miles)	Traveling Distance to the Major Employment Centers (highway miles)						
			Waikiki (Kapiolani Seaside)	Central Business District (King-Bishop)	Airport	Hickam	Campbell Industrial Park	Schofield	Gentry-Waipio Industrial Park
(A) Milliani	H-2 Freeway Kam Highway	4	17	15	12	10	13	4	2
(B) Gentry-Waipio	Kam Highway	2	15	12	9	7	11	7	0
(C) Waiawa	Kam Highway	2	15	12	9	7	11	9	2
(D) Sahu West	Farrington Highway	7	24	18	15	13	5	14	7
(E) Village Park	H-1 Freeway	4	20	15	12	10	7	9	4
(F) Newtown	Maunaloa Road	1	14	11	7	5	13	11	3
(G) Hawaii Kai	Kalaniana'ole Hwy	5	9	11	15	17	34	31	23
(H) Waimanalo	Kalaniana'ole Hwy	Not Served	22	13	19	21	37	34	26
(I) Heela	Kahekihi Hwy Kam Highway	Not Served	18	12	13	15	30	27	19
(J) Waipahoehoe-Waikane	Kam Highway	Not Served	24	17	17	19	34	31	23
(K) Kakaako	Downtown Streets	0	3	1	5	7	22	20	13

* Fourteen (14) mile alignment.

a. AGRICULTURE: Kakaako is not affected by the agricultural issue. Hawaii Kai, NewTown and Gentry-Waipio have been phased out of agricultural uses during the last five years and, therefore, they also have little or no impact on the agricultural issue. Heeia is presently used for grazing cattle.

Lands in Mililani, not presently under development, are growing pineapple. Waiawa, Oahu West and Village Park are currently producing sugar cane. Waimanalo and Waiahole-Waikane are significant locations for small farmers to grow a number of diversified agricultural crops.

b. RELOCATION: Those projects with no relocation problems are Mililani, Gentry-Waipio, NewTown, Waiawa, Village Park and Hawaii Kai. Those with some relocation problems are Oahu West and Heeia where existing residents or "Kuleanas" must either be relocated or planned around.

Projects with major relocation problems are Waimanalo, Waiahole-Waikane and Kakaako. Many of the industrial tenants in Kakaako will have additional transportation costs to serve their respective market. Redevelopment of Kakaako is further complicated by the length of leases and the multiplicity of ownership in the area.

The development of Waimanalo and Waiahole-Waikane would require the relocation of many families who have expressed opposition to any change in lifestyle.

c. TRANSPORTATION: By location, Kakaako is by far the most convenient to the major employment and commercial areas. However, with the implementation of a major residential development, it could affect and overburden the surrounding streets and create congestion of both for the residents and traffic passing through the area.

NewTown with access onto Moanalua Road and the H-1 Freeway is closer to the center of the employment compared to the others. Gentry-Waipio, Waiawa and Heeia are all within 15 miles of the major employment areas; however, only Gentry-Waipio has direct potential access to the Highway/Freeway system with potential direct access to the freeway system.

Extensive improvements are necessary to connect Waiawa with a highway system. The future access to Heeia will be determined by final decisions on the H-3 Freeway and the widening of Kahekili and Kamehameha Highways, none of which are started. The roadway system connecting Waikane-Waiahole is currently rural in nature and will remain so until the future widening of Kahekili and Kamehameha Highway occurs. There are no plans for widening the highway past Kahaluu.

Compared to Gentry-Waipio, Mililani and Village Park are conveniently accessible to the freeway system, only further removed from the employment and commercial areas. Major highway improvements are needed to serve Oahu West.

Hawaii Kai has a serious rush hour transportation problem, and without the development of a workable rapid transit system, little or no relief is in sight. No improvements are currently planned to extend a high capacity highway to Waimanalo.

d. TOPOGRAPHY: The slope conditions for the eleven sites vary from the level parcels of Kakaako, Mililani and Gentry-Waipio to the extreme slopes and ridges in Hawaii Kai. The gulches that run through Waiawa, NewTown and Oahu West provide open space but increase the cost of extending roads and utilities. The projects with least amount of grading are Gentry-Waipio, Mililani and Kakaako. Projects such as NewTown, Waiawa, Hawaii Kai and Heeia require extensive grading in order to provide usable areas and improve land utilization.

e. SOILS: Rock formations are found on ridges in Hawaii Kai and NewTown. Soft and dewatering conditions on sites near the coast create the most serious trenching problems for Hawaii Kai, Heeia, and Kakaako. Installing underground utilities on the remaining sites appears to be a relatively simple operation.

Soil conditions for structural foundations are adequate in all parcels with the exception of the lower portions of Kakaako, Heeia and Hawaii Kai where concrete piles are necessary to support buildings over three stories. Clay or expansive soils are corrective problems in Oahu West, Waimanalo and Waiahole-Waikane.

f. OFF-SITE IMPROVEMENTS: Water for Heeia, Waimanalo, Hawaii Kai and Kakaako has been provided by the Board of Water Supply. Mililani, Gentry-Waipio, NewTown, Oahu West and Waiahole-Waikane will develop their own water resources and storage facilities. Oahu West has the additional burden of transmitting potable water from new sources located above the H-1 Freeway.

Presently, Mililani and Hawaii Kai are served by their own sewage treatment facilities. Gentry-Waipio, NewTown, Waiawa, Oahu West and Village Park are all included in the Honouliuli Sewage Treatment facilities. Each project must extend sewer mains to connect into the system. Major pump stations and force mains are required for Heeia and Oahu West. A major sewage treatment facility and out-fall structure is needed for Waiahole-Waikane. Kakaako is adequately taken care of by the present system.

g. ENVIRONMENT: With the exception of potential increase of congestion in the surrounding area, Kakaako appears to have the least environmental impact due to redevelopment of this downtown property. Proper planning with open space, rights-of-way, underground utilities and adequate drainage system would improve the "environment" of the neighborhood.

NewTown and Gentry-Waipio are considered to have some impact on environment. Both have been removed from agricultural uses and drainage run-off is into the East and Middle Loch of Pearl Harbor (designated Class B). Both are conveniently accessible to the major highway system.

Mililani, Oahu West and Village Park all drain into the West Loch of Pearl Harbor designated Class AA. Downstream affect of siltation must be carefully considered. The properties are further removed from the downtown area. The provision of new employment

opportunities in Gentry-Waipio will minimize additional fuel consumption and air pollution by vehicular traffic.

In the windward district, Heeia and Waiahole-Waikane are directly related to the siltation problem of Kaneohe Bay. A settling basin has been engineered for Heeia which will effectively reduce the impact. It is questionable whether similar protection is possible for the Waiahole-Waikane area. There is no known serious environmental effects regarding Waimanalo. Continued development of Hawaii Kai can only increase congestion on Kalaniana'ole Highway with no foreseeable relief.

Social environment is mostly affected by Waiahole-Waikane and the development of Oahu West which converts a small town in Ewa into a major "new town" development.

h. HOUSING TYPES AND PRICES: Mililani, Oahu West, Gentry-Waipio and Village Park propose the widest range of housing types at the most competitive prices. Public statements made by the developer of the Waiahole-Waikane report that they will build a number of units under \$40,000. NewTown is limited to two or three housing types in the medium price range, and it is expected that Waiawa would be similar.

The more expensive developments are Hawaii Kai and Heeia with a variety of housing types where site improvement costs add considerable burden to the sales price.

The proposal for Kakaako includes medium and high density developments on expensive land which will make this a higher cost area.

i. COMMUNITY RESPONSE: The most serious objection has been in regard to the Waiahole-Waikane project. Families who have lived there for decades are now threatened to be evicted. Heeia and Oahu West have also received considerable opposition by a portion of their respective local community. Again, based on traffic congestion, the existing residents of Hawaii Kai will continue to put pressure on the developer and government to slow down development in this area. As mentioned earlier, the existing and industrial tenants now located in Kakaako are subject to some hardships due to additional transportation cost and inconvenience if relocated away from the present location.

Apparently, there is no community opposition to Village Park, Waiawa, NewTown and Mililani. Gentry-Waipio received substantial support from the Crestview/Seaview communities and the neighboring Waipahu area during the State Land Use Commission hearings. The community association in Mililani has, during City Council's public hearing, voiced objections to the traffic problems which may occur due to the Gentry-Waipio project. However, no response from the Mililani Community Association was received during the consultation period prior to filing this EIS.

Another criteria for consideration is the location of business and employment centers conveniently near residential areas. The advantage of this relationship is emphasized by the recent fuel restrictions and energy crisis. The simultaneous development of housing and industrial facilities, principally for the services and distribution of goods, within the Ewa Census District is an obvious benefit to the present and future residents and significantly reduces the transportation requirements.

One factor which should also be considered in planned community development is the experience and capabilities of the "developer" and his organization. There are only a few companies that perform more than one or two of the many development functions including land acquisition, planning, engineering, site improvements, residential and industrial construction, sale and warranty of the units. Each transfer of responsibility represents additional costs and delays in providing the final product. The developers of Gentry-Waipio have the capabilities of an integrated business system, a more efficient method of operation which reduces cost to the consumer.

To conclude, it is felt that Gentry-Waipio has the physical characteristic, economic and development capabilities to achieve a desirable overall community at comparable price ranges.

B. ALTERNATIVES AVAILABLE TO MEET INDUSTRIAL LAND NEEDS

The alternatives available to help relieve the situation are based on providing newlands which are located to serve a variety of new and expanding industrial activities.

The General Plan designates the Campbell Industrial Park as a principal industrial area of Oahu. However, the property is too far removed from the major residential and commercial areas, making it uneconomical for most businesses to operate from that location.¹ Until recently the smallest site that could be leased from Campbell was two acres.

Nearly every existing parcel within the Airport/Mapunapuna/Shafter districts has been developed. Of the 46 acres added for industrial use in Halawa by Lone Star in 1971, 32 acres are developable with high improvement costs. Four hundred and forty (440) prospective tenants have indicated interest in the industrial development.

Many businesses in the Honolulu area are now looking to the Waipahu area to provide light industrial lands. However, the property zoned is filling rapidly and prices in Waipahu are approaching rates comparable to Honolulu.

The most recent industrial area to be developed is below Newtown in Pearl City. Nearly all of the 46-acre site which was added to the General Plan in August, 1972 has been improved and leased. Another small industrial

¹ As an example, Campbell Industrial Park is Trucking Zone 4 and the trucking cost to the Airport or Waikiki is approximately 6% higher as compared to the Waipio/Pearl City Trucking Zone 3. Local, Joint and Proportional Freight Tariff No. 4: Island of Oahu, Western Motor Tariff Bureau, Inc., August, 1975.

park in Waiawa Valley is also being developed. Site development appears very expensive and will consist of 40 acres (out of a total 63 acres).

On the General Plan, there is an Industrial designated parcel of 250 acres in Mililani (mauka of Gentry-Waipio). However, this area is currently in pineapple production and designated Agriculture by the State Land Use Commission. The Land Use Commission has on two occasions disapproved requests by Oceanic Properties to re-classify the land to Urban. Currently, utilities for industrial uses are not available and the area is considered nearly inaccessible without the roadway development of Gentry-Waipio.

The proposed Gentry-Waipio Industrial Park is five miles from Pearl Harbor Naval Station, 10 miles from the airport and 15 miles from the Diamond Head edge of Waikiki. Access to the site is currently provided by the Kamehameha Highway, one mile from the Waiawa Interchange. It is also proposed that an interchange to the H-2 Freeway at Mililani Memorial Road be favorably considered to improve the vehicular convenience to this project and surrounding area.

The proposed Gentry-Waipio Industrial Park is conveniently located for light industrial development. It is properly located in relation to major roads and freeways and in proximity to the markets and potential labor force. Many jobs will be located in close proximity (some within walking distance) to the proposed residential area. The creation of an attractive "industrial park" will draw image conscious businesses which are currently unwilling to combine administrative and warehouse space in the same location. Comparing site, physical characteristics and improvement costs, the proposed industrial-distribution center can provide a portion of the overall needed industrial space at economical and competitive prices.

C. AGRICULTURAL USE ALTERNATIVES

During the various past review processes, several objections to the project were raised because "good" agricultural lands would be utilized and, in effect, the project would foreclose future options for agricultural use of the site. In order to analyze the agricultural value of this site, agricultural consultants were retained.¹ Portions of their study and conclusions are provided below.

There is no doubt that with irrigation the soil on the property could be put to agricultural use if that were the most desirable alternative. The United States Department of Agriculture completed a soil survey study in August of 1972. They classified most of the property with irrigation, Class II and III with 36 acres designated Class I. Without water, the land is Classified IV, its present condition. (See Table 22).

The Land Study Bureau gave 40 acres of the property a "B" rating

¹ Oscar A. Lorenz and George Myers. Both consultants prepared the "Agricultural Assessment" (September, 1974) and "A Comparative Analysis of Agricultural Soils" (September, 1974). These studies are available at the Office of Environmental Quality Control.

² Land Study Bureau, University of Hawaii, Detailed Land Classification - Island of Oahu, December, 1972.

TABLE 22

U.S.D.A. SOIL SURVEY - AGRICULTURAL CAPABILITY OF THE SOILSGENTRY-WAIPIO

<u>Soil Series</u>	<u>Symbol</u>	<u>Approx. Acres</u>	<u>Capability Irrigated</u>	<u>Classification* Non-Irrigated</u>
Lahaina	LaB	87 acr.	IIe	IIIc
Manana	MpD	4 acr.	IVe	IVe
Manana	MpD ₂	13 acr.	IVe	IVe
Molokai	MuB	325 acr.	IIe	IVc
Molokai	MuC	20 acr.	IIIe	IVe
Molokai	MuD	5 acr.	IVe	IVe
Wahiawa	WaA	<u>36 acr.</u>	I	IIc
	TOTAL	490 acr.**		

*Class I land is the best.

**Does not total to 510 due to the gulch area.

(next to the best), 120 acres a "D" rating, and 350 acres an "E" rating all based on its current condition. The better land tended to be towards the mauka end near Mililani Memorial Road.

Utilizing the U.S.D.A. soil study, an analysis shows that of the total inventory of soils on Oahu and in the State, the subject property constitutes only .56% of Oahu's soils classified as good for their pineapple or sugar cane (Class I, II or III).

<u>Subject Property</u>	<u>Oahu</u>	<u>% of Oahu</u>	<u>State (excl. Hawaii)</u>	<u>% of State (excl. Hawaii)</u>
475a. (4)	84,616a	0.56%	267,632a.	0.18%

Thus the area of the subject property is insignificant in relation to the total amount of good agricultural land on Oahu and in the State.

Because of its topography, the site itself is as attractive for use in agriculture as it is for the development of a residential community. With this fact, the background shown above on the soils, further attention was given to the availability of (and demand for) water, and to the relative attractiveness of specific crops.

Sugar Cane: With irrigation, this land could be used to grow sugar cane. When the kiawe and scrub brush were cleared from the land about the turn of the century, the land was originally planted in sugar cane and this crop was grown (with irrigation) by the Oahu Sugar Company until approximately 1950. It was for this use that the irrigation reservoir currently on the property was constructed. When the property was sold to the Hawaiian Pineapple Company, the cane was removed and the land planted in pineapple. Agricultural water is not available for use on the subject property.

Sugar cane requires massive amounts of water to grow the crop. The industry normally expresses this requirement as "one million gallons per day per 100 acres"; the irrigation requirements are proportionately higher during the summer months.

Oahu Sugar Company indicates that "...this property produced sugar equivalent to the yields from fields immediately to the east and to the west of the subject property." Records of the State Tax Office¹ indicate that when the subject property was planted in sugar cane, its value as agricultural property was not uniform. A breakdown of the property south of Kipapa Gulch and between Kamehameha Highway and Panakauahi Gulch (which included the subject property) was as shown on Table 24. The better land tended to be toward the northern end of the total area (toward Kipapa Gulch) in the general location where potatoes are now being grown, and the lesser land tended to be in the areas of greater slope along the sides of the gulches; this is consistent with the U.S.D.A. Soil Survey.

¹ Property Technical Office, Tax Records of Oahu Sugar Co., Leases from John Ii Estate Ltd. - 9406, 1st book, 1945-1955, 9407-1 R/C, p. 15, 16 of "Other Leases," 1949.

TABLE 23
LAND STUDY BUREAU - 1972
AGRICULTURAL PRODUCTIVITY RATING
GENTRY-WAIPIO

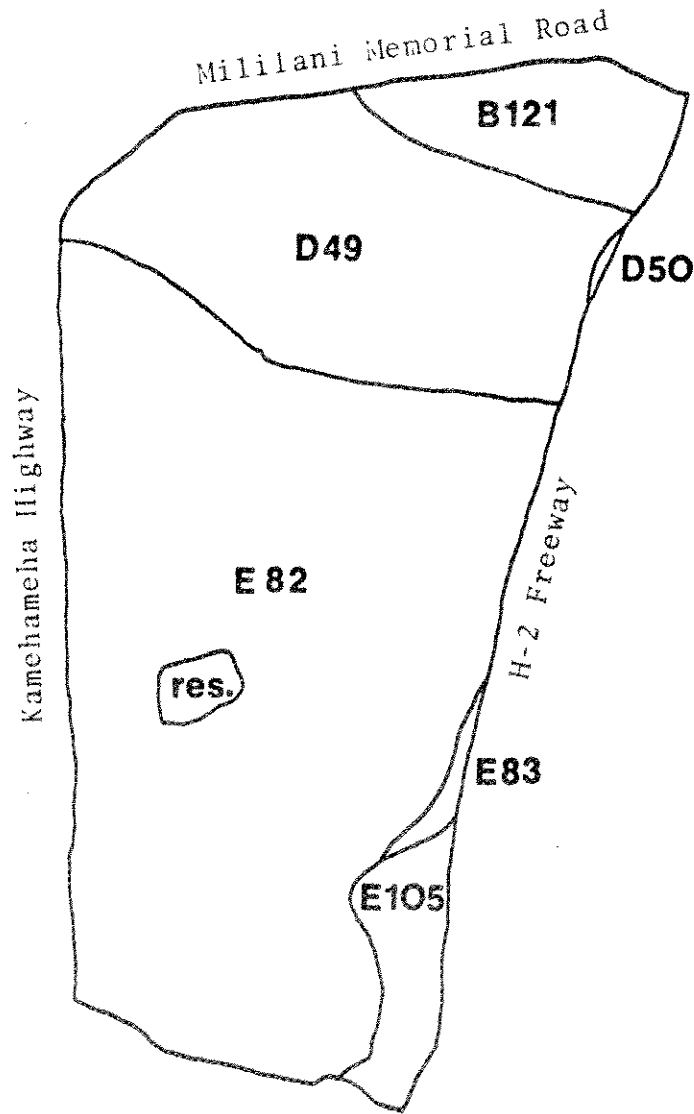
Land Type	Over-all Rating	Pine-apple	Vegetable	Sugar-cane	For-age	Grazing	Orchard	Timber	Machine Tilability
121	B	a	c	c	b	b	c	c	Good
49	D	b	d	e	d	d	d	d	Good
50	D	c	d	e	e	d	d	d	Moderate
82	E	d	e	e	d	d	e	e	Good
83	E	d	e	e	e	d	e	e	Moderate
105	E	e	e	e	e	d	e	e	Not Suited

Land Study Bureau: University of Hawaii, Detailed Land Classification -
 Island of Oahu, December, 1972.

FIGURE 15

LAND STUDY BUREAU - 1972

GENTRY-WAIPIO LAND CLASSIFICATION FOR AGRICULTURAL USE



Land Study Bureau: University of Hawaii, Detailed Land Classification - Island of Oahu, December, 1972.

TABLE 24

ASSESSED VALUATION/ACRE - SUGAR CANE PRODUCTION

IN THE VICINITY OF GENTRY-WAIPIO

	<u>Assessed Valuation/Acre</u>	<u>% of Total</u>	<u>Tax Assessment Classification</u>
242.259	\$275	24%	Very Good
585.580	\$205	58%	Good
<u>179.091</u>	\$140	<u>18%</u>	Average
1,006.930		100%	

Based on statistics from the State Department of Agriculture¹ this property (in sugar cane) would employ an average of 13 men annually to plant, irrigate, fertilize, cultivate, harvest and transport cane to the mill. Based on Oahu industry averages, an average yield on equivalent soils would be 5.3 tons of sugar per acre per year, worth an estimated \$186 per ton (including molasses) or a total annual crop value of almost \$500,000; this value is higher than the average for the past five years, for the 1973 price was an all-time record high.

The economics of the property have changed with time. Low land costs and several other factors enable most of the large sugar producers to operate at a profit. It is well known, however, that producers in several areas of the state have been forced to schedule the end of their operations. These include:

<u>Company</u>	<u>Plantation</u>	<u>Status</u>	<u>Acreage</u>
Alexander & Baldwin	Kahuku	Closed	4,404 acr.
Amfac	Ewa (Mill)	Closed	N/A
Castle & Cooke	Kohala	Closed	13,600 acr.
C. Brewer	Kilauea	Closed	4,800 acr.

Some additional land is going to be brought into sugar at Puna (6,000 acres),² HC & S (3,600 acres)³ and at Waialua (3,500 acres),⁴ but none of this is in areas that are directly competitive with residential development at this time.

Agricultural experts say that there is no way that that particular piece of property could ever go back into sugar. It is isolated, cut off, and it is not economically feasible. For these reasons, and because of the high water requirements, sugar cane is not a viable alternative for the subject property.

Pineapple: This property was planted in pineapple for almost twenty years. From the standpoint of an agronomist, pineapple was a successful crop; the soils were appropriate, water requirements were low (except for new plants that require supplemental watering to build roots), and the natural rainfall in the area was adequate for mature plants. Dole Pineapple records indicate that yields from this property were roughly equivalent to the yields from comparable lands in the same general area. The quality of the land has been discussed earlier in this report, but the following table reflects the Tax Assessor's evaluation of the land when it was in pineapple.⁵

¹ Statistics of Hawaiian Agriculture.

² Announced by Puna Sugar Co. representative at Fair Price Sugar Hearing, April 25, 1972.

³ Honolulu Star-Bulletin, May 27, 1972.

⁴ Dole Pineapple land whose use is being planned for in cane.

⁵ Tax records of the Dole Pineapple Company

<u>Tax Assessment Classification</u>	<u>Land Area (Acres)</u>	<u>% of Total</u>
The Best	65.685	13%
Good	63.013	12%
Average	<u>376.356</u>	<u>75%</u>
TOTAL	505.054 acr.	100%

The crops grows over a three year period, with the first fruit maturing in 20 to 22 months. They applied an average of six irrigations (during this three year period) of 1" to 1-1/4" per application or an average of 8-9 acre inches over three years. Most of this irrigation was carried out during the first year of each crop. Dole management has stated that it would have been "risky" to attempt to start the crop without irrigation, and portable pipes and sprinklers were moved about as required.

There is no question that pineapple can be grown on the subject property; however, pineapple is becoming less and less economically feasible. This land was taken out of pineapple by Dole on the basis of economics not agronomy. The extent to which this has been happening throughout the state is shown on p. V-19. Over the past 14 years, approximately 18,000 acres have been taken out of pineapple, and plans have been publicly announced to remove additional acreage in the future as lands are withdrawn from production on Molokai (10,350 acres by 1975).¹ Castle & Cooke has recently announced their intention to take additional acres out of pineapple just to the north of the subject property and to apply for rezoning to an urban use, and had announced² that an estimated 4,500 acres would be withdrawn in the Wahiawa area.

The Gentry-Waipio property is below the 600' elevation line which the pineapple industry feels is the lower boundary of prime pineapple land. To expect to grow pineapple profitably seems to defy the performance of successful growers throughout the Islands. For this reason, the use of the subject property for pineapple production is not considered as a viable alternative use of this land.

Agricultural consultants not only analyzed the feasibility of returning the land to plantation agriculture, but also considered the eight major diversified agricultural crops imported into Hawaii and the two main forage crops locally grown. Their findings relating to the growing of these crops on the project site are provided below.

Forage and Feed Grains: Forage and feed grains are major water consumers and generate relatively low revenues per acre. While there seems to be a demand for more local feed and lower cost feed for beef cattle feeding, leaders of the dairy industry believe that current producers can satisfy the current market (when they get into full production) and that the market is not expected to grow in the future. As far as beef cattle are concerned,

¹ Honolulu Star-Bulletin, October 10, 1972

² In 1972.

Mr. Pardee Erdman, President of Ulupalakua Ranch on Maui has stated¹ that: "Commercial feed grain production may be feasible in Hawaii some day, but California today offers the best opportunity for profitable feed grain production. Furthermore, the cost savings in growing grain on the Mainland more than offset the freight to Hawaii." Because of materials handling problems and costs, it would seem important that forage production be carried out as close as possible to the consumer. Dairy operations are scattered but apparently are being successfully served from Kahuku. The largest beef cattle feedlot is in the Campbell Industrial Park, and from a logistics (and possibly soils and water) standpoint, the logical place to grow forage is in Ewa near the feed lot.

Forage and feed grains do not seem to be an attractive alternative use for the subject property.

"General Agriculture". The Central Oahu Study indicated that "local farmers have higher producing costs and must market their products with total higher costs than their competitors on the mainland."² Hawaii's marketing costs are 20% of gross vs. 5% of gross in the Salinas Valley in California.³ Despite these cost disadvantages, Hawaii's farmers are currently producing a significant portion of Hawaii's demand for foodstuffs. Based on 1970 statistics:⁴

<u>Product</u>	<u>% of Consumption Produced Locally</u>
Fresh Vegetables	43%
Fresh Eggs	98%
Chicken	42%
Red Meat	45%
Fresh Fruit	45%
Fresh Milk	100%

The only item not produced locally in significant quantities is feed grain.

Based on technical advice, the applicant has reached the following conclusions on the use of the property in "General Agriculture":

¹ Honolulu Star-Bulletin, January 24, 1974, p. B-1.

² Central Oahu Planning Study, Technical Supplement 2, The Future Hawaiian Agriculture, January, 1973, p. 31.

³ Rankine, et al., 1968, p. 14, 17.

⁴ Central Oahu Planning Study, Technical Supplement 2, p.2, 4, 6, 8, 11, 13, 15.

TABLE 25

GENERAL AGRICULTURE: GENTRY-WAIPIO

CROPS: COMPARISON TABLE

Crop	Water Requirements ^{a/}	Soil Characteristics	Perishability	Physical Durability	Growing Temperature	Hand Labor Required	Crop Value per Acre
1. Potatoes	Heavy	Light textured porous soils are best	Long storage possible	Sturdy	Cool temp. 62-65° preferred	Minimum	Average
2. Dry Onions	Average	Most types acceptable	Long storage possible	Sturdy	Cool temp. 60-75°	Minimum	Average
3. Lettuce	Average	Most types acceptable neutral pH	Delicate - Requires cooling	Delicate	Cool temp. required 55-65°	Maximum	High
4. Tomatoes	Average	Most types acceptable	Delicate	Delicate	Warm temp. 65-85°	Maximum	Very high
5. Carrots	Average	Clay soils restrict root growth	Storage possible	Sturdy	Cool temp. 60-70°	Minimum	Average
6. Celery	Heavy	Loams and silty loams preferred	Requires cooling	Average	Cool temp. 55-70°	Maximum	Very high
7. Watermelon	Average	Most types acceptable	Delicate	Delicate	Warm temp. required 70-80°	Minimum	Average
8. Broccoli	Light	Most types acceptable	Delicate - requires cooling	Delicate	Cool temp. helpful 65-70°	Maximum	Average
9. Alfalfa	Very heavy	Most types acceptable	--	--	Warm temp.	Minimum	Low
10. Sorghum	Heavy	All types acceptable	--	--	Warm temp.	Minimum	Low

^{a/} On this informal scale, pineapple water requirement would be rated as "Low" and sugar cane as "Massive."

- Many of the desired vegetable crops are not suited to the climate (temperature, rainfall, and soil, etc.) of the property and can be grown more successfully in other areas of the State. (See Table 25.)
- The total "estimated demand for future agricultural land" may not be as great as was originally thought.
- That the additional acres required for truck crops represent less than 2% of the good (Class I, II, and III) agricultural land in the State.
- That the demand for water (per acre) for general agricultural uses is generally in the same range as residential development.
- That lands are available on other areas of Oahu (and other counties in the State) that are far more attractive agronomically, that are not competitive with residential development, and that have a resident population experienced in agriculture and seeking useful and productive employment.

The conclusion is that "General Agriculture" is not the most attractive use for the subject property.

Conclusions on these agricultural alternatives are presented in Dr. Lorenz's Land Use Commission testimony as summarized in his letter dated November 28, 1973, a copy of which is included in the following page.

D. ALTERNATIVES RELATING TO THE MODIFICATION OF THE PROPOSED PROJECT

It is noted that since the project has been initiated, the number of housing units to be provided has been decreased from 5,000+ units to the present 3,700 units. This decrease has been principally due to the rigorous review processes and the subsequent need to modify the project (in housing units, land uses and sizes) to avoid potentially undesirable impacts (i.e. traffic congestion, lack of recreational space, lack of school facilities).

Further project modification is possible, however, because of the previous reviews and modification, no significant modifications are likely. The present size and location of the various land uses within the project have been based on the need for the facility or area, the economic feasibility of establishing the units involved, the qualitative aspects of the community and individual desires (i.e. scenic views, housing types), and the ability to create a system of transportation which includes convenient and accessible roadways and pedestrian paths.

E. THE "DO NOTHING" ALTERNATIVE

If the land was not to be rezoned or the project not implemented, it is probable that the land will remain vacant and in its present condition for a short term period (while other alternatives are being considered by the owners and developer). It is also likely that after this short period, some action will take place. Hypothetically, these alternatives could include:

UNIVERSITY OF CALIFORNIA, DAVIS

BERKELEY • DAVIS • IRVINE • LOS ANGELES • ORLANDO • SAN DIEGO • SAN FRANCISCO



SANTA BARBARA • SANTA CRUZ

Mr. Thomas H. Gentry
Gentry-Pacific Ltd.
Suite 2409 Harbor Square
700 Richards Street
Honolulu, Hawaii 96813

UNIVERSITY OF CALIFORNIA, DAVIS

November 28, 1973

Dear Mr. Gentry:

Many thanks for the opportunity to study and assess the agricultural potentials as part of the planning for your property at Waipio in the Ewa District of Oahu.

I had preliminary discussions with Mr. Meyers when he visited Davis several months ago and we reviewed the preliminary information which he has assembled relating to this project. Before going to Hawaii, I made a general review of pertinent subjects with my colleagues here at Davis. While in Hawaii, I visited the site, reviewed the research which had already been done on your behalf, attended a local seminar on Diversified Agriculture in Hawaii, and held pertinent discussion with several knowledgeable members of the faculty of the School of Tropical Agriculture at the University of Hawaii. They made available to me recent studies on the applicability of temperature climate crops in the tropical environment. I have subsequently reviewed and edited the Agricultural Alternative section of the study being prepared for your property, and find that the conclusions reached are valid and are based on the best available facts. The sources of information referred to are reliable and I know of no other reasonable agricultural alternatives that should be considered.

Overall, it is my professional opinion that agricultural use of the 500 acres on your property is not economically feasible. Furthermore, it is not agronomically feasible to grow most of the crops considered. For example, despite the fact that almost 40 acres of your property is ranked as class I soil by the U. S. Department of Agriculture, the climate is simply too hot to successfully grow head lettuce or celery. Other problems occur for most of the other crops that represent big Hawaiian import items. Of all of the crops considered, dry onions and potatoes might do best on this property, but even they would do better at higher and cooler elevations. Potato production would definitely be confined to the coolest months of the year. Irrigation would be required for all of the crops under consideration.

The overwhelming factor, however, is the economics of agriculture on this property. The current taxes are about \$200 per usable acre per year, and while this tax rate might be lowered by dedicating the land to agriculture, the carrying cost of the investment in the property is in excess of \$2000 per acre per year; this clearly precludes any legal agricultural use of the property. I cannot suggest any crop that could be grown in volume economically on this property with the high land value and with the high labor costs prevalent in Hawaii.

Thank you again for the opportunity to contribute to this project. If you, members of your staff, or members of any State or County Agency have any questions concerning my thoughts on the agricultural aspects of this project, please feel free to call on me.

Very truly yours,

O. A. Lorenz
Chairman
Department of Vegetable Crops

- (1) Selling the project site;
- (2) Allowing the project site to be in open space until the demand for housing creates public or governmental pressure to utilize this area;
and
- (3) Allowing for a smaller portion of the site to be developed and/or decreasing the density.

It is recognized that there would be available many more viable alternatives, however, such a list would be conjecture at this point.

In reviewing the "do nothing" alternative, it should also be noted that the General Plan Amendment and State Land Use designation change back to agriculture would be unlikely. The cost of the land would be prohibitive and/or economically unfeasible for activities not consistent with urban uses of this land.

VI. THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Both the short-term and long-term benefits (as interpreted by the Environmental Impact Statement Regulations) are expected to be the same. Economically, the property will increase in value, therefore, adding to the real property taxes to the County. Taxes to the State will be generated in form of the light industries to be situated on 120 acres of the Gentry-Waipio project, and sales taxes generated in the planned commercial area. Jobs will be created in the light industrial and commercial areas of the project. Additionally, the multiplier effect on employees' payrolls is normally in the range of 1:1 or 1:1.5.

The use of the land for urbanization, however, forecloses the land's future options. It is rare to downgrade the use of the property once the infrastructures and buildings are built. (The investment in these improvements will result in increased property value, and therefore, withdrawing the land from an urban use has limited economic or social appeal.) Therefore, the land is committed to this use in the long-term future.

VII. MITIGATION MEASURES PROPOSED TO MINIMIZE IMPACT

During construction a number of conventional methods are available and will be employed by the contractor to alleviate short-term adverse effects. Specifically, these methods would serve to mitigate erosion problems, fugitive dust, noise, siltation, and solid waste. The following statutes, regulations, and legal requirements must be complied with:

- a. Grading permit pursuant to Ordinance 3968, City and County of Honolulu.
- b. Erosion Control Plan, pursuant to the Grading Ordinance.
- c. Applicable building, fire, plumbing and electrical codes pursuant to the adopted uniform codes and regulations, Building Department, City and County of Honolulu.
- d. Public Health Regulations, Chapter 37, Water Pollution Control, State Department of Health.
- e. Public Health Regulations, Chapter 37-A, Water Quality Standards, State Department of Health.
- f. Public Health Regulations, Chapter 42, Ambient Air Quality Standards, State Department of Health.
- g. Public Health Regulations, Chapter 43, Air Pollution Control, State Department of Health.
- h. Public Health Regulations, Chapter 44-A, Noise Control for Oahu, State Department of Health.
- i. Public Health Regulations, Chapter 44-B, Community Noise Standards for Oahu, State Department of Health.

It should be emphasized that during the technical review of the project¹ various regulatory agencies (for grading, building, and other permits and certifications) the retained engineers must submit detailed drawings and specifications (which include mitigation measures) for approval. These approvals are issued only after these detailed plans have met all the applicable standards and codes of Federal, State, and County agencies.

¹ Prior to construction.

VIII. ANY IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

It is anticipated that the construction of Gentry-Waipio will commit the necessary construction materials and human resources (in form of planning, labor, landscaping, designing). Some of the construction material could be reused when the buildings are demolished, however, at the present time and state of our economy, it is felt that the reuse of much of these materials would be restricted. The human resources expended for this project, however, will not be retrievable. The primary human resource, labor, can be compensated, and in the case of this project, it is expected that labor will be a short-term and continual commitment in form of construction related employment and light industrial and commercial business, respectively. Additionally, the services and merchandise sold in the commercial area can also be considered resources which will be consumed or utilized by the community and other purchasers.

Therefore, it is felt that there will be some commitment of resources (largely man-made items or human resources) however, such resources will be normally utilized and renewed, and in the case of labor, compensated.

As previously mentioned, the urban land use is also a resource and will be irretrievably committed for a long-term period.

IX. AN INDICATION OF WHAT OTHER INTERESTS AND CONSIDERATIONS OF GOVERNMENTAL POLICIES ARE THOUGHT TO OFFSET THE ADVERSE ENVIRONMENTAL EFFECTS OF THE PROPOSED ACTION

In reviewing the physical impacts of the proposed project, two aspects relating to environmental quality will be detrimental to the existing environment of the project site and the region. These two aspects are water pollution and air pollution. Water pollution is in form of increasing the quantity of runoff and some constituents (e.g. phosphorus and nitrogen). This will affect the receiving waters of Middle Loch, Pearl Harbor to some degree. In the case of air pollution, it was noted by the air pollution consultant that: "There is no question that a project of this size will create some measurable impact on the air quality of the area." The findings of the air pollution consultant concluded that the methodology utilized indicates that the one-hour carbon monoxide standards (State of Hawaii) might be exceeded within 10 meters of Kamehameha Highway intersections.

Certainly, both these environmental aspects relate to the urban development of any region, an example of this are the impacts which occurred in the Kaneohe Bay region due to the significant population growth and urbanization occurring in the past three decades. However, it must be recognized that if population growth is to be accommodated,¹ then subsequently, housing, economic opportunities, and public facilities and services will be demanded. Thus, population growth will continue to produce pollutants based on the present affluent lifestyle of our society. At this point, it is felt that our society, by not changing our lifestyles, can direct population growth through planning policies. Simply speaking, an area or region in which population growth or urbanization is planned, will very likely witness an increase in environmental pollution. The Gentry-Waipio project is included in an area which is in the historical path of urbanization, and for which growth is directed (October 5, 1976 draft report - New General Plan). As stated in a recent newspaper article:²

"Intensive urban development of Ewa in particular is seen as one means of alleviating growth pressures on other parts of the island. By directing growth in this area, the new General Plan hopes to keep populations levels controlled in what is described as the urban fringe in such areas as Kailua, Aina Koa-Hawaii Kai and Kaneohe-Ahuimanu.

"Akahane says its only natural that growth be directed toward Ewa because facilities are being built to handle growth. The Sand Island and Honouliuli sewer treatment plants are being built, a deep water harbor is planned for Ewa and the Campbell Industrial Park is there to assist economic growth. Akahane

¹ Since population at this point cannot be significantly curtailed for the State or County.

² Honolulu Advertiser, October 18, 1976, "Isle plan: top decision of '70's".

X. ORGANIZATIONS & PERSONS CONTACTED

A. RESPONSES RECEIVED PRIOR TO THE EIS CONSULTATION PERIOD

As indicated previously, the Gentry-Waipio project has been reviewed several times by various governmental and private agencies. Because of the continuing review processes, the developer has received many responses; these responses (reflecting the latest position of these agencies up to August 17, 1976) are provided in the following p. X-5 to X-71.

CORRESPONDENCE AND COMMENTS FROM VARIOUS GOVERNMENTAL AGENCIES AND PRIVATE

ORGANIZATIONS REGARDING GENTRY-WAIPIO

(As of August 17, 1976)

	<u>Page</u>
<u>Housing</u>	
Department of Housing and Community Development (City)	
City Council's Planning and Zoning Committee Meeting (transcript)	
(June 15, 1976)	X-5
Letter, May 28, 1976 (Reviewing the proposed development)	X-6
Letter, February 13, 1976 (Analyzing possible interest)	X-7
Department of Social Services and Housing (State)	
Letter, December 15, 1975	X-8
State Land Use Commission	
Letter, December 9, 1975	X-9
<u>Agriculture</u>	
Soil Conservation Service, U.S. Department of Agriculture (Federal)	
Letter, December 29, 1976 (Description of soils).	X-10
Department of Agriculture (State)	
Letter, December 15, 1975 (No comments)	X-13
<u>Education</u>	
Department of Education (State)	
Letter, May 12, 1976 (Permanent elementary school site and access).	
Letter, April 23, 1976 (Proposed elementary school enrollment).	X-14
Letter, April 22, 1975 (Proposed school enrollment)	X-17
<u>Parks</u>	
Department of Parks and Recreation (City)	
Letter, July 12, 1975 (Park requirements)	X-19
Letter, January 30, 1976 (Park requirements)	X-21
<u>Transportation</u>	
Department of Transportation Services (City)	
Memorandum, February 12, 1976 (Internal road system)	X-23

Department of Transportation (State)

Letter, July 2, 1976 (Comments on the Revised Traffic Impact Report) X-24
Letter, July 1, 1976 (Intersection with Kam Highway and interchange with H-2 Freeway) X-26
Letter, June 21, 1976 (From Norman Dyer to DOT) X-28
Letter, June 15, 1976 (From Norman Dyer to DOT) X-30
Letter, June 3, 1976 (Comments on the Traffic Impact Report) . . . X-32

Utilities

1. Water

Board of Water Supply (City)

Letter, July 9, 1976 (Accepting two well site locations) X-34
Letter, February 12, 1976 (Well locations) X-38
Letter, May 12, 1972 (Well sizes, locations and reservoir locations) X-39

2. Sewers

Department of Health (State)

Letter, June 25, 1976 (From Park Engineering to DOH) X-40

Department of Public Works (City)

Letter, June 14, 1976 (Expansion of Waipahu Stabilization Ponds) . X-41
Letter, May 6, 1975 (Sewer main alignment) X-43
Letter, March 7, 1975 (Requirements for developers for sewer connection) X-44
Letter, February 4, 1976 (Initial response to Gentry-Waipio) . . . X-46

Department of Transportation (State)

Letter, April 21, 1975 (Approving routing of the proposed sewer main alignment) X-47

3. Drainage

Department of Public Works (City)

Letter, January 20, 1976 (Acceptability of the preliminary hydrologic report) X-50

U.S. Department of the Army (Corps of Engineers)

Letter, January 5, 1976 (Drainage aspects) X-51

4. Electricity

Hawaiian Electric Company

Letter, February 13, 1976 (Existing power distribution facilities). X-52
Letter, December 10, 1974 (Overall power requirements). X-53

Community Organizations

Waipahu Businessmen's Association
Letter, May 12, 1976 (Testimony to the City Council) X-56

Waipahu Community Association
Letter, May 12, 1976 (Testimony to the City Council) X-57

Crestview/Seaview Community Association
Letter, May 12, 1976 (Testimony to the City Council) X-58

Pacific Electrical Constructor's Association
Letter, May 10, 1976 (Testimony to the City Council) X-61

United Brotherhood of Carpenters and Joiners of America Local No. 745
Letter, May 10, 1976 (Testimony to the City Council) X-62

Hawaii Building & Construction Trades Council AFL-CIO
Letter, May 11, 1976 (Testimony to the City Council) X-63

Lanakila Baptist Schools
Letter, May 14, 1976 (Testimony to the City Council) X-65

Roman Catholic Diocese of Honolulu
Letter, April 30, 1976 (Testimony to the City Council) X-67

Miscellaneous

Headquarters, Fourteenth Naval District (Federal)
Letter, June 17, 1976 (Stating the property is not within the ex-
plosive safety arc of the Waikele Storage Facility) X-68

Office of Environmental Quality Control (State)
Letter, December 18, 1975 (Regarding applicable EIS requirements) . . X-69

Department of Land and Natural Resources (State)
Letter, December 12, 1975 (No objections) X-70

Department of Hawaiian Home Land (State)
Letter, December 10, 1976 (No comments) X-71

Extract from the transcript of the City Council's Planning and Zoning Committee Meeting dated June 15, 1976:

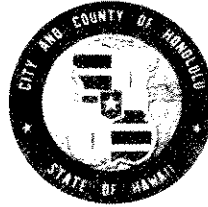
Page 7: Based on comments by members Koga and Chairman Pacarro, Ty Kazuo from the Department of Housing and Community Development stated, "Maybe I can just say that we are no longer involved with the developer on this project, as such. We are no longer (that is the Department of Housing and Community Development) is no longer involved with the developer. We did have discussions in the past."

PACARRO: "I see."

KAZUO: "All pau now."

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813
PHONE 523-4111



FRANK F. FASI
MAYOR

RICHARD K. SHARPLESS
MANAGING DIRECTOR

WILLIAM BLACKFIELD
DIRECTOR

TYRONE T. KUSAO
DEPUTY DIRECTOR

May 28, 1975

Mr. Norm Dyer
Norman Dyer & Associates
Architects and Planning Consultants
Suite 1804 Financial Plaza of the Pacific
Honolulu, HI 96813

Dear Mr. Dyer:

Subject: Gentry-Waipio Project

This is in response to your letter of May 19, 1975 requesting our views on the proposed land use ideas and considerations relative to the subject project.

Your proposal was reviewed by our staff. However, we believe that inasmuch as we have not made any decision regarding the extent of our participation in this project, we feel it would be inappropriate for us to comment on your proposal at this time.

Thank you very much for your consideration.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "W. Blackfield", written over a horizontal line.

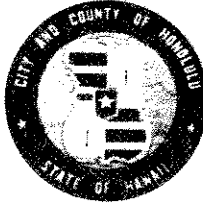
WILLIAM BLACKFIELD
Director

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813
PHONE 523-4161

FRANK F. FASI
MAYOR

RICHARD K. SHARPLESS
MANAGING DIRECTOR



WILLIAM BLACKFIELD
DIRECTOR

TYRONE T. KUSAO
DEPUTY DIRECTOR

February 13, 1976

Mr. Norman Dyer
Norman Dyer A.I.A. and Associates
Architects and Planning Consultants
Suite 1804 Financial Plaza of
the Pacific
Honolulu, HI 96813

Dear Mr. Dyer:

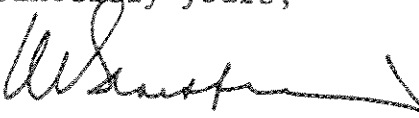
Subject: Proposed Gentry-Waipio Project

This will acknowledge receipt of your letter of February 10, 1976 inquiring as to whether or not we would be interested in participating in some form of moderate income housing program within the proposed Gentry-Waipio Project, and if so, how would we suggest implementing the program.

We regret that we are still in the process of analyzing the summary proposal and the supplemental materials submitted as part of the proposed amendments to the GP/DLUM, and therefore, we are not in a position to state any preference or make any commitment at this stage.

We will, however, be prepared to make our comments, and if required, present our oral recommendations during the public hearings, now scheduled before the Planning Commission and the City Council.

Sincerely yours,


WILLIAM BLACKFIELD
Director

GEORGE R. ARIYOSHI
GOVERNOR



DEC 20 1975
ANDREW I. T. CHANG
DIRECTOR OF SOCIAL SERVICES & HOUSING

STATE OF HAWAII
DEPARTMENT OF SOCIAL SERVICES AND HOUSING

December 15, 1975

Norman Dyer and Associates
Suite 1804, Financial Plaza of the Pacific
Honolulu, Hawaii 96813

Attention: Mr. Norman Dyer

Dear Sirs:

Re: Gentry-Waipio Project

We are responding to your letter of December 4, 1975. The Hawaii Housing Authority has on file in pending status your Gentry-Waipio project which proposed that approximately 10% of the land be available to Hawaii Housing Authority for use in housing for lower income families.

As your development concept is rapidly nearing focus, we are highly interested in the proposed locations for lower income families. In addition, our objective now includes development for elderly housing as a desirable social mix.

Please inform us when we may receive plans indicating the proposed land locations for purchase by the Hawaii Housing Authority.

Sincerely yours,


ANDREW I. T. CHANG
Director



DEPARTMENT OF PLANNING
AND ECONOMIC DEVELOPMENT



LAND USE COMMISSION

Suite 1795, Pacific Trade Center, 190 South King Street, Honolulu, Hawaii 96813

GEORGE R. ARIYOSHI
Governor
EDDIE TANGEN
Chairman
STANLEY SAKAHASHI
Vice-Chairman

COMMISSION MEMBERS

James Carras
Charles Duke
Colette Machado
Mitsuo Oura
Carol Whitesell
Tanji Yamamura
Edward Yanai

December 9, 1975

Mr. Norman Dyer
Norman Dyer A.I.A. and Associates
Architects and Planning Consultants
Financial Plaza of the Pacific
Suite 1804
Honolulu, Hawaii 96813

Dear Mr. Dyer:

This is in reply to your letter dated December 4, 1975 on the Gentry-Waipio Project Tax Map Key 9-4-06: 8.

We note that in the Decision and Order on Docket 074-16 dated May 21, 1975, one of the findings of the Commission showed that the Hawaii Housing Authority expressed interest in acquiring 10% of the dwelling units for low income family housing. We would appreciate being advised of any progress between that agency and the developer in this matter.

Very truly yours,

AH SUNG LEONG
Acting Executive Officer

ASL:jsn

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

JAN 5 1976

Room 425 - 1833 Kalakaua Avenue Honolulu, Hawaii 96815

December 29, 1975

Mr. Norman Dyer
Norman Dyer A.I.A. and Associates
Suite 1804 Financial Plaza of the Pacific
Honolulu, Hawaii 96813

Dear Mr. Dyer:

Subject: Gentry - Waipio Project
Tax Map Key 9-4-06-08

Your December 4 letter to State Conservationist Francis Lum was referred to me. Here are our comments on the proposed general plan amendment from agriculture to urban uses.

Our soil survey shows the parcel consist almost entirely of soils well suited for cultivated agriculture. We would like to see good agricultural lands used for agriculture.

For the most part, the soils in the parcel are deep, well drained, and gently sloping. They occur in broad areas and are well suited for cultivated agriculture. They are among the best soils for farming in the state.

The following is a list of soils by suitability for cultivated agriculture. The location and extent of the soils are shown on the attached maps.

Well suited

WaA Wahisawa silty clay, 0 to 3 percent slopes
LaB Lahaina silty clay, 3 to 7 percent slopes
MuB Molokai silty clay loam, 3 to 7 percent slopes

Moderately suited

MuC Molokai silty clay loam, 7 to 15 percent slopes
MuD Molokai silty clay loam, 15 to 25 percent slopes



Mr. Norman Dyer
Page 2

December 29, 1975

Poorly suited

(None)

Unsuited

HLMG Helemano silty clay, 30 to 90 percent slopes

The soils have favorable properties for urban uses except for the very steep gulch side at the southeast corner of the property. We believe, however, that good agricultural lands should be reserved for agricultural uses.

This review was made in cooperation with the West Oahu Soil and Water Conservation District.

Sincerely,



Otis M. Gryde
District Conservationist

cc: West Oahu S.W.C.D.

(Joins sheet 42)





95 000 FEET

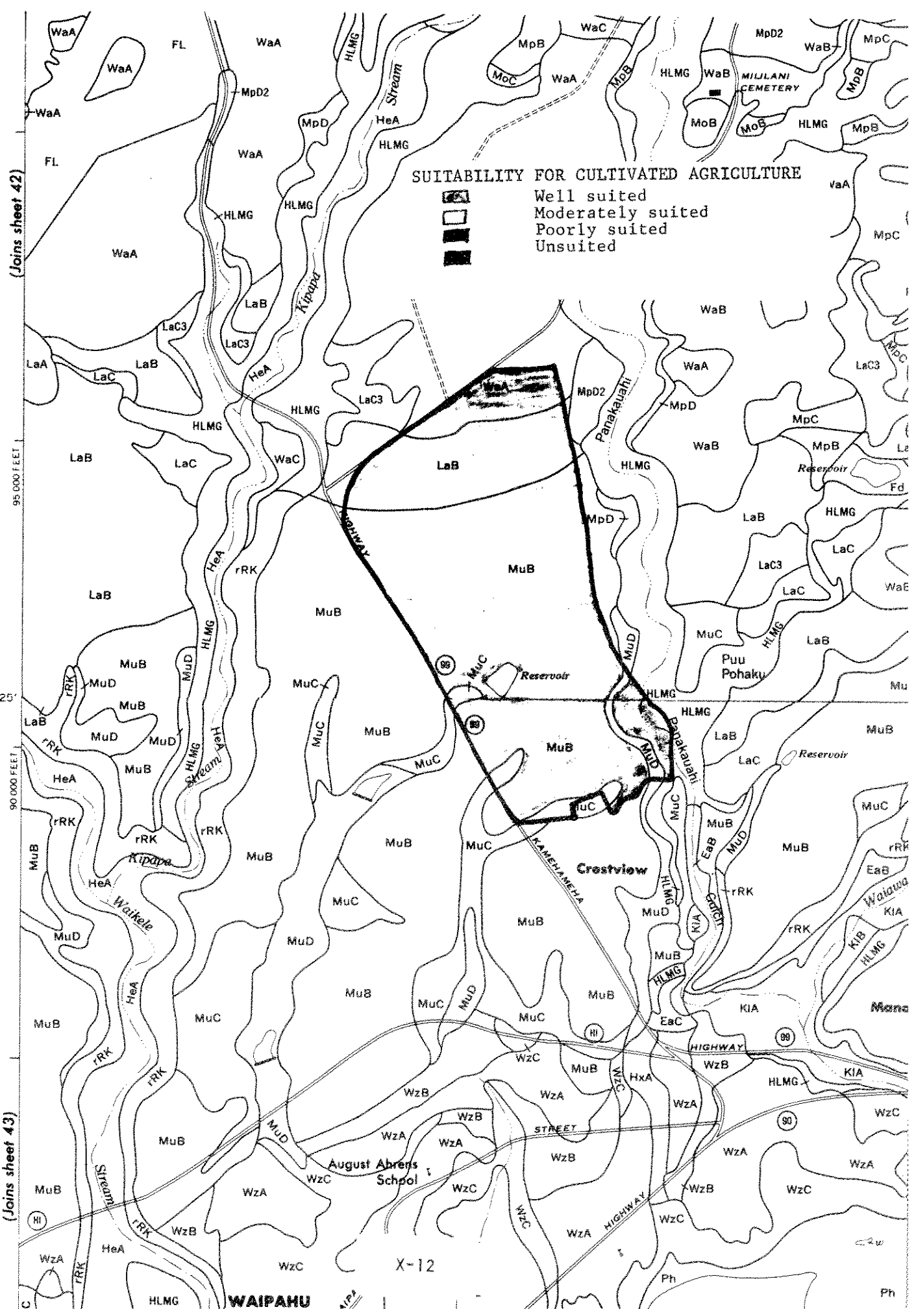
21° 25'

90 000 FEET

(Joins sheet 43)

SUITABILITY FOR CULTIVATED AGRICULTURE

-  Well suited
-  Moderately suited
-  Poorly suited
-  Unsuitable



WAIPAHU

X-12

August Ahrens School

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HIGHWAY 90

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GEORGE R. ARIYOSHI
GOVERNOR



DEC 19 1975

JOHN FARIAS, JR.
CHAIRMAN, BOARD OF AGRICULTURE

YUKIO KITAGAWA
DEPUTY TO THE CHAIRMAN

STATE OF HAWAII
DEPARTMENT OF AGRICULTURE
1428 SO. KING STREET
HONOLULU, HAWAII 96814

December 15, 1975

Mr. Norman Dyer
Norman Dyer A.I.A. and Associates
Suite 1804 Financial Plaza of the Pacific
Honolulu, Hawaii 96813

Dear Mr. Dyer:

Thank you for your letter of December 4 advising us of your application to amend the General Plan to permit development of the Gentry property in Central Oahu.

We have no comments to make relating to this project at this time.

Many thanks,

A handwritten signature in black ink, appearing to read "John Farias, Jr.", is written over the typed name.

JOHN FARIAS, JR.
Chairman, Board of Agriculture

JF:k:h



STATE OF HAWAII

DEPARTMENT OF EDUCATION

P. O. BOX 2390
HONOLULU, HAWAII 96804

OFFICE OF BUSINESS SERVICES

May 12, 1976

Honorable George Akahane, Chairman
City Council
City and County of Honolulu
Honolulu, Hawaii 96813

Dear Chairman Akahane:

Subject: Proposed Gentry-Waipio School Facilities

This is a follow-up of a letter dated April 22, 1976 from the Department of Accounting and General Services to the City Council. Comments pertained to the adequacy of the elementary school site proposed as part of the General Plan amendment.

Representatives of the Departments of Accounting and General Services, Education, and Parks and Recreation met with Mr. Norman Dyer on May 4, 1976 to discuss the location and requirements of the school. It was agreed that:

1. An extension of the roads would connect as shown on Exhibit A. This would provide frontage to both the elementary school site and the District Park, and would have a 60' right-of-way. The extension will improve access to the school and will help to insure that the school is centrally located to the projected enrollment.
2. The well(s) required for the proposed water supply system would not be located on the proposed school site.
3. The final location of the elementary school site will be subject to a detailed site selection study to be conducted by the Department of Accounting and General Services. The study will be initiated when approval of the General Plan/Detailed Land Use Amendment has been granted.

Honorable George Akahane

Page 2

May 12, 1976

The developer has also offered to dedicate land for the school site, subject to pro rata reimbursement of major on and off site improvement costs which will benefit the school site.

The developer's general plan proposal, insofar as it pertains to school facilities, is acceptable to the Department of Education.

Sincerely,



KOICHI H. TOKUSHIGE
Assistant Superintendent
Office of Business Services

KHT:JEE:yk

Enclosure

cc: Leeward District



STATE OF HAWAII

DEPARTMENT OF EDUCATION

P. O. BOX 2360
HONOLULU, HAWAII 96804

OFFICE OF BUSINESS SERVICES

April 23, 1976

Norman Dyer A.I.A. & Associates
130 Merchant Street, Suite 1804
Financial Plaza of the Pacific
Honolulu, Hawaii 96813

Gentlemen:


Subject: Gentry Waipio General Plan Amendment

Thank you for sending us the Gentry-Waipio General Plan Amendment.

We note that the total units planned have been reduced from 5300 to 4300 units.

Accordingly, our latest projection for the proposed Crestview Elementary reflects the downward revision to a range of 950 to 1000 students in the year 1995 for facilities design purposes.

Sincerely,


HIRONOBU HINO, Director
Facilities & Auxiliary Services Branch
HH:EM:yk

cc: Leeward Oahu District



STATE OF HAWAII
DEPARTMENT OF EDUCATION
P. O. BOX 2390
HONOLULU, HAWAII 96804

OFFICE OF BUSINESS SERVICES

April 22, 1975

Norman Dyer A.I.A. & Associates
130 Merchant Street, Suite 1804
Honolulu, Hawaii 96813

Gentlemen:

Subject: School Site Requirements for Proposed Gentry-Waipio Development

This is in reply to your letter of transmittal of April 18, 1975, requesting our comments regarding school requirements for the subject development proposal.

Enrollment Projections

Based on the proposal for 500 SF, 1300 semi-attached units, 1700 low-rise condominiums, and 1800 median-rise apartments, we tentatively estimate the following enrollment from the project area:

<u>School</u>	<u>Grades</u>	<u>Approx. Enrollment</u>
New School Required	K-6	900-1000
Waipahu Intermediate	7-8	250- 275
Waipahu High	9-12	400- 450

New Elementary School (Crestview Elementary)

A new school site, centrally located to serve the proposed development and the existing Seaview and Crestview subdivisions, will be required. The exact location will require a site selection study by the Department of Accounting and General Services. Your proposal to designate a site immediately makai of the future regional park is acceptable; however, the site must be considered tentative until a site study is completed.

April 22, 1975

The proposal to temporarily lease approximately 7.5 acres immediately mauka of the existing neighborhood park for a temporary school is also acceptable.

We are prepared to negotiate a lease agreement with Gentry-Pacific for use of the 7.5-acre site and use of house "shells" for temporary classrooms. We anticipate that temporary facilities may be required for several years, pending construction of permanent facilities for Crestview Elementary.

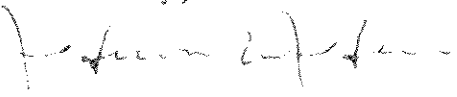
Please be advised that under the Department of Education's policy, we request that the land required for the new elementary school be dedicated. A copy of the policy is attached.

We request that a written commitment to assist the Department of Education with land and temporary school facilities costs be submitted prior to submission of the subject development proposed to the City Council. Please contact our Facilities Branch, Advance Planning Section, regarding anticipated assistance.

Grade 7-12 Students

We anticipate that the projected enrollment can be accommodated with existing and planned facilities at Waipahu Intermediate and Waipahu High Schools.

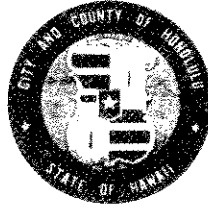
Sincerely,


KOICHI H. TOKUSHIGE
Assistant Superintendent
Office of Business Services
KHT:JEE:yk
Attachment

cc: Leeward Oahu District
D.A.G.S.

DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813



FRANK F. FASI
MAYOR

YOUNG SUK KO
DIRECTOR

July 12, 1976

Mr. Norman Dyer
Norman Dyer AIA and Associates
Suite 1804, Financial Plaza
of the Pacific
Honolulu, Hawaii 96813

Dear Mr. Dyer:

SUBJECT: GENERAL PLAN AMENDMENT, GENTRY-WAIPIO

We have reviewed the suggested General Plan change to reduce the number of dwelling units of your project from 4,300 to 3,700 units and also of your request to reduce the size of the district park from 16 to 14 acres.

The reduction of the number of units will not alter our previous recommendation to require your project to have a district and a community recreation park. We estimate that the proposed change to 3,700 units will generate a projected population of approximately 11,000. According to our Department's standard of three acres of park per 1,000 persons, approximately 33 acres of parks must be provided.

The 14-acre district park, the four acres to be added to the existing Crestview Neighborhood Park, and the 17 acres of private park areas proposed for your project will meet the Department's requirements. Therefore, we have no objection to your request to reduce the land area proposed to be dedicated for a district park from 16 to 14 acres.

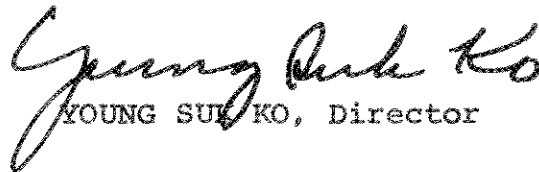
Mr. Dyer

-2-

July 12, 1976

Should you need additional information, please call Mr. Jason Yuen, phone 523-4884.

Sincerely,

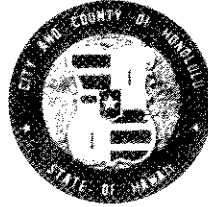

YOUNG SUK KO, Director

cc: Department of General Planning
Department of Land Utilization

DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR



YOUNG SUK KO
DIRECTOR

January 30, 1976

Norman Dyer A.I.A. & Associates
130 Merchant Street, #1804
Honolulu, Hawaii 96813

Gentlemen:

SUBJECT: GENERAL PLAN AMENDMENT, GENTRY-WAIPIO

We have reviewed the General Plan amendment report and concur with the recreational plans proposed for the Gentry-Waipio project.

The development of the eight-acre community park, the sixteen-acre district park, and the recreational amenities proposed in the townhouse and apartment areas should provide adequate recreation for the project.

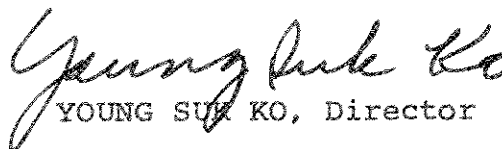
In order to proceed with the planning and development of the two proposed parks, we will need from you:

1. A letter of agreement to dedicate the park lands, rough-graded and grassed with all off-site improvements at no cost to the City.
2. A timetable for the development of the Gentry-Waipio project so that we may program the necessary funds in the City CIP for the planning and development of the two park sites.

Norman Dyer A.I.A. & Associates
Page 2
January 30, 1976

Thank you for allowing our Department to review your General Plan report. Should you have any questions, please contact Mr. Jason Yuen, telephone 523-4884.

Sincerely,

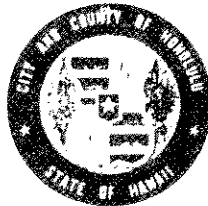

YOUNG SUK KO, Director

cc: Department of General Planning
Department of Education
Department of Land Utilization

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

HONOLULU MUNICIPAL BUILDING
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK P. FASI
MAYOR



GEORGE C. VILLEGAS
DIRECTOR

TEL/76-157

FEB 12 1976

MEMORANDUM

TO : ROBERT R. WAY, CHIEF PLANNING OFFICER
DEPARTMENT OF GENERAL PLANNING

FROM : GEORGE C. VILLEGAS, DIRECTOR
DEPARTMENT OF TRANSPORTATION SERVICES

SUBJECT: TRAFFIC ASSESSMENT FOR THE GENTRY-PACIFIC
WAIPIO DEVELOPMENT
TMK: 9-4-06: 8

We have reviewed a traffic assessment for a parcel of land, TMK: 9-4-06: 8, known as Gentry-Pacific, Waipio Development.

Based upon a General Plan that the developer has prepared, we find that the traffic assessment is viable. As long as the ultimate zoning for the area remains relative to that proposal, the roadway system is adequate to serve the proposed land use.

Our evaluation concerns the internal roadway system. If evaluation of the external roadway system is necessary it should be made by the State Department of Transportation and questions concerning it should be directed to them.

George C. Villegas

GEORGE C. VILLEGAS
Director

cc: Norman Dyer A.I.A. and Assoc.
Henry Tuck Au
DLU



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

IN REPLY REFER TO

July 2, 1976

STP 8.3735

Mr. Norm Dyer
Norm Dyer A.I.A. and Associates
Financial Plaza of the Pacific
Suite 1804
Honolulu, Hawaii 96813

Dear Mr. Dyer:

SUBJECT: Gentry-Waipio Project

Staff comments on your latest response (June 21, 1976) and the revised traffic impact statement indicate that we still are faced with many unresolved issues.

Be assured that we are also anxious to resolve these differences. Please contact Ah Leong Kam (548-6931) to arrange for a meeting with our Traffic Engineers.

Our comments are listed below for your consideration.

I. Revised Traffic Impact Statement of June 21, 1976

A. Page T-18

1. The 1000 to 1200 vph/lane for level of service "C" is high for a nonfreeway highway with traffic signals. This seems more like a level of service "D". The 1000 vph/lane, however, is acceptable.
2. The level of service capacity calculated for the unimproved Kam Highway is too high because the middle lane is used for left turns thus resulting in insufficient lengths for passing in both directions and capacity reduction.

Since intersections are basically the controlling factor from a capacity standpoint, an intersection analysis would have been more appropriate than capacity analysis based on free-flow or uninterrupted conditions.

B. Page T-19

1. The 3700 dwelling units appear high, since it will generate 1900 vph in the peak direction for a total of 2550 vph.

II. June 17, 1976 letter by Henry Tuck Au

A. Page 2

The peak hour traffic of 650 vehicles on Kam Highway in one direction by 1977 and remaining unchanged until 1984 does not seem realistic.

B. Pages 2, 3, 4, and 5 (Table 1)

The level of service volumes shown are unacceptable in that they appear to be high.

C. Page 4

For the first paragraph under item B, it is not apparent why a 4-lane divided facility would have the same capacity as a 2-lane highway.

III. General Statements

It is noted that bus service has not been mentioned. If such a service has not been considered, then it should.

Very truly yours,

K. Higashimura

for E. ALVEY WRIGHT
Director



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

IN REPLY REFER TO

HWY-C
2.23078

July 1, 1975

Mr. Norman Dyer
Norman Dyer A.I.A. and Associates
Suite 1804, Financial Plaza of the Pacific
Honolulu, Hawaii 96813

Dear Mr. Dyer:

Subject: Gentry-Waipio Project - Oahu
TMK 9-4-06:08, ID No. O-75-49

This is in reply to your letter of May 12, 1975. The following are our comments and recommendation:

1. The spacing of intersections on Kamehameha Highway should meet our minimum requirements. A traffic impact analysis report should be prepared and submitted so that the intersection geometrics can be determined;

2. Before an interchange can be approved for the Interstate system and, subsequently, for design and construction, several criteria must be met. These criteria include but are not limited to the following:

- a. Justification based on actual traffic needs which is dependent upon the actual urbanization of subject lands.
- b. Benefit/cost analysis.
- c. Geometric and safety design standards.
- d. State and Federal Highway Administration's acceptance.
- e. Public's acceptance.
- f. Financial arrangement.

Mr. Norman Dyer
Page 2
July 1, 1975

HWY-C 2.23078

All costs for the preparation of traffic data, reports, etc., required above must be borne by the Developers. If the Developers wish to pursue the interchange matter with these understandings, please submit the requested data for our review.

In submitting the above data please refer to ID No. O-75-49.

Very truly yours,


T. HARANO
Chief
Highways Division

June 21, 1976

Mr. E. Alvey Wright
Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Re: Gentry-Waipio Project
(Stp. 8.3691)

Dear Mr. Wright:

Submitted herewith is a further response to your Department's letter, dated April 21, 1976, on the Traffic Impact Statement relating to the Gentry-Waipio Project:

Item 1: The Revised Traffic Impact Statement, dated June 21, 1976, reflects that the volume of traffic is approximately two thirds in one direction during A.M. peak hour uses. The summary of the Revised Traffic Impact Statement has been revised accordingly (paragraph 4).

Item 2: As per your recommendation, the A.M. peak volume computations are based on using 10% of 24 hour projected traffic volume. This amounts to 2,960 vehicle/per hour, based on the present proposed land use for the project (paragraph 5).

Item 3: Since the development is self-contained, the turning movements at the intersection will be right turns into the Schofield direction and left turns into the Honolulu direction, depending upon the places of employment of the residents. Due to changing requirements and places of employment, greater flexibility must be allowed in the design of the intersection to accomodate the worst possible situation. The worst possible situation will occur when the majority of the turning movements will be left into the Honolulu direction. Then there is a need for two left turn lanes into Kamehameha Highway. This is possible without the widening of Kamehameha Highway through utilization of the center lane, after which the traffic will merge into one through lane.

Item 4: Upon completion of the H-2 Freeway in 1977, the peak hour volume of Kamehameha Highway will decrease to approximately 650 vehicles in one direction. The Revised Traffic Impact Statement recommends that Kamehameha Highway, in order to reach service level "C" traffic conditions, requires the completion of 693 to 1,091 dwelling units in the Gentry-Waipio project before the capacity of Kamehameha Highway is exceeded with no improvements made to the existing highway.

Mr. E. Alvey Wright
Page Two
June 21, 1976

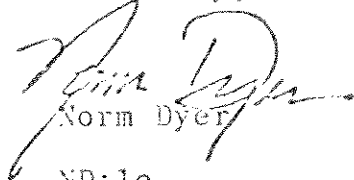
Item 5a: A Revised Traffic Impact Statement has been changed to meet service "C" levels of traffic use as defined by the Highway Capacity Manual.

Item 7: Same as Item 5a.

Item 9: The Revised Traffic Impact Statement has been changed to project service level "C" for Kamehameha Highway (see Item 5a above). We have also enclosed a letter dated June 17, 1976, which designates the capacity of Kam Highway and the level of service under "C", "D" and "E" for both the existing improvements and the proposed four lane widening.

Hopefully, this resolves any issues the Department of Transportation might have regarding the subject matter. Your expeditious response would be most appreciated.

Sincerely,



Norm Dyer

ND:10

enclosures

cc Ah Leong Kam
Eiichi Tanaka

June 15, 1976

Mr. E. Alvey Wright
Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

Re: Gentry-Waipio Project
(Stp. 8.3691)

Dear Mr. Wright:

Regarding your department's correspondence dated June 3, 1976, we offer for your consideration a copy of the May 27, 1976 letter submitted by Mr. Henry Tuck Au, and the Revised Traffic Impact Statement for Gentry-Waipio, dated June 1976. We believe that the Revised Statement has been amended to reflect the principal concerns of your department specified to:

1. The number of vehicles to be generated by the development.
2. The current capacity of Kamehameha Highway at an acceptable service level.
3. Recommendation as to when Kamehameha Highway should be widened to accommodate the increased traffic generated by the development.

We agree that the present peak hour traffic on Kam Highway is considered excessively high, which we understand, represents an A.M. capacity of approximately 2,500 vehicles per hour. With the completion of the H-2 Freeway to Wahiawa, we also understand that the anticipated peak A.M. volume will be reduced to approximately 1,000 vehicles per hour, well within the acceptable levels for a two lane highway. However, we would like to emphasize that the highway is more than a two lane roadway since the center lane can be utilized for passing and left turn movements which can increase the acceptable design capacity to above the recommended 900 to 1,000 vehicle per hour per lane requirement. It should also be noted that we have revised the number of residential units downward to a proposed holding capacity of 3,700 dwelling units as compared to the previous 4,300 units. This information is also included in the statement.

X-30

ND

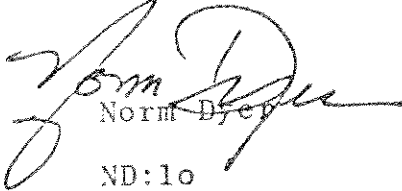
NORMAN DYER A.I.A. AND ASSOCIATES

ARCHITECTS AND PLANNING CONSULTANTS, SUITE 1804 FINANCIAL PLAZA OF THE PACIFIC, HONOLULU, HI 96813. TEL. (808) 524-2527

Mr. E. Alvey Wright
Page Two
June 15, 1976

Your review of the Revised Traffic Impact Statement in an expeditious manner will be greatly appreciated. Thank you for your assistance and cooperation.

Sincerely,


Norm Dyer

ND:lo

enclosure

cc Ah Leong Kam
Eiichi Tanaka

GEORGE R. ARIYOSHI
GOVERNOR



E. ALVEY WRIGHT
DIRECTOR

DEPUTY DIRECTORS
WALLACE AOKI
RYOKICHI HIGASHIONNA
DOUGLAS S. SAKAMOTO
CHARLES O. SWANSON

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU HAWAII 96813

IN REPLY REFER TO

June 3, 1976

STP 8.3691

Mr. Norm Dyer
Norm Dyer A.I.A. and Associates
Financial Plaza of the Pacific
Suite 1804
Honolulu, Hawaii 96813

Dear Mr. Dyer:

Subject: Gentry-Waipio Project

We have reviewed your consultant's response, dated April 21, 1976, and find that our earlier concerns have not yet been resolved.

We offer the following comments for your consideration.

Item 1. The 900 vph/lane is what we feel is a reasonable figure for through traffic at signalized intersections.

We wish to point out that the development will have a severe impact on Kam Highway, inasmuch as Kam Highway is a one-lane facility in the inbound direction compounded with soon to be installed traffic signals at the downstream intersection. Kam Highway, therefore, must be widened or some other provisions must be made to accommodate the increased traffic. Further, we wish to point out that the level of service must be at an acceptable level--not at the present hazardous and congested forced flow condition.

Item 2. We suggest that a AM peak-hour percentage of 10% of the 24-hour traffic be used as traffic generated by the subject development, since such estimates include not only work trips but also represent a composite of trip purposes which actually do make up the traffic.

This AM volume should be analyzed together with the corresponding peak-hour volumes found in the main traffic stream to evaluate the conflicting impacts the generated traffic may have on the intersections.

Item 3. The peak-hour traffic generated by the subject development and its impact upon the Kam Highway intersections are still not adequately analyzed.

Schemes A and B discuss the street layouts in general terms only and do not analyze the impact on the Kam Highway intersections.

Item 4. The original comment was made in the context of the capacity of the major highway network (specifically, Kam Highway) in relation to the time frame in implementing the subject project. Since there are no definite plans to widen Kam Highway in the foreseeable future, the general statement that the major highway network will have adequate capacities to accommodate the development is conditional and dependent upon the widening of Kam Highway to a four-lane highway.

Item 5a. While it may be true that the present volume is 2,448 vph, the present congested condition is not a desirable or acceptable condition. It is tolerated only because the H-2 freeway will relieve this condition shortly. The level of service "C" as defined by the Highway Capacity Manual should be the design capacity.

Item 7. We regret that we cannot agree with the consultant's response that the present peak-hour volume of Kam Highway as capacity is practical and reasonable. We feel that the whole idea of planning is to prevent intolerable conditions, but the consultant suggests that such conditions will be tolerated once people get used to it. We feel that we cannot knowingly permit a situation to exist which would subject motorists to extreme congestion and hazards in the future and, in addition, expect them to get used to it.

Item 9. Frequent backups have been occurring along Kam Highway and Level of Service E is considered the typical operating condition during the peak hours.

Your response still does not answer the question - "What level of service will Kam Highway be operating during the peak hours if the proposed housing project is implemented?"

Sincerely,

R Higashionna
for E. ALVEY WRIGHT
Director

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU

630 SOUTH BERETANIA

POST OFFICE BOX 3410

HONOLULU, HAWAII 96843



FRANK F. FASI, Mayor
STANLEY S. TAKAHASHI, Chairman
YOSHIE H. FUJINAKA, Vice Chairman
KAZU HAYASHIDA
EDWARD F. C. LAU
TERESITA R. JUBINSKY
E. ALVEY WRIGHT

July 9, 1976

EDWARD Y. HIRATA
Manager and Chief Engineer

Norman Dyer A.I.A. and
Associates
Suite 1804, Financial
Plaza of the Pacific
Honolulu, Hawaii 96813

Gentlemen:

Subject: Your letter of June 22, 1976 relating to
the Gentry-Waipio Project, TMK: 9-4-06:09

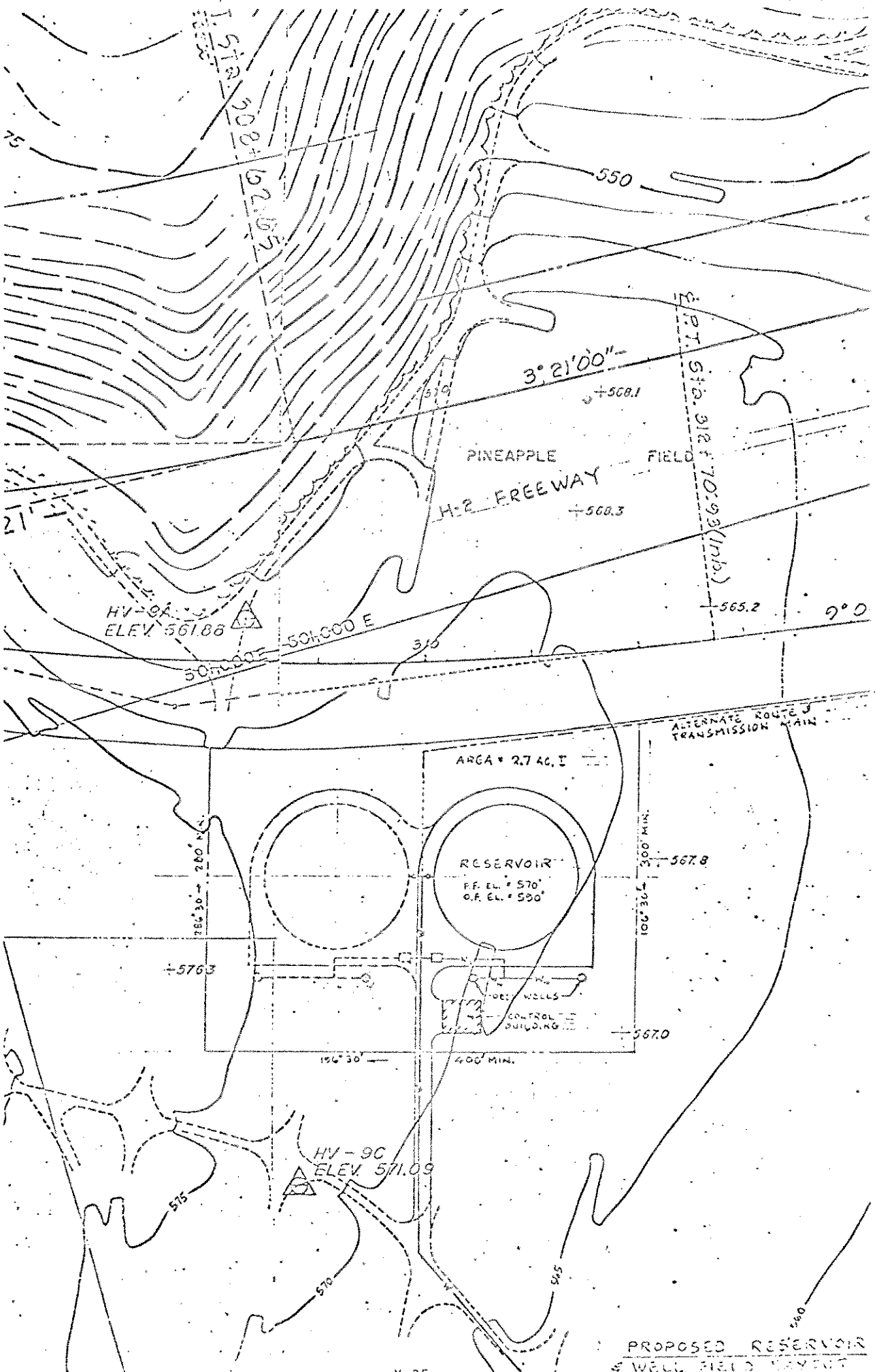
The two proposed well sites are acceptable to the Department. One will be located adjacent to the proposed "590" reservoir and the other in the vicinity of the Kamehameha Highway and Mililani Memorial Road intersection.

The new well sites should be incorporated into an overall water master plan for the development and submitted to the Department for review and approval. The water plan should show the location and size of all the proposed facilities (reservoirs, well fields, and transmission and distribution mains) and include supporting calculations and the proposed development schedule.

If you have any questions, please call Albert Koga at 548-5202.

Very truly yours,

Edward Y. Hirata
Manager and Chief Engineer



PROPOSED RESERVOIR & WELL FIELD LAYOUT

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU

630 SOUTH BERETANIA

POST OFFICE BOX 3410

HONOLULU, HAWAII 96843



FRANK F. FASI, Mayor

STANLEY S. TAKAHASHI, Chairman

YOSHIE H. FUJINAKA, Vice Chairman

KAZU HAYASHIDA

Edward F. C. Lau

TERESITA R. JUBINSKY

E. ALVEY WRIGHT

February 12, 1976

EDWARD Y. HIRATA

Manager and Chief Engineer

Norman Dyer A.I.A. and Associates
Suite 1804, Financial Plaza of
the Pacific
Honolulu, Hawaii 96813

Gentlemen:


Subject: Your letter of January 8, 1976
relating to Gentry-Waipio Project

The Board has no objections to locating the reservoir for the Gentry-Waipio development on the diamond head side of H-2. However, the installation of the pipelines in the irrigation culvert is not acceptable. Pipelines crossing highways must be installed in accordance with both the State Department of Transportation and the Board's standards. Pipelines must also be serviceable by roadways. General requirements for pipeline easements are attached for your information.

Regarding the placement of the wells, our latest studies of the groundwater resources in the area indicate that wells must now be drilled at two separate sites. We will work with your engineer in the selection of suitable well sites. Reimbursement will not be made to the developer for the costs of wells and pumping stations.

If you have any questions, please call Ichiro Tanaka at 548-6165.

Very truly yours,


For Edward Y. Hirata
Manager and Chief Engineer

Enc.

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU

630 SOUTH BERETANIA

ST OFFICE BOX 3410

HONOLULU, HAWAII 96801



May 16, 1972

Members

ROBERT H. ROTZ, Chairman
RICHARD H. COX, Vice Chairman
GEORGE APOUHAN, Secretary
HENRY H. GEORGE, JR.
FUJIO MATSUDA
STANLEY S. TAKAHASHI
ALBERT C. ZANE

GEORGE A. L. YUEN
Manager and Chief Engineer

William Hee & Associates, Inc.
1020 Auahi Street Suite 1
Honolulu, Hawaii 96814

Attention Mr. Walter M. Takeuchi
Vice President

Gentlemen:

We have reviewed your alternate proposals and concur under your Alternate 2-A in locating the wells at our "395" sites. The facilities that will be necessary to provide an adequate water supply for this development are as follows:

1. 4 - 1,050 gpm deepwells, maximum recommended pump size, located in the vicinity of the existing Waipio Heights "395" reservoir, pumping to the "590" reservoir.
2. 3.0 MG reservoir with a 590' spillway elevation and 24-inch influent-effluent line between reservoir and reservoir property line, and
3. 16-inch transmission main between the well field and "590" reservoir site.

Very truly yours,

Francis I. Fujita
Water Sales Manager

RECEIVED
MAY 18 1972

June 25, 1976

Dr. James Kumagai
Department of Health
Environmental Protection
and Health Services Division
P. O. Box 3378
Honolulu, Hawaii 96813

Dear Dr. Kumagai:

The consultant firm of Park Engineering, Inc. has been retained by Gentry-Pacific to provide engineering services for a sewer system for its Gentry-Waipio residential development project located above Waipahu on the Central Oahu Plateau.

One of the elements of the project that is now being considered as part of the application to the City and County of Honolulu for General Plan Change is the sewage treatment and disposal facility that will serve the project. It is the intent of the developer to transport this sewage by gravity line to the Waipahu Pump Station from whence it will be pumped along with the present sewage to the existing Waipahu Stabilization Ponds.

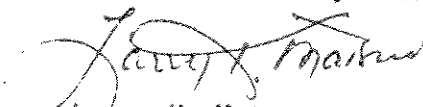
Gentry-Pacific recognizes that these stabilization ponds has to be in compliance with the NPDES permit currently in effect, and further, that any increase in sewage flow would not improve the situation there, unless the facilities were modified.

We have prepared the enclosed facility modification plan, which includes post treatment with chemical, accompanied by sludge dewatering and disposal.

Inasmuch as this facility is currently under NPDES permit, we are hereby requesting your review and evaluation of the proposed modification plan, from a conceptual standpoint, as it relates to the NPDES permit requirements, and also to other rules and regulations of the State Department of Health. The enclosed modification plan has also been submitted to the City and County of Honolulu, Sewers Division, for their review and comment.

Sincerely yours,

PARK ENGINEERING, INC.



Larry K. Matsuo
President

LKM:sa

Enclosures

c.c. Norm Dyer

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. PASI
MAYOR



KAZU HAYASHIDA
DIRECTOR AND CHIEF ENGINEER

SP 76-207

June 14, 1976

Mr. Larry K. Matsuo, President
Park Engineering, Inc.
Suite 2085, Pacific Trade Center
190 S. King Street
Honolulu, Hawaii 96813

Dear Mr. Matsuo:

Subject: Your Letter of May 7, 1976 Regarding the
Expansion of the Waipahu Stabilization Ponds.

We offer the following comments to your expansion proposals
presented in the subject letter:

1. Chemical Coagulation and Settling, Case 4 -

This alternative appears to be technologically feasible, but we need further information on the proposed solids handling method, operation and maintenance (O&M) costs, and aeration of the ponds. Solids handling is critical because of the large amounts of chemical sludge involved. O&M costs are required since any chemical alternative includes relatively low capital costs to be borne by the developer but high O&M costs which will be funded by the City. Aeration of the ponds is especially important because of the possible odor problems which may occur with the increased pollutant loadings.

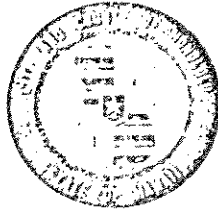
2. Effluent Mechanical Filtration, Case 5 -

Our test with a SEWCO Concentrator on the existing effluent revealed that filtration was not feasible in reducing the effluent concentrations to within acceptable limits. It appears that the Biochemical Oxygen Demand concentration of the effluent is mostly dissolved and filtration was ineffective. Therefore, we cannot concur with this alternative.

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

HONOLULU, HAWAII 96813

LISA. W. J. 1
To: Sewer Alignment P.



FRANK F. FASI
MAYOR

KAZU HAYASHIDA
DIRECTOR AND CHIEF ENGINEER

SP 75-207

May 6, 1975

Mr. Edwin Maruyama
Project Manager
Park Engineering
Suite 2085, Pacific Trade Center
190 South King Street
Honolulu, Hawaii 96813

Dear Mr. Maruyama:

Subject: Gentry-Waipio Sewer Alignment

The preliminary sewer alignment of the proposed sewer trunk line is presently acceptable to the Division of Sewers. The pipe size can not be approved without information on the anticipated flow from the area tributary to the proposed trunk line.

The sewer line should not be installed in the drainage canal and the developer shall be responsible for obtaining all necessary easements and locating all existing and future box drains, utility lines and other appurtenances.

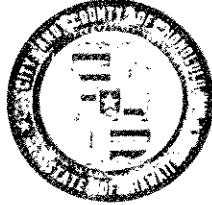
If there are any questions, please call Jay Hamai at 523-4347.

Very truly yours,

Kazu Hayashida
FOR KAZU HAYASHIDA
Director and Chief Engineer

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

HONOLULU, HAWAII 96813



FRANK F. FASI
MAYOR

KAZU HAYASHIDA
DIRECTOR AND CHIEF ENGINEER

SP 75-138

March 7, 1975

Mr. Norm Dyer, AIA & Associates
Financial Plaza of the Pacific
Suite 1804
130 Merchant Street
Honolulu, Hawaii 96813

Dear Mr. Dyer:

Subject: Your Letter Of February 10, 1975
Relating To Waipio-Gentry Project

The developers of projects which will increase the flow entering Waipahu Oxidation Pond to 3.60 mgd (Design capacity of Pond) have been notified to apply for a building permit within one to one and one-half years hence. Should they fail to comply with this requirement, their developments will be placed at the bottom of the connection waiting list. Since there are approximately 8,000 units on the waiting list it would be most unlikely that your development will be substituted in place of any development that have been removed to the bottom of the list. Connection of your development to the Waipahu Sewer can be made under either of the following:

1. Completion of the Honouliuli Sewer System.
2. Expansion of the existing Waipahu Oxidation Pond.

In any event, the existing Waipahu Sewage Pump Station and Force Main must be expanded.

Mr. Norm Dyer

- 2 -

March 7, 1975

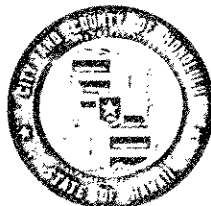
Should you have any pertinent questions, please contact Albert Inamura at 546-2852.

Very truly yours,

Kazu Hayashida
for KAZU HAYASHIDA
Director and Chief Engineer

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

HONOLULU, HAWAII 96813



FRANK F. FASI
MAYOR

KAZU HAYASHIDA
DIRECTOR AND CHIEF ENGINEER

February 4, 1975

SP 75-74

Mr. Norm Dyer
Norm Dyer and Associates
225 Queen Street, Suite 23A
Honolulu, Hawaii 96813

Dear Mr. Dyer:

Subject: Your Letter of January 7, 1975
Relating to the Gentry-Waipio Project
(Tax Map Key: 9-4-06:08)

Thank you for informing us about Gentry Pacific's plan. We will keep your letter on file for future reference and appropriate action.

The design of the West Mamala Bay Sewer System, of which the Honouliuli Wastewater Treatment and Disposal Facilities are a part, is well underway. If there are no "hang-ups", we expect the construction of the system to be completed by early 1979, not 1977.

Presently, we have no plans for interim measures to handle, treat and dispose of sewage flows which exceed the capacities of our existing facilities. However, should the situation change and interim measures become necessary, your client's proposed development will be given due consideration.

Please call Mr. Rudolph Distajo at 546-2852 if you have any questions on this matter.

Very truly yours,

A handwritten signature in cursive script, appearing to read "Kazu Hayashida".

KAZU HAYASHIDA
Director and Chief Engineer

GEORGE R. ANIYOSHI
GOVERNOR



Waipio - Sewer Alignment
ALVEY WRIGHT
DIRECTOR
DEPUTY DIRECTORS
DOUGLAS S. SAKAMOTO
WALLACE AOKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

April 21, 1975

IN REPLY REFER TO:
HWY-C
2.21657

Park Engineering, Inc.
Pacific Trade Center
190 S. King Street, Suite 2085
Honolulu, Hawaii 96813

Attention Mr. Edwin Maruyama
Project Engineer

Gentlemen:

Subject: Gentry-Waipio Sewer Alignment, Kamehameha
Highway - Interstate Route H-1 - Waipahu
Street Realignment and Farrington Highway,
ID No. 0-75-30

We are approving the routing of the proposed sewer line,
as shown on the enclosed preliminary plan which accompanied
your letter of March 27, 1975.

The final location of the sewer line, along the highway,
should be determined in accordance with Section VII.B. of the
Rules and Regulations Relating to the Accommodation and
Installation of Utilities on State Highways and Federal Aid
Secondary County Highways.

Approval of the construction plans will be subject to
preparation of a Negative Declaration for the Department of
Transportation in accordance with Director's Memorandum No. 117,
Guidelines for Implementing Executive Order (August 23, 1971)
Relating to Environmental Impact Statements, dated September 29,
1971. Please submit seven copies of the declaration for our
further action.

Also, please submit two copies of the construction plans
for our review and approval when they become available. In
submitting plans, please refer to ID No. 0-75-30.

Park Engineering, Inc
Page 2
April 21, 1975

HWY-C 2.21657

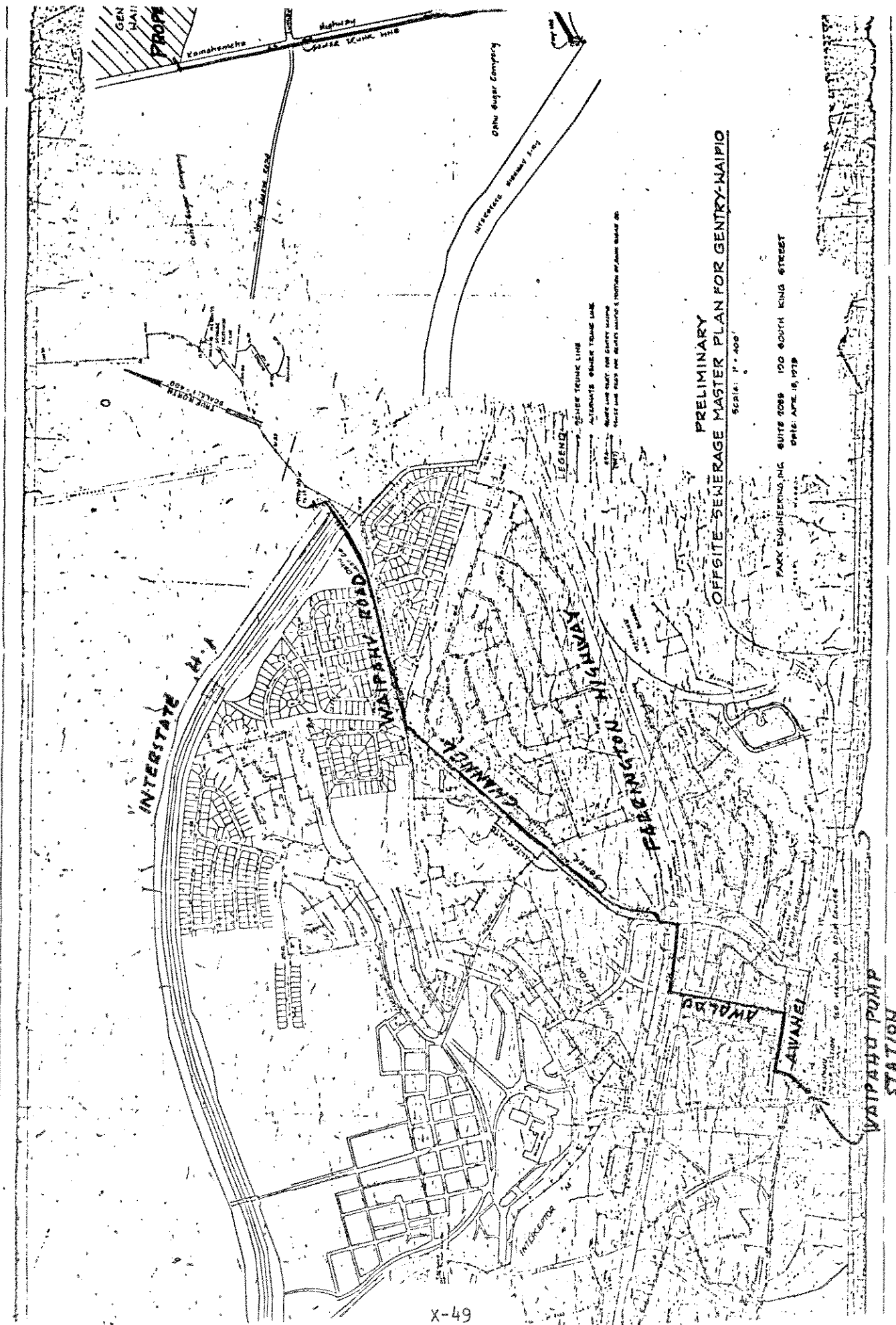
We assume that the Developers will dedicate the sewer system to the City upon its satisfactory installation.

Very truly yours,


T. HARANO
Chief
Highways Division

Enclosure

Park Eng. Inc.	
Phone TB	Initial
___ L.A.	___
___ C.T.	___
___ R.T.	___
___ H.T.	___
___ R.S.	___
___ V.T.	___
___ J.T.	___
___ G.Y.	___
___ E.A.	___
___ P.S.	___
___ M.V.	___
___ Y.K.C.	___
___ T.U.	___
___ M.F.	___
File	___
Date	___



PRELIMINARY OFFSITE SEWERAGE MASTER PLAN FOR GENTRY-WAIPIO

Scale: 1" = 400'

PAK ENGINEERING, INC. SUITE 2089 100 SOUTH KING STREET
 DATE: APR. 19, 1978

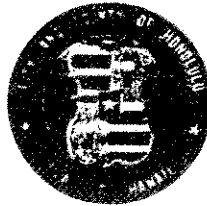
LEGEND
 CENTER TRUNK LINE
 ALTERNATE SEWER TRUNK LINE
 MAIN LINE MAIN AND BRANCH MAIN
 (12")
 (18")

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

ul
71-103

FRANK F. FASI
MAYOR



KAZU HAYASHIDA
DIRECTOR AND CHIEF ENGINEER

601-12-0029

January 20, 1976

William Hee and Associates, Inc.
Suite 1, Building No. 1
1020 Auahi Street
Honolulu, Hawaii 96814

Gentlemen:

SUBJECT: YOUR LETTER OF JANUARY 9, 1976 RELATING
TO THE PRELIMINARY HYDROLOGIC REPORT FOR
THE GENTRY DEVELOPMENT AT WAIPIO, OAHU, HAWAII
TAX MAP KEY: 9-4-06:8

The preliminary hydrologic report is acceptable. We
will retain the report for our files.

Very truly yours,

Kazu Hayashida
FOR KAZU HAYASHIDA
Director and Chief Engineer

RECEIVED

JAN 23 1976

William Hee & Assoc., Inc.

X-50

cc: Norm Dyer, etc.



DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
BLDG. 230, FT. SHAFTER
APO SAN FRANCISCO 96558

JAN 5 1976

PODED-P

29 December 1975

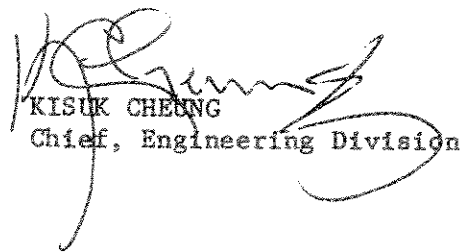
Mr. Norman Dyer
Norman Dyer and Associates
Financial Plaza of the Pacific,
Suite 1804
Honolulu, Hawaii 96813

Dear Mr. Dyer:

Your request for comments on the Gentry-Waipio development was received on 8 December 1975. We have reviewed the enclosed materials and offer the following comment. Although the information provided is of a general nature, the magnitude of the proposed project is considerable. While the project site does not appear to be subject to flooding, the potential increase in rainfall runoff due to the implementation of the project and its effect on the downstream areas should be investigated.

Thank you for informing us of this proposed project.

Sincerely yours,


KISUK CHEUNG
Chief, Engineering Division



HAWAIIAN ELECTRIC COMPANY, INC.

Box 2750 / Honolulu, Hawaii / 96840



February 13, 1976

Norman Dyer, A.I.A. & Assoc.
225 Queen Street, Suite 23A
Honolulu, Hawaii 96813

Attention: Mr. Norman Dyer

Gentlemen:

Re: Gentry Waipio
HECO Project No. 4.28378

This is in reply to your request that our company consider providing service to the first increment of 301 units in 1977 from the existing 12 kv distribution facilities in the area.

Based on your construction schedule, this increment can be provided with service as requested. However, a substation will be required in 1978 based on your load projections.

Please provide our company at your earliest convenience with your comments on relocation of the 46 kv line and site locations for our proposed substation.

Very truly yours,

Robert S. Ostrem
Administrator
Customer Engineering Department

RSO:ca1

HAWAIIAN ELECTRIC COMPANY, INC.

Box 2750 / Honolulu, Hawaii / 96803



December 10, 1974

Norman Dyer, A.I.A. & Associates
225 Queen Street, Suite 23A
Honolulu, Hawaii 96813

Attention: Mr. Dyer

Gentlemen:

Subject: Gentry-Waipio Project
HECO Project No. 4.28378

This is in reply to your request that our Company make preliminary comments on this proposed large development north of Crestview and off Kam Highway.

A substation site will be required in this development and a logical location is noted on the attached print. This was the site of our former Waipio Substation. The size of the site is about 15,000 square feet. Two standard sites are 100'x150' and 116'x130'. The type of zoning will determine the size. The substation would have installed a maximum of 40 MVA in transformer capacity. The site must be level and cleared with a paved road access provided by the developer. The substation site and size can be discussed in more detail as you develop your design and number of units as well as industrial and commercial usage.

Overhead 46 kv and 12 kv lines do exist from Lunakila Road at Crestview, directly through the property to Mililani Memorial Road. Our Company has a perpetual easement for this line known as Line A with one relocation subject to the owner providing a satisfactory substitute easement.

The 12 kv line could be converted to underground in accordance with Rule 13, a copy of which is enclosed, and full credit for an overhead line would be applied to the underground cable costs installation. Another 46 kv and 12 kv line does extend from the center of your development to and over Kam Highway. This is a perpetual easement.

The 46 kv overhead line along the H-2 Freeway does not have any relocation clause. This is known as Line B and had been previously relocated.

These lines are all noted on the attached Drawing No. 1956-44.

HAWAIIAN ELECTRIC COMPANY, INC.

Norman Dyer, A.I.A. & Associates
December 10, 1974
Page Two

Re: Gentry-Waipio Project
HECO Project No. 4.28378

You have noted that installations of our Company's electrical facilities will also have to comply with Ordinance 2875 of the City & County of Honolulu. Any variances must be requested by the developer.

We request that the following procedures be coordinated with your electrical consultant and our Company:

1. A "Master Plan" of the area with an estimated time schedule for construction in the various areas should be forwarded to HECO as soon as it is available.
2. the electrical consultant will provide HECO with the final plans from the architect and request specifications and costs.
3. HECO will design the distribution system and provide plans, specifications, schedules, costs, etc. with a proposal letter to the electrical consultant in approximately thirty days after receiving plans.
4. The proposal letter requests that the developer sign his acceptance of the proposal and return one copy to HECO.
5. Upon receipt of this signed proposal letter, HECO will then order the necessary equipment including transformers which have an approximate six (6) months delivery date.
6. The electrical contractor who is responsible for the duct installation will coordinate with HECO the installation of the ducts, cables and transformers for the distribution system. A pre-construction meeting should be held at this time to coordinate schedules, etc.
7. The electrical contractor also coordinates the service and meter installation for each apartment, residence or business. He provides electrical permit numbers, marks meter sockets with apartment numbers, provides initial billing information, etc.

HAWAIIAN ELECTRIC COMPANY, INC.

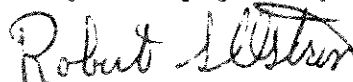
Norman Dyer, A.I.A. & Associates
December 10, 1974
Page Three

Re: Gentry-Waipio Project
HECO Project No. 4.28378

8. The developer is requested to provide HECO with names of tenants when available.
9. Temporary power installations are made in accordance with our Rule 12, a copy of which is enclosed.

Please call us to set up a meeting to further discuss power requirements and substation location.

Very truly yours,

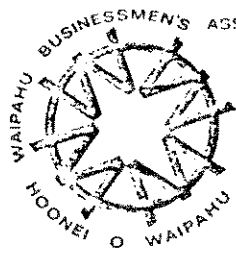


Robert S. Ostrem
Administrator
Customer Engineering Department

RSO:ca1
Enclosures



Waipahu on the Move



ASSOCIATION • P. O. BOX 1141

WAIPAHU, HAWAII 96797
RECEIVED

1976 MAY 12 PM 5 13

CITY CLERK
HONOLULU, HAWAII

May 12, 1976

Mr. George Akahane, Chairman
City Council
City & County of Honolulu
Honolulu, Hawaii 96813

Re: Bills 4 & 5 Amendment to the General Plan/Detailed Land Use Map

Dear Mr. Akahane:

We would like to register, again, our support for the Gentry-Waipio project which appears to offer so many benefits to the general Waipahu community. Not only will the project provide a good number of housing units at competitive prices, but plans also call for an employment and service center which will provide the location of a good number of jobs for people living in the area. As small businessmen, we understand and appreciate the need for many of our businesses to operate successfully, to be located conveniently near the population that they serve.

Another matter which concerns our group is the few people who live in Mililani who appeared at the Planning Commission opposed to any new development in the area. Their opposition outside the area implies the feeling that "we've got ours, so let's shut the doors on any new development." The Crestview/Seaview people have publicly supported the project since the middle of 1974 with the Land Use Commission hearings as did the Waipahu Business Mens Association and the Waipahu Community Association. We urge that you approve this change in General Plan so that the project can proceed immediately.

Thank you for allowing me the time to address this matter.

Sincerely,

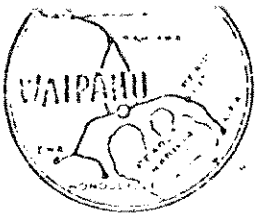
Dr. Stanley Yamane
President

Misc. Com. No. 370

X-56

Referred to _____

Rep. _____ Res. _____ Bill _____



Waipahu Community Association

HONOLULU SAVINGS AND LOAN BUILDING
1422 WAIPAHU DISTRICT STREET
WAIPAHU, HAWAII 96797

RECEIVED
MAY 12 PM 5 46
CITY CLERK
HONOLULU, HAWAII
TELEPHONE 877-4950

May 12, 1976

Good evening Mr. Chairman, Council members. I am Diane Akau, president of the Waipahu Community Association. I am testifying in favor of the Gentry project.

The Waipahu Community Association represents approximately 35,000 people living in our vicinity, encompassing the general area of Kamehameha Highway to Mililani Mortuary Road, Kunia Junction, Leeward Community College on Farrington to Ewa Junction.

Gentry-Pacific has taken much time to inform our community of what they propose for the area above Crestview/Seaview. The first encounter with their representative was on November 14, 1974, at a WCA general membership meeting and has been followed with many up-to-date reports. The Waipahu Community Association comprised of Crestview/Seaview Association, Harbor View Neighborhood Association, Leeward Community College, Robinson Heights Association, Waipahu Businessmen's Association and other organized groups have gone on record in support of Gentry's plan for a subdivision. We have presented this project to many groups and other interested organizations, they too seem to share our enthusiasm.

We reason that growth has been projected for our area and development is inevitable. We of the WCA would prefer to have a planned development of the nature that Gentry is proposing than confused expansion.

Misc. Com. No. 374

Referred to _____

Rept _____ Res _____ Bill _____

COMPRISING OF:
Crestview/Seaview Association, D. O. E. - Leeward District, Fr Leeward Community College, Oahu Sugar Company, Robinson Waipahu Advocates for the Elderly, Waipahu Businessmen's Association, Advisory Council, Waipahu Recreation Center,

Cultural Garden Park, Harbor View Neighborhood Association, Wai'anae Neighborhood Association, Wai'anae Rise Association, Oahu Highlands Association, Waipahu Jackrabbits, Waipahu

X-57

May 12, 1976
Gentry-Pacific Project
Testimony by Diané Akau

The Waipahu Community Association has been aware of the offensive label of the "worst planned community". We strongly feel that with the extensive well planned project of Gentry-Pacific, that it will provide needed housing, job opportunities and perhaps help to relieve the stigma of our area's previous bad planning.

Thank you for the opportunity to present our testimony. We earnestly ask for a favorable decision.

Sincerely,

Diane M. Akau

Diane M. Akau
President

RECEIVED

TESTIMONY ON PROPOSAL TO AMEND THE

1976 MAR 12 PM GENERAL PLAN FOR THE CITY AND COUNTY OF HONOLULU

CITY CLERK
HONOLULU, HAWAII
REGARDING THE GENTRY-WAIPIO PROJECT TAX MAP KEY 9-4-06-08
FROM
CRESTVIEW/SEAVIEW COMMUNITY ASSOCIATION, INC.

As you are aware, the Crestview/Seaview residential area is the community adjacent to the subject property and is therefore directly affected by the proposed amendment to the General Plan.

Many of us have lived in the community for over ten years and have personal knowledge of the changes that have evolved in actual land use, from the cultivated pineapple fields of the past to the present idle status with the entire area overgrown with weeds and trees. The area attracts rubbish and motorcycles which somehow seem to multiply under the present conditions. Vandalism in our present park facility has necessitated the partial curtailment of recreational services provided by the Department of Parks and Recreation, which we of the community attribute directly to the lack of development in the subject parcel.

Although long time residents are usually resistant to change, we of the Crestview/Seaview area feel that the proposed development as presented by the Gentry-Waipio project will greatly benefit and enhance our existing community.

The proposed development consisting of residential, apartment, light industrial, commercial, school, parks and open space areas and uses would fulfill many of the urgent needs of our community. The primary concern of the parents with young children is the proposed elementary school which

Comm. No. 876

Referred to _____

Rept _____ Res _____ Bill _____

would eliminate the need for our children to be bussed to Honowai Elementary School in Waipahu. We also desire the availability of the proposed grocery market, drug store, service station and other commercial facilities.

Our community and the City and County of Honolulu would benefit from the employment needed to construct the proposed development and the future and continuing employment provided by the proposed commercial and light industrial areas.

Since our community is most affected by the proposed development, we hope you will place a high regard for our recommendation to approve the amendment to the General Plan for the Gentry-Waipio project.

David E. Tallman

DAVID E. TALLMAN
Legislative & Recreation Chairman
Board of Directors
Crestview/Seaview Community Association, Inc.
12 May 1976



PACIFIC ELECTRICAL CONTRACTORS' ASSOCIATION

TELEPHONE 949-5984 • ROOM 303-A, 1451 SOUTH KING STREET • HONOLULU, HAWAII 96814

*File
Waipio, C.T.
Jensen
(copy to Tom)*

May 10, 1976

WALTER T. ODA
EXECUTIVE SECRETARY

Honorable George Akahane, Chairman
City Council
City & County of Honolulu
Honolulu, Hawaii

Dear Councilman Akahane:

Re: Bills 4 and 5, Amendment to
General Plan/Detailed Land Use Map

We have reviewed the prospectus and memorandum of the Gentry-Waipio project and would like to submit the following testimony in support of the proposed amendment to the General Plan/Land Use Map.


We are indeed impressed with the comprehensive report prepared by Norman Dyer A.I.A. and Associates in determining the need of low to medium density houses in this area and projecting the social, economical, and environmental impact the proposed development will have upon the adjoining communities, the City and County of Honolulu, as well as the State of Hawaii.

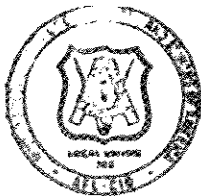
We are in accord with its determination that a multi-functional community as being proposed will definitely enhance the Waipio area. Furthermore, the project will go a long way to alleviate the unemployment situation within the building and construction industry, increase our general excise and property tax revenues, as well as provide permanent employment to those serving the ancillary facilities necessitated by the development.

We understand that the land is vacant and requires no relocation of existing residents and the proposed project is supported by neighboring community associations, business leagues, and other institutions in the area.

In light of the foregoing, may we prevail upon you and the City Council to act favorably upon Bills 4 and 5 to permit the development of this project.

Respectfully,


WALTER T. ODA
Executive Secretary



United Brotherhood of Carpenters and Joiners
of America, Local No. 745 AFL-CIO

1311 HOUGHTAILING STREET • HONOLULU, HAWAII 96817
TELEPHONE 847-5761

May 10, 1976

Mr. George Akahane
Council Chairman
City Council
City Hall-2nd Floor
Honolulu, Hawaii 96813

Dear Councilman Akahane:

As I am sure you are aware, construction activities have dropped off considerably in some areas of Oahu. In the Pearl City/Waipahu/Wahiawa areas, the number of low density dwellings built and sold to moderate income families has been substantially reduced to approximately a third of the annual volume as compared to the late 1960's and 70's. A primary reason is the unavailability of suitable land which can be developed.

We understand that the Gentry-Waipio project has been held up in the "planning process", for a number of years, even though the property is designated Urban (current property taxes alone are approximately \$200,000 per year as compared to \$5,000 per year, before the property was sold by Castle & Cooke in 1972). This was brought up by members of the City Council when they initiated the amendment at the request of the owner.

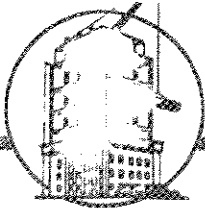
For property that is so well located and a project that includes proven and successful builders who can provide attractive and affordable housing, we ask that you and the City Council expeditiously approve this project.

We also understand that the active community associations in the general areas have repeatedly supported this development. We, therefore, see no reasons for any further delays and urge that you see that the development be allowed to proceed, immediately.

Sincerely,

UNITED BROTHERHOOD OF CARPENTERS
AND JOINERS OF AMERICA, LOCAL 745,
AFL-CIO

By Stanley S. Yanagi
Stanley S. Yanagi
Financial Sec-Business Representative



Hawaii Building & Construction Trades Council AFL-CIO

904 Kohou Street, Room 201

Honolulu, Hawaii 96817

May 11, 1976

Chairman and Members
of the City Council
City and County of Honolulu
City Hall
Honolulu, Hawaii 96813

Gentlemen:

Subject: General Plan and DLUM Amendments for Land at Waipio
Requested by Gentry Pacific

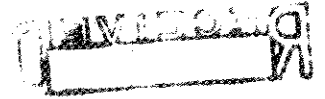
The Hawaii Building & Construction Trades Council, AFL-CIO, comprised of eighteen (18) affiliated craft unions that represent approximately 32,000 members that build our city's roads, buildings, homes and other construction projects, wishes to express its whole-hearted support of Gentry Pacific's application for a change in the General Plan from agriculture to residential-urban for the area that the company plans to develop its Gentry Waipio project. Gentry Waipio or any other project of such magnitude should be seriously considered as answers to our serious unemployment problems by any governmental agency. We feel that the Council should look favorably at the application because we understand that:

1. The land was initially sold to the company by Dole Pineapple Company because it was considered relatively inferior as far as soil, rain and traffic access was concerned. In effect, the argument to retain the land in agriculture should not hold water if it was considered inferior by a former tenant engaged in agriculture!

2. Many community groups in the area have expressed their favorable approval of the project and application.

3. The 510 acre development will include homes, townhouses, cluster homes, etc., priced in the range of forty to seventy thousand dollars. This would certainly be in the range that a vast number of middle and lower income class could afford. In addition, the commercial areas are to include schools and shopping centers which the people in this area have been wanting for a number of years.

Chairman and Members
of the City Council
May 11, 1976
Page 2




4. The project will take from eight to ten years to complete and create 450 to 500 jobs with estimated payroll of nine to ten million dollars per annum. We think that Gentry Waipio, or any other project of its magnitude, which meets the requirements and needs of our City and help to alleviate unemployment should certainly be given the green light to go ahead. Everyone is aware of the need for jobs for our young people and the high unemployment existing in this City and State and the construction industry has been hit the worst. The unemployment rate among our craft unions run from fifteen to thirty per cent of their membership. This means more than 6,000 members are or have been unemployed for the past nine to twelve months and more expected to in the next twelve months. We certainly need some help real soon.

We sincerely hope that the Council will approve Gentry Pacific's application and thereby help to alleviate the unemployment problems of our members and constituents of your Honorable body.

Sincerely yours,

HAWAII BUILDING & CONSTRUCTION
TRADES COUNCIL, AFL-CIO


A. FUJIKAWA
President

Lanakila Baptist Schools

94-1250 WAIPAIIU STREET - WAIPAIIU, HAWAII 96797
677 0731

ROBERT K. KNUTSON, M.A.
Director

FRANK MARTENS, Ed.D.
Principal

SUZANNE HOWSE, M.A.
Vice Principal

DUANE HOWSE
Business Manager

BEVERLY HOWSE
Registrar

May 14, 1976

Mr. George Akahane
Honolulu Hale
Honolulu, Hi.

RE: GENTRY - WAIPIO

Dear Mr. Akahane:

We are vitally concerned that the development of the Gentry Pacific project receive approval from the City Council. Lanakila Baptist Church and Schools plan to relocate their operations into that area. There are several reasons why we urge immediate action on the part of the City Council.

- a. our present facilities are inadequate to fully meet the needs of the students enrolled.
- b. the demands for the kind of education offered by Lanakila Baptist Schools far exceeds our ability to enroll the applicants. A number of classes were filled to capacity within a week after opening enrollment to the community. We desperately need to expand our facilities to meet the needs of our immediate community.
- c. the traffic problems created by having August Ahrens Elementary School adjacent to Lanakila Baptist Schools would be alleviated by moving to the Gentry - Waipio project.
- d. there is presently no property available outside of the Campbell Industrial Park which would be adaptable for school use.

Personally, as a homeowner in Crestview, I also urge the approval of the project for the following reasons;

- a. it would allow my children to play in a safe park which at the present time they cannot do unless they are under my direct supervision.
- b. it would establish a convenient shopping area, while now we have to go into Waipahu to get a quart of milk and a loaf of bread.

- c. it would increase the size of the community to a size which would warrant the installation of traffic control lights so that the people from Mililani, a relatively new community, would have to stop to allow us from Crestview, a long established community, to enter Kam Highway. (I thoroughly enjoyed your well-run public hearing on May 12).

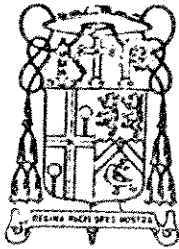
I trust that the Gentry - Waipio project will receive the immediate approval of the City Council so that we can all benefit from a well-planned community.

Sincerely,



Frank Martens, Principal

FM/brh



ROMAN CATHOLIC DIOCESE OF HONOLULU
CHANCERY OFFICE 1184 BISHOP STREET HONOLULU, HAWAII 96813

30 April 1976

Mr. George Akahane
Chairman
City Council of Honolulu
City Hall
Honolulu, Hawaii 96813

Dear Mr. Chairman:

I have been notified of a public hearing at City Hall on 12 May 1976, at 7 p.m., regarding the Gentry-Waipio General Plan Amendment.

The Roman Catholic Diocese of Honolulu is presently very much interested in establishing a parish and in building a Church complex in this Gentry-Waipio Development. We have reserved two acres for this purpose.

With every best wish, I remain

Sincerely yours,

†JOHN J. SCANLAN
Bishop of Honolulu

cc: Mr. Norm Dyer

HEADQUARTERS
FOURTEENTH NAVAL DISTRICT

BOX 110
FPO SAN FRANCISCO 96610

IN REPLY REFER TO:

48:KDB:ci
Ser 1427
17 June 1976

Mr. Norm Dyer
Norman Dyer A.I.A. and Associates
Financial Plaza of the Pacific
Suite 1804
Honolulu, Hawaii 96813

Dear Mr. Dyer:

This is to acknowledge receipt of your letter of 14 June 1976 concerning the Gentry-Waipio proposed residential development (TMK:9-4-06:08) located between Kamehameha Highway and the H-2 freeway.

We have reviewed the location of the proposed development as indicated on the tax map key and the aerial photograph which you enclosed in your letter. The proposed residential project is not within nor does it border on the explosive safety arc of the Waikele Branch of the Naval Magazine.

Sincerely,



R. S. WENTWORTH, JR.
Rear Admiral, U. S. Navy
Commandant

DEC 23 1975

GEORGE R. ARIYOSHI
GOVERNOR



RICHARD E. MARLAND, PH.D.
DIRECTOR

TELEPHONE NO.
548-8915

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

December 18, 1975

Norman Dyer
Norman Dyer A.I.A. and Associates
Architects and Planning Consultants
Suite 1804 Financial Plaza of the Pacific
Honolulu, Hawaii 96813

Dear Mr. Dyer,

Thank you for your letter of December 4. Please be informed that Chapter 343 HRS and its Rules and Regulations (enclosed) may be applicable to your project. See Section 4 of Chapter 343, HRS for Applicability and requirements.

We have no additional comments at this time.

Sincerely,

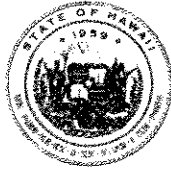
A handwritten signature in cursive script, appearing to read "Richard E. Marland".

Richard E. Marland
Director

Enclosure

DEC 18 1975

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII



CHRISTOPHER COBB, CHAIRMAN
BOARD OF LAND & NATURAL RESOURCES

EDGAR A. HAMASU
DEPUTY TO THE CHAIRMAN

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

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

December 12, 1975

Mr. Norman Dyer
Suite 1804
Financial Plaza of the Pacific
Honolulu, HI 96813

Dear Mr. Dyer:

Gentry-Waipio Project
Tax Map Key 9-4-06:8

Thank you for your letter of December 4, 1975.

Please be advised that we have no objections to the above project in that no conservation districts or State lands are involved.

Very truly yours,

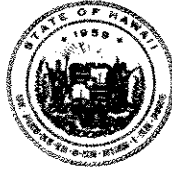
A handwritten signature in black ink, appearing to read "Chris Cobb", written over the typed name and title.

CHRISTOPHER COBB
Chairman of the Board

PROJECT OFFICES

WAIMEA OFFICE
P. O. BOX 125
KAMUELA, HAWAII 96743

KEAUKAHA OFFICE
P. O. BOX 833
HILO, HAWAII 96720



STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS

P. O. BOX 1879
HONOLULU, HAWAII 96805

PROJECT OFFICES

MAUI OFFICE
P. O. BOX 22
KAHULUI, MAUI 96732

MOLOKAI OFFICE
P. O. BOX 198
MOOLEHUA, MOLOKAI 96729

KAUAI OFFICE
P. O. BOX 332
LIHUE, KAUAI 96766

December 10, 1975

Mr. Norman Dyer
Suite 1804
Financial Plaza of the Pacific
Honolulu, Hawaii 96813

Dear Mr. Dyer:

SUBJECT: Gentry-Waipio Project
TMK: 9-4-06: 08

In response to your letter dated December 4, 1975, this Department has no comments nor does it require any additional information regarding the development of the subject project.

Thank you for the opportunity to comment.

Owau no meka haahaa,
(I am, humbly yours)


(MRS.) BILLIE BEAMER, CHAIRMAN

WB:mn

(Continuation of section X. ORGANIZATIONS & PERSONS CONTACTED)

B. AGENCIES CONTACTED DURING CONSULTATION PERIOD PRIOR TO PREPARING THE EIS

Pages X-73 - X-77 indicate those agencies and organizations contacted during the consultation period (prior to the preparation of the environmental impact statement). A total of 38 organizations were contacted. During the period of time available to become a consulting party (September 8, 1976 to October 8, 1976) only one individual, Bert Y. Kimura requested (see p. X-78) to be a consulting party. As of November 1, 1976, no response has been received from Mr. Kimura. (Mr. Kimura's deadline date for response, October 30, 1976, ended.)

The attached letter was sent to the following agencies:

1. Department of General Planning
650 South King Street
Honolulu, Hawaii 96813
2. Fire Department
P. O. Box 3085
Honolulu, Hawaii 96802
3. Police Department
1455 South Beretania Street
Honolulu, Hawaii 96814
4. Department of Planning and
Economic Development
250 South King Street
Honolulu, Hawaii 96813
5. Department of Accounting and
General Services
P. O. Box 119
Honolulu, Hawaii 96810
6. Department of Defense
Fort Ruger
Honolulu, Hawaii 96816
7. Environmental Center
Crawford 317, 2550 Campus Road
Honolulu, Hawaii 96822
8. Water Resources Research Center
2540 Dole Street
Honolulu, Hawaii 96822
9. Mililani Town Association
95-400 Ikaloa Street
Wahiawa, Hawaii 96789
10. Life of the Land
404 Piikoi Street, Room 209
Honolulu, Hawaii 96814
11. American Lung Association
245 North Kukui Street
Honolulu, Hawaii 96817

ENVIRONMENTAL
COMMUNICATIONS
INC.

F J RODRIGUEZ,
PRESIDENT

September 3, 1976

Department of General Planning
650 South King Street
Honolulu, Hawaii 96813

Subject: Consultation Process Prior to Filing the Environmental
Impact Statement for the Proposed Gentry-Waipio Project
at Waipio, Oahu

Gentlemen:

Enclosed is a copy of the Environmental Impact Statement Notice
and a copy of the Environmental Assessment/Determination for the above-
mentioned project. At this time we would like to request your comments
on this initial environmental document. Upon receipt of your response,
we will review and incorporate your comments into the Environmental
Impact Statement.

We request your response prior to October 6, 1976. If you require
further information, please do not hesitate to contact us (521-8391).
If we are not contacted or receive comments prior to October 6, we
will assume that your agency does not have any significant comments or
foresees any conflicts with this proposed project at this time. We
will then proceed to prepare and process the Environmental Impact
Statement.

We appreciate your review and look forward to any comments you
may provide.

Very truly yours,


F. J. Rodriguez

FJR:rys

Enclosures

cc: Norm Dyer, A.I.A. and Associates
Department of Land Utilization
Environmental Quality Commission

The attached letter was sent to the following agencies:

1. Board of Water Supply
P. O. Box 3410
Honolulu, Hawaii 96843
2. Department of Public Works
650 South King Street
Honolulu, Hawaii 96813
3. Department of Parks & Recreation
650 South King Street
Honolulu, Hawaii 96813
4. Department of Housing and
Community Development
650 South King Street
Honolulu, Hawaii 96813
5. Department of Transportation Services
650 South King Street
Honolulu, Hawaii 96813
6. Department of Health
P. O. Box 3378
Honolulu, Hawaii 96801
7. Department of Education
P. O. Box 2380
Honolulu, Hawaii 96804
8. Department of Land and Natural
Resources
P. O. Box 621
Honolulu, Hawaii 96809
9. Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813
10. Department of Agriculture
1428 South King Street
Honolulu, Hawaii 96814
11. Department of Hawaiian Home Lands
P. O. Box 1879
Honolulu, Hawaii 96805
12. Department of Social Services
and Housing
P. O. Box 339
Honolulu, Hawaii 96809
13. Land Use Commission
Pacific Trade Center, Suite 1795
190 South King Street
Honolulu, Hawaii 96813
14. Office of Environmental Quality
Control
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813
16. Department of the Army Engineer
District, Honolulu
U.S. Army
230 Fort Shafter, Building 230
APO San Francisco 96558
17. Soil Conservation Service
U.S. Department of Agriculture
1833 Kalakaua Avenue, Room 425
Honolulu, Hawaii 96815
18. Headquarters, Fourteenth Naval
District
Box 110
FPO San Francisco 96610
19. Hawaiian Electric Company
P. O. Box 2750
Honolulu, Hawaii 96840
20. Roman Catholic Diocese of
Honolulu
Chancery Office
1184 Bishop Street
Honolulu, Hawaii 96813
21. Lanakila Baptist Schools
94-1250 Waipahu Street
Waipahu, Hawaii 96797
22. Hawaii Building and Construction
Trades Council
904 Kohou Street, Room 201
Honolulu, Hawaii 96817
23. United Brotherhood of Carpenters
and Joiners of America,
Local No. 745
1311 Houghtailing Street
Honolulu, Hawaii 96817

24. Pacific Electrical Contractor's
Association
1451 South King Street, Room 303-A
Honolulu, Hawaii 96814
25. Waipahu Businessmen's Association
P. O. Box 1141
Waipahu, Hawaii 96797
26. Crestview/Seaview Community
Association
Attn: Mr. David Tallman
P. O. Box 382
Waipahu, Hawaii 96797
27. Waipahu Community Association
Honolulu Savings and Loan Building
94-229 Waipahu Depot Street
Waipahu, Hawaii 96797

The Enclosures which are indicated in the letters as being attached are those correspondences for which copies are provided on p. X-5 to X-71.

ENVIRONMENTAL
COMMUNICATIONS
INC.

J. RODRIGUEZ,
PRESIDENT

September 3, 1976

Board of Water Supply
P. O. Box 3410
Honolulu, Hawaii 96843

Subject: Consultation Process Prior to Filing the Environmental
Impact Statement for the Proposed Gentry-Waipio Pro-
ject at Waipio, Oahu


Gentlemen:

Enclosed is a copy of the Environmental Impact Statement Pre-
paration Notice and a copy of the Environmental Assessment/Determination
for the above-mentioned project. At this time we would like your
comments on this initial document. We note that your agency has
previously reviewed the proposed project as it pertains to your
office's expertise and/or jurisdiction. For your convenient reference,
we attach the most recent correspondence provided by your agency on this
project. If you have any additional comments, we will incorporate
these into the Environmental Impact Statement.

We request your comments prior to October 6, 1976. If you require
further information, please do not hesitate to contact us (521-8391).
If we are not contacted or receive comments prior to October 6, we will
assume that your agency does not have any significant comments or fore-
sees any conflicts with this proposed project at this time. We will
then proceed to prepare and process the Environmental Impact Statement.

We appreciate your review and look forward to any comments you may
provide.

Very truly yours,


F. J. Rodriguez

FJR:rys

Enclosures

cc: Norm Dyer, A.I.A. and Associates
Department of Land Utilization
Environmental Quality Commission

X-77

KEEWARD COMMUNITY COLLEGE
DIVISION OF MATHEMATICS AND NATURAL SCIENCES
PHONE 4550-251

MESSAGE REPLY

TO [Mr John Whalen
DLU
City and County of Honolulu
650 S King St
Honolulu, HI 96813]
DATE [22 September 1976]

DATE

I would like to be a consulted party for
the Rezoning Request, Waipio, Oahu EIS.
Mahalo.

RECEIVED
SEP 24 1976
MAIL ROOM
Bert Y Kimura
9-30-76

SIGNED

INSTRUCTIONS TO REPLY
... TO BE RETURNED TO THE SENDER

ENVIRONMENTAL
COMMUNICATIONS
INC.

F. J. RODRIGUEZ
PRESIDENT

September 30, 1976

Professor Bert Y. Kimura
Leeward Community College
Division of Mathematics and
Natural Sciences
96-045 Ala Ike Street
Pearl City, Hawaii 96782

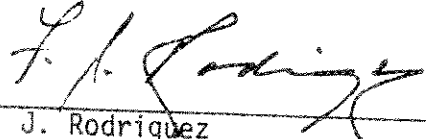
Dear Professor Kimura,

Enclosed, as per your request of September 22, 1976, is a copy of the Environmental Impact Statement Notice and a copy of the Environmental Assessment/Determination for the proposed Gentry-Waipio Project at Waipio, Oahu. We request that you provide a written response (if any) on or before October 30, 1976 (30 days for review). Upon receipt of your response, we will review and incorporate your comments into the Environmental Impact Statement.

If you require further information, please do not hesitate to contact us (521-8391). If we are not contacted or receive comments prior to the October 30, 1976 deadline, we will assume that you have no significant comments or foresee no problems with this proposed project at this time.

We appreciate your review and look forward to any comments you may provide.

Very truly yours,


F. J. Rodriguez

Enclosures

cc: Department of Land Utilization
Norm Dyer, A.I.A. and Associates
Environmental Quality Commission

XI. REPRODUCTION OF COMMENTS AND RESPONSES MADE DURING THE CONSULTATION PERIOD

A total of 26 agencies responded to the EIS Preparation Notice and the Environmental Assessment/Determination. Copies of these agencies comments are provided on pages XI-4 to XI-79. Immediately after the copy of the organization's letter, we have provided the response to the agency (except in those cases where no responses were needed).

CHRONOLOGICAL LIST OF COMMENTS RECEIVED ON THE
PROPOSED GENTRY-WAIPIO PROJECT AT WAIPIO, OAHU

<u>From</u>	<u>Agency</u>	<u>Date of Letter</u>	<u>Date Received</u>
John Farias, Jr. Chairman	Department of Agriculture	10/6/76	10/8/76
George C. Villegas Director	Department of Transportation Services	10/5/76	10/6/76
Robert Wiemer Chairman	West Oahu Soil & Water Conservation District	10/5/76	10/6/76
James S. Kumagai Deputy Director for Environmental Health	Department of Health	10/5/76	10/7/76
Richard E. Marland Director	Office of Environmental Quality Control	10/1/76	10/4/76
Ralph K. Yukumoto, Chief, Pollution Technical Review	Department of Health	9/30/76	
Kisuk Cheung, Chief Engineering Division	Department of the Army U.S. Army Engineer District	9/29/76	9/30/76
Edward Y. Hirata Manager & Chief Engineer	Board of Water Supply	9/28/76	10/5/76
Koichi H. Tokushige Assistant Superinten- dent	Department of Education	9/27/76	9/29/76
Young Suk Ko Director	Department of Parks and Recreation	9/27/76	10/1/76
Eugene Fletcher Deputy Chief	Police Department	9/22/76	9/29/76
K. D. Brooks, Capt. CEC, USN, District Civil Engineer	Headquarters, Fourteenth Naval District	9/21/76	9/22/76
E. Alvey Wright Director	Department of Transportation	9/20/76	-/30/76
Robert S. Ostrem, Administrator	Hawaiian Electric Company, Inc.	9/20/76	9/22/76
Andrew I. T. Chang Director	Department of Social Services & Housing	9/16/76	9/22/76
Robert R. Way Chief Planning Officer	Department of General Planning	9/20/76	9/21/76

<u>From</u>	<u>Agency</u>	<u>Date of Letter</u>	<u>Date Received</u>
James W. Morrow, Director	American Lung Association of Hawaii	9/16/76	9/17/76
Reginald H. F. Young	Water Resources Research Center	9/15/76	9/21/76
Christopher Cob Chairman of the Board	Department of Land and Natural Resources	9/15/76	9/17/76
William Blackfield Director	Department of Housing and Community Development	9/15/76	9/16/76
Jon H. Miki Business Manager	Roman Catholic Diocese of Honolulu	9/15/76	9/16/76
Doak C. Cox Director	Environmental Center	" "	9/13/76
Kazu Hayashida Director & Chief Engineer	Department of Public Works	9/10/76	9/15/76
Boniface K. Aiu Fire Chief	Fire Department	9/9/76	9/13/76
Billie Beamer Chairman	Department of Hawaiian Home Lands	9/9/76	9/13/76
Walter P. Zulkoski Law & Research	Life of the Land	9/3/76	9/8/76

GEORGE R. ARIYOSHI
GOVERNOR



JOHN FARIAS, JR.
CHAIRMAN, BOARD OF AGRICULTURE

YUKIO KITAGAWA
DEPUTY TO THE CHAIRMAN

STATE OF HAWAII
DEPARTMENT OF AGRICULTURE
1428 SO. KING STREET
HONOLULU, HAWAII 96814

October 6, 1976

Mr. F. J. Rodriguez, President
Environmental Communications, Inc.
P. O. Box 536
Honolulu, Hawaii 96809

Dear Mr. Rodriguez:

Subject: EIS for the Proposed Gentry-Waipio
Project at Waipio, Oahu

The Department of Agriculture has reviewed the environmental assessment/determination of the subject project and submits the following comments.

The current assessed value of project site is described on page 3, paragraph 2, as having increased to \$6,806,576. The ninth edition of the Real Estate Atlas Geographical Ownership record indicates that the 510 acres is assessed at \$10,746,764. Although the annual tax bill has increased from \$5,000 per year for agricultural land to \$200,000 per year between 1970 and 1973, the economic impact on the elimination of pineapple production from the 510 acres has not been addressed.

Discussions on "Affected Environment," page 5, paragraph B, do not touch upon the potential impact of the proposed development on the surrounding agricultural operations. By their very nature, residential use and agricultural activities are not compatible. Cane burning, pineapple beetles, dust, noise and pesticide drift are the normal, but noxious results of sugar and pineapple cultivation. A thorough environmental assessment must also include a discussion of the possible economic and social impact of the development upon the surrounding agricultural lands.

The impact of storm water drainage and runoff, and the effects of whether the drainage plan would be based on a five, ten, or twenty-year flood cycles are of major concern in the urbanization of a large parcel of land. In addition, an air and water quality analysis should be included.

Alternatives: (Page 7, par. 3) We are in agreement with the statements, however, assuming the land value is for urban use, agronomically it would be feasible to grow pineapple if the land is valued for pineapple. There have been indications that local pineapple companies are seeking to expand their fields, but no agriculture valued lands are available.

Mr. F. J. Rodriguez, President
Page 2

October 6, 1976

On page 8, paragraph 8, subparagraph b, additional criteria for consideration are suggested:

1. Interaction with agricultural uses in contiguous areas.
2. Access to H-2 is indicated on Figure 4a; is this probability cleared with the Department of Transportation?

Thank you for the opportunity to review this matter.

Sincerely,



for JOHN FARIAS, JR.
Chairman, Board of Agriculture

JF:n/k:h

ENVIRONMENTAL
COMMUNICATIONS
INC.

October 27, 1976

F. J. RODRIGUEZ,
PRESIDENT

Mr. John Farias, Chairman
Board of Agriculture
1428 South King Street
Honolulu, Hawaii 96814

Dear Mr. Farias:

SUBJECT: Environmental Assessment/Determination for the
Proposed Gentry-Waipio Project, Waipio, Oahu

Thank you for your letter of October 5, 1976 regarding the Gentry-Waipio project at Waipio, Oahu. The comments made in your letter have been transmitted to the applicant and they will be evaluated and answered in the Environmental Impact Statement.

Your concerns over the proximity of the proposed residential development to existing pineapple and sugar cultivation are well taken. We feel that the physical buffer that is provided by both the Kamehameha Highway and H-2 Freeway can mitigate to a great extent these noxious practices normally associated with large scale agricultural activities. Also, we are confident that the adjacent agricultural operations cannot impact this project to any greater extent than the established communities of Mililani Town, Crestview, or Waipahu, which have been exposed for a greater period of time to the agricultural practices described in your letter.

The balance of your concerns will be addressed in detail in the Environmental Impact Statement and we trust that your office will review them thoroughly.

Thank you again for your concern and we appreciate your comments.

Very truly yours,



F. J. Rodriguez

cc: Norman Dyer, A.I.A., and Associates

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

HONOLULU MUNICIPAL BUILDING
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR



GEORGE C. VILLEGAS
DIRECTOR

TE 9/76-1823

October 5, 1976

Environmental Communications, Inc.
P. O. Box 536
Honolulu, Hawaii 96809

Gentlemen:

Subject: Environmental Impact Statement Preparation
Notice for the Proposed Gentry-Waipio Project

We have reviewed the subject Environmental Assessment/
Determination and provide the following comments:

With ultimate development, traffic generated from this project will have a significant impact on Kamehameha Highway under its existing condition.

We also noted some differences in data between this Environmental Assessment and the Traffic Impact Study prepared for this project. While the total number of housing units dropped from 5,500 as reported in the Traffic Impact Study, to 3,700 units; the total number of industrial acreage increased from 34 to 120 acres. The resultant increase in traffic due to the additional acreage and its impact on the surrounding facilities should be further discussed in the Impact Statement.

Thank you for this opportunity to comment on the preparation of the Environmental Impact Statement.

Very truly yours,

George C. Villegas
GEORGE C. VILLEGAS
Director

ENVIRONMENTAL
COMMUNICATIONS
INC.

F. J. RODRIGUEZ,
PRESIDENT

October 27, 1976

Mr. George C. Villegas, Director
Department of Transportation Services
City & County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

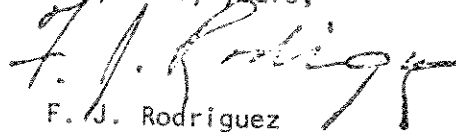
Dear Mr. Villegas:

SUBJECT: Environmental Assessment/Determination for the
Proposed Gentry-Waipio Project, Waipio, Oahu

Thank you for your letter of October 5, 1976 regarding the proposed Gentry-Waipio project. We are providing for your office's review and files, the updated traffic analysis prepared for the applicant by Mr. Henry T. Au. This updated report should resolve the differences in the discrepancies noted in your letter. The report will also be an integral part of the Environmental Impact Statement which is being prepared at the present time. We are also providing for your information the letter from Highways Division, Department of Transportation, dated September 15, 1976, approving the Traffic Impact Statement.

Thank you again for your letter and we appreciate your comments.

Very truly yours,


F. J. Rodriguez

Enclosures

cc: Norman Dyer, A.I.A., and Associates



WEST OAHU SOIL & WATER CONSERVATION DISTRICT



P.O. Box 510 - Wahiawa, Hawaii 96786 - Telephone: 622-4185

October 5, 1976

Mr. F. J. Rodriguez
Environmental Communications, Inc.
P.O. Box 536
Honolulu, Hawaii 96809

Dear Mr. Rodriguez:

Subject: Consultation Process Prior to Filing the
Environmental Impact Statement for the
Proposed Gentry - Waipio Project in Waipio, Oahu

The directors of the West Oahu Soil and Water Conservation District strongly object to the use of the 510 acres for the proposed residential and light industrial development. Our reason are as follows:

1. In our opinion the soils are well suited for a wide variety of crops, including vegetables, and for other diversified agricultural operations. Irrigation water can be obtained by drilling wells, the same method proposed for the urban project. Irrigation water requirements can be reduced by conservation practices such as mulching and efficient use of water by drip irrigation.
2. According to the Soil Conservation Service nearly all the soils are well suited for cultivated agriculture and are considered to be "prime farmland." We believe that prime farmland soils should be reserved for agricultural uses, especially if they occur in such large tracts.

Sincerely,

Robert Wiemer
Chairman

cc: Soil Conservation Service

ENVIRONMENTAL
COMMUNICATIONS
INC.

October 27, 1976

F. J. RODRIGUEZ,
PRESIDENT

Mr. Robert Wiemer, Chairman
West Oahu Soil & Water
Conservation District
P. O. Box 610
Wahiawa, Hawaii 96786

Dear Mr. Wiemer:

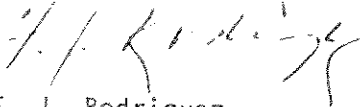
SUBJECT: Environmental Assessment/Determination for the
Proposed Gentry-Waipio Project, Waipio, Oahu

We have received your letter of October 5th relating to the above indicated document. Your objection to the use of the proposed project site for residential and light industrial development has been a criticism in the past. We recognize that the soils of the project site are well suited for a wide variety of crops. The study prepared by George Myers and Oscar A. Lorenz has determined that with irrigation the agricultural use of the project site would be greatly enhanced. However, it is also pointed out that the cost of developing water on site as well as the consumption of water would be expensive in relation to the agricultural use of the site. For this reason, it is not the soil suitability which is at issue. The cost of providing water to the site is the significant factor and thus, agricultural use, although possible, would be economically infeasible. These cost factor conclusions were substantiated by the Department of Agriculture through Mr. James Kirschopper, planner at the Planning and Zoning Committee meeting held on May 18, 1976. Additionally, we point out that the purchase of the land would entail a large sum of money which would be expensive in comparison to other available agricultural lands.

We must also reemphasize the fact that the topography and soils that make the site well suited for agricultural uses also enhances the urban use of the site. It is the developer's feelings that to accommodate the island's growing population, it is necessary to make such tradeoffs, which while not desirable to everyone, will result in an overall benefit.

For your further information, we are providing you with the Agricultural Assessment report prepared by Myers and Lorenz.

Very truly yours,


F. J. Rodriguez

Enclosure

cc: Norman Dyer, A.I.A., and Associates

XI-10

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII



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

GEORGE A. L. YUEN
DIRECTOR OF HEALTH
Audrey W. Mertz, M.D., M.P.H.
Deputy Director of Health
James S. Kumagai, Ph.D., P.E.
Deputy Director of Health
Henry N. Thompson, M.A.
Deputy Director of Health

October 5, 1976

in reply, please refer to:
File: PTR

Mr. F. J. Rodriguez, President
Environmental Communications, Inc.
P.O. Box 536
Honolulu, HI 96809

Dear Mr. Rodriguez:


Subject: Gentry - Waipio Environmental
Impact Statement

Receipt of the Environmental Impact Statement Preparation Notice and the Department of Land Utilization's Environmental Assessment/Determination is acknowledged.

Please be advised that your statement in Paragraph No. 2 of your September 3, 1976 letter concerning Department of Health comment at this stage of the EIS process is not consistent with our understanding of the EIS review system. A no comment stance by the Department at this particular stage could indicate that we are waiting for the more definitive EIS since comment on the general statements would be non-productive due to lack of detail.

However, for your information and guidance, we will once again state our strong general concerns in the areas of sewage treatment and disposal and air pollution. We expect the EIS to contain detailed discussions of these problems (with quantitative support data) as they relate to the subject project.

Sincerely,


JAMES S. KUMAGAI, Ph.D.
Deputy Director for
Environmental Health

HJY/jcn

cc: Department of Land Utilization

ENVIRONMENTAL
COMMUNICATIONS
INC.

November 4, 1976

F. J. RODRIGUEZ,
PRESIDENT

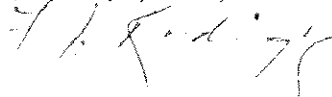
Dr. James S. Kumagai
Deputy Director for
Environmental Health
Department of Health
P. O. Box 3378
Honolulu, Hawaii 96801

Dear Dr. Kumagai:

SUBJECT: Environmental Assessment/Determination for the
Proposed Gentry-Waipio Project, Waipio, Oahu

Thank you for your letter of October 5, 1976 regarding the above indicated document. We have reviewed your letter and acknowledge that your department may have detailed comments upon review of the Environmental Impact Statement. For your further use and review, we will also be providing your department with a copy of the water quality impact report and the air study which are presently being prepared.

Very truly yours,



F. J. Rodriguez

cc: Norman Dyer, A.I.A., and Associates

GEORGE R. ARIYOSHI
GOVERNOR



RICHARD E. MARLAND, PH.D.
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
October 1, 1976

Mr. F.J. Rodriguez
Environmental Communications, Inc.
P.O. Box 536
Honolulu, Hawaii 96809

SUBJECT: Environmental Impact Statement Preparation Notice for
the Proposed Gentry-Waipio Project in Waipio, Oahu

Dear Mr. Rodriguez,

We thank you for providing our Office with a copy of the EIS Preparation Notice on the above project. At this particular time, our Office is reserving our comment on the proposed action until the environmental impact statement becomes available. However, it should not be construed that we do not have any significant comments or foresee any conflicts with this action as indicated by your transmittal letter.

Sincerely,


Richard E. Marland
Director

cc: George Moriguchi, Dept. of Land Utilization
C&C of Honolulu



DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
BLDG. 230, FT. SHAFTER
APO SAN FRANCISCO 96558

PODED-P

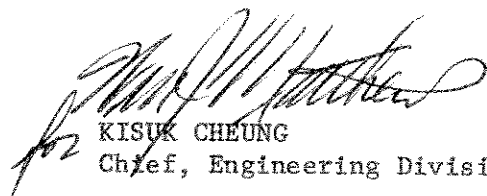
29 September 1976

Mr. F. J. Rodriguez, President
Environmental Communications, Inc.
P.O. Box 536
Honolulu, Hawaii 96809

Dear Mr. Rodriguez:

We have reviewed the Environmental Assessment/Determination for the Proposed Gentry-Waipio Project, Waipio, Oahu. Based on the assessment, the concerns expressed in our previous letter dated 29 December 1975 will be addressed in the impact statement. We have no additional comments to make at this time. Thank you for the opportunity to participate in the consultation process. We would appreciate a copy of the impact statement when it is available.

Sincerely yours,


KISUK CHEUNG
Chief, Engineering Division



BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU

630 SOUTH BERETANIA

HONOLULU, HAWAII 96813



FRANK F. FASI, Mayor
YOSHIE H. FUJINAKA, Chairman
STANLEY S. TAKAHASHI, Vice Chairman
KAZU HAYASHIDA
EDWARD F. C. LAU
TERESITA R. JUBINSKY
E. ALVEY WRIGHT

September 28, 1976

EDWARD Y. HIRATA
Manager and Chief Engineer

Mr. F. J. Rodriguez
Environmental Communications, Inc.
P. O. Box 536
Honolulu, Hawaii 96809

Dear Mr. Rodriguez:

SUBJECT: Environmental Assessment/Determination
for the Proposed Gentry-Waipio Project
Re-Zoning Request

We have reviewed your assessment/determination for the proposed Gentry-Waipio Project re-zoning request and do not have any objections. Also, in addition to our previous recommendations noted on the attached three correspondence, we offer the following comments:

1. On page 2, "item e" should be corrected to reflect the requirement of two well fields with each having two wells. Each well shall be capable of pumping 1,050 gpm.
2. A water master plan be submitted to us for review and approval.

Please call Mr. Lawrence Whang at 548-6122 if further information is needed.

Very truly yours,

Edward Y. Hirata
Manager and Chief Engineer

ATTACHS.

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU

SOUTH BERETANIA

POST OFFICE BOX 3410

HONOLULU, HAWAII 96843



FRANK F. FASI, Mayor
STANLEY S. TAKAHASHI, Chairman
YOSHIE H. FUJINAKA, Vice Chairman
KAZU HAYASHIDA
EDWARD F. C. LAU
TERESITA R. JUBINSKY
E. ALVEY WRIGHT

July 9, 1976

EDWARD Y. HIRATA
Manager and Chief Engineer

Norman Dyer A.I.A. and
Associates
Suite 1804, Financial
Plaza of the Pacific
Honolulu, Hawaii 96813

Gentlemen:

Subject: Your letter of June 22, 1976 relating to
the Gentry-Waipio Project, TMK: 9-4-06:03

The two proposed well sites are acceptable to the Department. One will be located adjacent to the proposed "590" reservoir and the other in the vicinity of the Kamehameha Highway and Mililani Memorial Road intersection.

The new well sites should be incorporated into an overall water master plan for the development and submitted to the Department for review and approval. The water plan should show the location and size of all the proposed facilities (reservoirs, well fields, and transmission and distribution mains) and include supporting calculations and the proposed development schedule.

If you have any questions, please call Albert Koga at 548-5202.

Very truly yours,

Edward Y. Hirata
Manager and Chief Engineer

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU

630 SOUTH BERETANIA

POST OFFICE BOX 3410

HONOLULU, HAWAII 96843



FRANK F. FASI, Mayor

STANLEY S. TAKAHASHI, Chairman

YOSHIE H. FUJINAKA, Vice Chairman

KAZU HAYASHIDA

Edward F. C. Lau

TERESITA R. JUBINSKY

E. ALVEY WRIGHT

February 12, 1976

EDWARD Y. HIRATA
Manager and Chief Engineer

Norman Dyer A.I.A. and Associates
Suite 1804, Financial Plaza of
the Pacific
Honolulu, Hawaii 96813

Gentlemen:


Subject: Your letter of January 8, 1976
relating to Gentry-Waipio Project

The Board has no objections to locating the reservoir for the Gentry-Waipio development on the diamond head side of H-2. However, the installation of the pipelines in the irrigation culvert is not acceptable. Pipelines crossing highways must be installed in accordance with both the State Department of Transportation and the Board's standards. Pipelines must also be serviceable by roadways. General requirements for pipeline easements are attached for your information.

Regarding the placement of the wells, our latest studies of the groundwater resources in the area indicate that wells must now be drilled at two separate sites. We will work with your engineer in the selection of suitable well sites. Reimbursement will not be made to the developer for the costs of wells and pumping stations.

If you have any questions, please call Ichiro Tanaka at 548-6165.

Very truly yours,


For Edward Y. Hirata
Manager and Chief Engineer

Enc.

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU

630 SOUTH BERETANIA

ST OFFICE BOX 3410

HONOLULU, HAWAII 96801



May 16, 1972

Members

ROBERT H. ROTZ, Chairman
RICHARD H. COX, Vice Chairman
GEORGE APOUMAN, Secretary
HENRY H. GEORGE, JR.
FUJIO MATSUDA
STANLEY S. TAKANASHI
ALBERT C. ZANE

GEORGE A. L. YUEN
Manager and Chief Engineer

William Hee & Associates, Inc.
1020 Auahi Street Suite 1
Honolulu, Hawaii 96814

Attention Mr. Walter M. Takeuchi
Vice President

Gentlemen:

We have reviewed your alternate proposals and concur under your Alternate 2-A in locating the wells at our "395" sites. The facilities that will be necessary to provide an adequate water supply for this development are as follows:

1. 4 - 1,050 gpm deepwells, maximum recommended pump size, located in the vicinity of the existing Waipio Heights "395" reservoir, pumping to the "590" reservoir.
2. 3.0 MG reservoir with a 590' spillway elevation and 24-inch influent-effluent line between reservoir and reservoir property line, and
3. 16-inch transmission main between the well field and "590" reservoir site.

Very truly yours,

Francis I. Fujita
Water Sales Manager

RECEIVED
MAY 18 1972

ENVIRONMENTAL
COMMUNICATIONS
INC.

F. J. RODRIGUEZ,
PRESIDENT

October 27, 1976

Mr. Edward Y. Hirata
Manager and Chief Engineer
Board of Water Supply
630 South Beretania Street
Honolulu, Hawaii 96813

Dear Mr. Hirata:

SUBJECT: Environmental Assessment/Determination for the
Proposed Gentry-Waipio Project, Waipio, Oahu

We have received your comments of September 28th on the above indicated subject. Upon review of this information, we recognize it represents the most recent plans which have been agreed upon by the developer. A water master plan will be submitted to your agency at the appropriate time by the project engineers.

Thank you for your comments.

Very truly yours,



F. J. Rodriguez

cc: Norman Dyer, A.I.A., and Associate



STATE OF HAWAII

DEPARTMENT OF EDUCATION

P. O. BOX 2360
HONOLULU, HAWAII 96804

OFFICE OF BUSINESS SERVICES

September 27, 1976

Mr. F. J. Rodriguez
Environmental Communications Inc.
P. O. Box 536
Honolulu, Hawaii 96809

Dear Mr. Rodriguez:

Subject: Environmental Impact Statement (EIS)
For Gentry-Waipio Project

Thank you for your letter of September 3, 1976 informing us of the EIS preparation notice for the subject project.

We have no additional comments regarding the project since our letter of May 12, 1976 to the City Council.

We would, however, appreciate receiving copies of schedules showing specific completion dates and the number and type of units in each housing increment as soon as the information is available.

Sincerely,

KOICHI H. TOKUSHIGE
Assistant Superintendent
Office of Business Services
KHT:JEE:yk

cc: Leeward Oahu District

ENVIRONMENTAL
COMMUNICATIONS
INC.

F. J. RODRIGUEZ,
PRESIDENT

October 27, 1976

Mr. Koichi H. Tokushige
Assistant Superintendent
Office of Business Services
Department of Education
P. O. Box 2360
Honolulu, Hawaii 96804

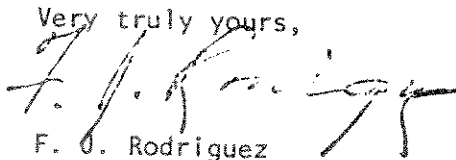
Dear Mr. Tokushige:

SUBJECT: Environmental Assessment/Determination for the
Proposed Gentry-Waipio Project, Waipio, Oahu

We have received your letter of September 27th on the above indicated document. As plans for the proposed development are completed, Mr. Norman Dyer, the developer's planner, will keep you informed of schedules and completion dates.

Your response during this consultation period is appreciated.

Very truly yours,



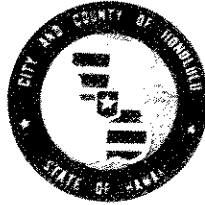
F. J. Rodriguez

cc: Norman Dyer, A.I.A. and Associates

DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR



YOUNG SUK KO
DIRECTOR

September 27, 1976

Mr. E. J. Rodriguez
Environmental Communications, Inc.
P. O. Box 536
Honolulu, Hawaii 96809

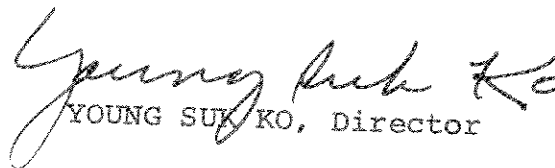
Dear Mr. Rodriguez:

SUBJECT: ENVIRONMENTAL ASSESSMENT/DETERMINATION BY
DEPARTMENT OF LAND UTILIZATION, REZONING -
GENTRY-WAIPIO, PROJ. REF. NO. 76/Z-22

We have reviewed the environmental assessment made by the Department of Land Utilization to rezone various districts in the Gentry-Waipio project and find it generally acceptable.

The recreation plan to establish a community park, district park, greenway system, and small recreational areas throughout the project is in conformance with the recommendations made by our Department.

Sincerely,


YOUNG SUK KO, Director

POLICE DEPARTMENT
CITY AND COUNTY OF HONOLULU

HONOLULU, HAWAII 96814

FRANK F. FASI
MAYOR

RICHARD K. SHARPLESS
MANAGING DIRECTOR



FRANCIS KEALA
CHIEF

EUGENE FLETCHER
DEPUTY CHIEF



OUR REFERENCE TT-JK
YOUR REFERENCE

September 22, 1976

Mr. F. J. Rodriguez, President
Environmental Communications, Inc.
P. O. Box 536
Honolulu, Hawaii 96809

Dear Mr. Rodriguez:

Subject: Consultation Process Prior to Filing the
Environmental Impact Statement for the
Proposed Gentry-Waipio Project at Waipio, Oahu

The proposed project consisting of development of a multifunctional community on 510 acres of land at Waipio has been reviewed by this Department.

The plans would create approximately 500 residential units per year, in increments, beginning in 1977 up to 1985. For each 500 units there would be approximately 1,750 individuals residing therein. Using the officer to population ratio of this Department, this would mean an additional 2.1 uniformed officers per year to handle the calls for police services. Progressively by 1985 a total of 17 uniformed officers would be required. It should be noted that this is a minimum figure due to the fact that the proposed project also includes a school, parks, and commercial and light-industrial areas.

The completion of the 3,700 units would bring approximately 5,000 automobiles to the residential area. Again this does not include vehicular traffic brought into the area by the creation of commercial and light-industrial areas.

Mr. F. J. Rodriguez
September 22, 1976
Page 2

We are only speaking of additional uniformed officers to which must be added the services of other supportive units needed to provide optimum police service. Consideration must be given to salaries, equipment and other budgetary items also.

We hope that this information will be of assistance to you.

Sincerely,

FRANCIS KEALA
Chief of Police

By 
EUGENE FLETCHER
Deputy Chief of Police



F. J. RODRIGUEZ,
PRESIDENT

ENVIRONMENTAL
COMMUNICATIONS
INC.

October 27, 1976

Deputy Chief Eugene Fletcher
Police Department
1455 South Beretania Street
Honolulu, Hawaii 96814

Dear Deputy Chief Fletcher:

SUBJECT: Environmental Assessment/Determination for the
Proposed Gentry-Waipio Project, Waipio, Oahu

Thank you for your response of September 22nd regarding the above indicated document. The information which you have provided, as well as your letter, will be incorporated into the Environmental Impact Statement.

We appreciate your response and the information provided by your department.

Very truly yours,



F. J. Rodriguez

cc: Norman Dyer, A.I.A., and Associates

XI-25

HEADQUARTERS
FOURTEENTH NAVAL DISTRICT

BOX 110
FPO SAN FRANCISCO 96610

IN REPLY REFER TO:

48:09F:SH:mm
Ser 2287

21 SEP 1976

Mr. F. J. Rodriguez
Environmental Communications, Inc.
225 Queen Street
Honolulu, Hawaii 96809

Dear Mr. Rodriguez:

Consultation Process Prior to Filing
the Environmental Impact Statement
for the Proposed Gentry-Waipio Project
in Waipio, Oahu

Review has been completed on the Environmental Assessment/
Determination forwarded in your letter of September 3, 1976,
for possible comment.

As indicated on Page 4 of the Determination, the following
statement appears:

"d. Approximately 60% of the surface runoff drains
toward Panakauahi Gulch which flows into Pearl Harbor's
Middle Loch. The remaining 40% flows, overland toward
the Oahu Sugar Company's sugarcane fields to the south
and west of the site. It is possible that, eventually
this water flows into Kipapa and Waikele Streams into
West Loch."

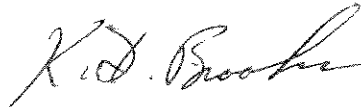
The question of soil erosion, with resultant siltation of
streams flowing into Pearl Harbor, and the sedimentation
in the several Lochs is of greatest concern to the U. S.
Navy. In the forthcoming Environmental Impact Statement
(EIS) the Gentry-Waipio Project must address this potential
soil erosion problem during the construction period and
give evidence that on-site steps will be taken to prevent
any possibility of further siltation in Pearl Harbor.

An analysis is required of the effect of the increased
hydraulic flow from the 510 acre development on the lands
below the development. Indications are that although the
amount of sediment from the developed area may be less than

now, the increased erosion on the lower lands because of the increased runoff may result in a net increase in the amount of sediment deposited in Pearl Harbor.

Upon completion of the analysis and EIS, it is requested that the documents be forwarded for further review and comments.

Sincerely,



K. D. BROOKS
CAPTAIN, CEC, USN
DISTRICT CIVIL ENGINEER
BY DIRECTION OF THE COMMANDANT

Copy to:
Mr. Norm Dyer, A.I.A. and Associates
Financial Plaza of the Pacific
Suite 1804, Honolulu, HI 96813

Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, HI 96813

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

ENVIRONMENTAL
COMMUNICATIONS
INC.

F. J. RODRIGUEZ,
PRESIDENT

October 27, 1976

Captain K. D. Brooks
CEC, USN, District Civil Engineer
Headquarters, Fourteenth Naval District
P. O. Box 110
FPO, San Francisco 96610

Dear Captain Brooks:

SUBJECT: Environmental Assessment/Determination for the
Proposed Gentry-Waipio Project, Waipio, Oahu

We have received your letter of September 21, 1976 relating to the above indicated document. A detailed "Surface Runoff and Water Consideration Study" was prepared by Michael J. Chun, Ph.D., and Gordon L. Dugan, Ph.D., for the proposed project. This study was provided to members of your staff several weeks ago and we find that much of your concerns which deal with surface runoff are discussed in this study.

Additionally, we will address mitigation measures to be undertaken during construction to prevent soil erosion. The engineering firm of William Hee and Associates will design the drainage improvements and provide the details for approval by the appropriate governmental agencies.

In the preparation of the Environmental Impact Statement, more details and findings from Chun and Dugan's study and other technical studies will be provided. All of the technical studies prepared for the project will be available at the Environmental Quality Commission should certain agencies or individuals desire specific information.

Thank you for your comments and we hope that they have been addressed in the above-mentioned study.

Very truly yours,



F. J. Rodriguez

cc: Norman Dyer, A.I.A., and Associates

GEORGE R. ARIYOSHI
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

E. ALVEY WRIGHT
DIRECTOR

DEPUTY DIRECTORS

WALLACE AOKI
RYOKICHI HIGASHIONNA
DOUGLAS S. SAKAMOTO
CHARLES O. SWANSON

IN REPLY REFER TO:

September 20, 1976

STP 8.3853

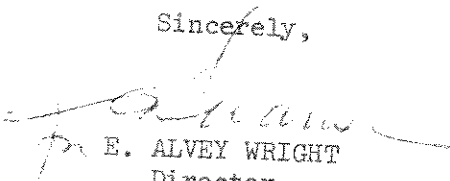
Mr. F. J. Rodriguez
Environmental Communications, Inc.
P. O. Box 536
Honolulu, Hawaii 96809

Dear Mr. Rodriguez:

Subject: Gentry-Waipio Project

This is to advise you that the Highways Division should be further consulted in preparation of the EIS to assure that the impact of the proposed development on the adjacent highway network is fully covered.

Sincerely,


E. ALVEY WRIGHT
Director



F. J. RODRIGUEZ,
PRESIDENT

ENVIRONMENTAL
COMMUNICATIONS
INC.

October 27, 1976

Admiral E. Alvey Wright
Director, Department of
Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Admiral Wright:

SUBJECT: Environmental Assessment/Determination for the
Proposed Gentry-Waipio Project, Waipio, Oahu

We have received your comments of September 20, 1976 regarding the
above indicated document. Mr. Norman Dyer, the developer's planner,
Mr. Henry T. Au, traffic consultant, and William Hee and Associates,
Inc., the engineering firm on traffic, will continue to discuss the
project's transportation concerns with your staff.

Very truly yours,



F. J. Rodriguez

cc: Norman Dyer, A.I.A., and Associates

HAWAIIAN ELECTRIC COMPANY, INC.

Box 2750 / Honolulu, Hawaii / 96840



September 20, 1976

Environmental Communications, Inc.
P. O. Box 536
Honolulu, Hawaii 96809

Attention: Mr. F. J. Rodriguez, President

Gentlemen:

Re: Environmental Impact Statement for Proposed
Gentry-Waipio Project in Waipio
HECO Request No. 4.28378

This is in reply to your recent letter requesting additional comments from our company which may be incorporated into an Environmental Impact Statement for the above mentioned project.

We believe the following should be included:

1. Overhead 44 kv transmission lines will exist in the area. The 44 kv circuits may also have 12 kv circuits on the same pole lines. The existing circuits in the area will be relocated either totally or in part to new alignments which yet have to be agreed to by all parties concerned.
2. A 44 kv to 12 kv substation will be required to be installed to serve the area. The exact site is still under consideration. However, a proposed location is at the mauka end of the property. A HECO standard substation design will be employed. The specific configuration of the substation has yet to be determined.
3. The 12 kv electrical distribution system for the proposed housing in this area will be underground as required by City & County ordinances. This will also include underground services.

Admittedly, the above comments are very general in nature. However, we cannot be more specific as line relocations may be required and agreed to by all concerned.

Very truly yours,

Robert S. Ostrem

Robert S. Ostrem, Administrator
Customer Engineering Department

RSO:ca1

cc: F. Hirakami, E. Yoshioka, G. Tsukayama,
S. Takamine, M. Wildrick, K. Kami



F. J. RODRIGUEZ,
PRESIDENT

ENVIRONMENTAL
COMMUNICATIONS
INC.

October 27, 1976

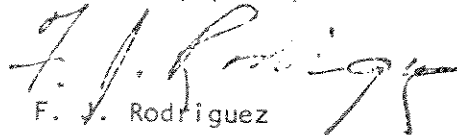
Mr. Robert S. Ostrem
Administrator, Customer
Engineering Department
Hawaiian Electric Company, Inc.
P. O. Box 2750
Honolulu, Hawaii 96840

Dear Mr. Ostrem:

SUBJECT: Environmental Assessment/Determination for the
Proposed Gentry-Waipio Project, Waipio, Oahu

Thank you for your response of September 20, 1976 on the above indicated document. We have reviewed the additional information which you have provided in your letter. This information, as well as your letter, will be incorporated in the Environmental Impact Statement.

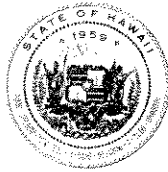
Very truly yours,



F. J. Rodriguez

cc: Norman Dyer, A.I.A., and Associates

GEORGE R. ARIYOSHI
GOVERNOR



ANDREW I. T. CHANG
DIRECTOR OF SOCIAL SERVICES & HOUSING

STATE OF HAWAII
DEPARTMENT OF SOCIAL SERVICES AND HOUSING

September 16, 1976

Environmental Communications, Inc.
P. O. Box 536
Honolulu, Hawaii 96809

Attention: Mr. J. F. Rodriguez, President

Gentlemen:

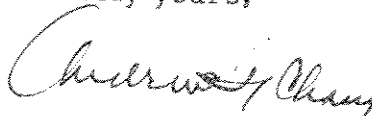
Re: Gentry-Waipio Project

We are in receipt of your letter dated September 3, 1976, requesting our comments on the Environmental Impact Statement Preparation Notice and Environmental Assessment/Determination.

Please be advised that we are referring this matter over to Hawaii Housing Authority, who presently has on file in pending review status, preliminary proposals and inquiries from the developer.

We, therefore, request that all future correspondence and inquiries pertaining to the aforementioned project be addressed directly to Hawaii Housing Authority.

Sincerely yours,

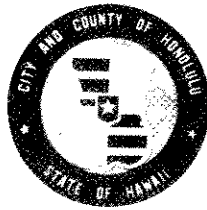

ANDREW I. T. CHANG
Director

cc:Norman Dyer & Assoc.

DEPARTMENT OF GENERAL PLANNING
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR



ROBERT R. WAY
CHIEF PLANNING OFFICER

DGP9/76-2147 (CKC)

September 20, 1976

Mr. F. J. Rodriguez, President
Environmental Communications, Inc.
P. O. Box 536
Honolulu, Hawaii 96809

Dear Mr. Rodriguez:

Waipio Rezoning
Environmental Assessment

Thank you for giving us an opportunity to review the above environmental assessment. We have serious concerns regarding this project and will withhold comments until we have had an opportunity to review all of the reports associated with this project. Some of these concerns, however, are already documented in the Mayor's veto message dated July 30, 1976 and the Report on a General Plan Amendment Proposed by the City Council dated February 17, 1976. We have enclosed copies of these for your information and file.

In the meantime, we shall await the Draft EIS and be pleased to give it thorough review.

Sincerely,

ROBERT R. WAY
Chief Planning Officer

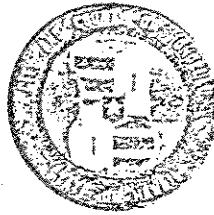
RRW:fmt

Enclosures

OFFICE OF THE MAYOR
CITY AND COUNTY OF HONOLULU

HONOLULU, HAWAII 96813 • AREA CODE 808 • 546-2760

FRANK F. FASI
MAYOR



July 30, 1976

Honorable George Akahane, Chairman
and Members of the City Council
City and County of Honolulu
Honolulu, Hawaii

Gentlemen:

Gentry-Waipio General Plan Amendment

I am returning, disapproved, Bills Nos. 4 and 5 pursuant to Section 3-203.1 of the City Charter.

In approving this conversion of agricultural land to urban use in Central Oahu, the City Council has taken an important step toward determining the future pattern of urban development. It has done so while it is in the process of asking the people what should be the new General Plan and growth policies for Oahu. I find it difficult to accept the inconsistency contained in this action.

Council's review of this amendment would have been far more understandable if other major proposals, such as the Campbell Estate proposal for the development of Ewa, were processed at the same time. In this way, a reasonable comparison of the public costs and benefits resulting from these proposals could have been made. As it is now, Council's statement that development of the Gentry-Waipio property compares favorably with other sites is simply not so. The so-called "comparative evaluation" was actually made by consultants working for the developer. But the comparison misses the point. The key issue is not simply one of comparing sites but of comparing development proposals and how those proposals benefit the community.

Surely, if community's welfare is of concern, consideration should be given to all alternatives. The other development proposals are certainly no less urgent. Failure to make a comparison of these proposals is a serious disservice to the community.

Honorable George Akahane, Chairma
and Members of the City Council
July 30, 1976
Page 2

It appears that the Council has adhered to an outmoded and inadequate means for making development decisions. In addition to a failure to compare development proposals, it has failed to consider the public costs and benefits of this development. The community is losing valuable open space and agricultural land. But, in return, it receives only the most minimal benefit in terms of moderately priced housing. The bulk of the housing will be high cost units which can just as readily be constructed within the present urban area. There is no reason or excuse for developments on agricultural land which fail to make a substantial contribution to the availability of lower cost housing.

The Council has also ignored the public cost which must result from the overload of the transportation system. The State Department of Transportation reported that "the development will have a severe impact on Kam Highway." In fact, the development will require major improvements which are not now either programmed or planned. In a few years we will have another Salt Lake Boulevard situation and another Hawaii Kai traffic situation. Yet, Council has simply ignored the cost ramifications of this complex problem by simply stating that "Improvements to the surrounding highway network in order to adequately accommodate the traffic generated by this development will be needed and are feasible."

Perhaps if the Council and the general public were aware of the costs associated with this development, they might be more concerned with the benefits.

While the public benefits resulting from this project are questionable, there is no question about benefits accruing to the developer. The land purchased at around \$15,000 an acre will, as a result of Council's action, increase in value to over \$100,000 per acre. The total gain to the developer is on the order of \$50 million. Aided and abetted by the Council this massive land rip-off merely enriches the speculator and provides nothing to the people.

This enormous private gain and questionable public benefits is an old story in Hawaiian land politics. The Council supports its decision by noting that the return of this land to agricultural production is not feasible due to the cost of providing water for surface irrigation. But the Council fails to note that this property was used for productive agriculture until it was taken out of agricultural use through a blatant speculative move by the developer.

There is a serious issue here of whether the City should be in the business of legitimatizing such speculative actions, particularly when they will result

Honorable George Akahane, Chairman
and Members of the City Council
July 30, 1976
Page 3

in very substantial public costs and questionable public benefits. Our children are being forced to buy housing from a speculator who cares little about their living expenses.

In addition to the above issues, it is amazing that Council has also acted in approving this development to convert agricultural land into industrial use. This community has a viable industrial center at Barbers Point, the use of which causes no loss of agricultural land and valuable open space. It is also likely to be serviced by a deep water harbor in the future.

Given this existing industrial site, with adequate space for expansion, it is beyond the limits of reasonableness to convert agricultural land in Central Oahu to industrial use.

There are so many serious questions surrounding this development that I cannot in good conscience approve it. The failure to consider other development alternatives and the failure to adequately account for the development's public benefits and costs are among the most crucial.

In addition, there is the major issue of where growth will be directed. To make a decision of this nature while the community is debating the new General Plan is in itself improper and highly questionable.

The Council has stated that it wants to establish priorities by directing development primarily to Honolulu and secondarily to Ewa. But what we have here is a case of major new urbanization being directed toward Central Oahu.

What is Council's plan? Is this the first phase of major new development toward Central Oahu or does Council have some other plan in mind? This decision does not relate to any rational direction for urban development but continues the practice of piecemeal planning. It is a practice that encourages costly urban sprawl through the conversion of one piece of agricultural land after another to urban use. Each decision is defended exactly as this one. But when taken together, these isolated decisions promote a costly pattern of development, the inefficient use of our land resources, and maximum degradation of our natural environment. It is a practice we are seeking to leave behind us. I find it difficult to understand why Council continues to make decisions in this piecemeal manner, particularly when it is in the process of holding public hearings and seeking community input on the General Plan issue of where growth should be directed.

Honorable George Akahane, Chairman
and Members of the City Council

July 30, 1976

Page 4

I must also ask why the haste in proceeding with this proposal. Why did Council, in an unprecedented move, initiate this amendment for this particular developer? No other developer has received such favored treatment.

This project should not be permitted to proceed at this time. The development proposal has not been properly evaluated and the basis for its approval is inadequate.

There is one final point that Council should know about. The land speculator is taking offers on various parcels of the property. One such agreement calls for the sale of 13 acres to a developer at \$1.2 million or \$90,000 an acre. Other similar deals are pending with values up to \$120,000 per acre reported. The point is that the owner in this case is simply acting as a land broker with no assurance that he personally will do any building.

For the foregoing reasons I ask your careful reconsideration of this General Plan change. I urge that you reject this proposal by sustaining my veto.

Sincerely,

FRANK F. FASI, Mayor
City and County of Honolulu

FFF:vw (Robert R. Way
Dept. of General Planning)

2/13/76

Report on a General Plan
Amendment Proposed by the
City Council

Introduction

The City Council proposes to amend the General Plan for approximately 510 acres of land in Waipio (tax map key 9-4-06: 08).^{1/} The land is within the State Urban District but planned for agricultural use in the City's General Plan. It is presently vacant and not utilized for agricultural production.

This proposal is focused primarily on meeting housing needs and secondarily on industrial needs.

Conclusions and Recommendations

1. Conclusions

1. Concerning the appropriateness of Council's proposal

Council's proposal is far from a small change with limited impact on the community. It has important features:

- a. It introduces significant new urbanization into Central Oahu;
- b. It continues the process of making land use decisions without any overall policy guidelines concerning the direction of growth.

As a result of these effects, a favorable decision on this proposal will have the effect of closing out some options and thereby preempting the selection of policy alternatives to guide new urban development. Approval of this proposal validates the past process of making incremental decisions based on private sector proposals without selecting an overall policy to direct growth. This action, in fact, results in the selection of the alternative of Private Sector Initiative. But the selection is made by default and not by a process of weighing the various costs and benefits of the alternative courses of action available to the community.

What is to prevent the Council from introducing other similar proposals?

^{1/}City Council Resolution No. 17, adopted January 28, 1976.

The Council justifies its proposal on the grounds that the Department of General Planning has refused to receive and consider Gentry-Pacific's proposal for such amendments and the applicant in the past three years has been paying taxes commensurate with the urban land use designation of the State Land Use Commission on its property.

This rationale is beyond comprehension.

First, the Department of General Planning presented to the Council in November of 1974, alternative proposals for selecting a direction of growth which included the Gentry-Waipio land. Thus, it is erroneous and a distortion of facts to state that the Department refused to consider this proposal.

It is also incorrect to say the Department refused to receive the petition of Gentry-Pacific. More precisely, the Department refused to consider this proposal in isolation, without policy guidelines and in ignorance of the total public costs of new development. This, however, is exactly what the Council proposes to do.

Secondly, Gentry-Pacific is not the only landowner or developer who is affected. There are ten other requests which are similarly affected. Including the Gentry-Pacific proposal, these requests call for the conversion of 2,846 acres of agricultural land to urban use. These include the following:

<u>Applicant</u>	<u>Size in Acres</u>
Gentry-Pacific	510
Edward Kageyama, Lewers & Cooke, Sing Chong Co.	38
Oceanic Properties	35
George Sakoda	288
George Sakoda	162
Mililani Town, Inc.	68
Headrick Development Co.	219
Hirano Brothers	635
Kaiser Pacific Properties	195
Zions Securities	675
Paul T. O. Fung	<u>21</u>
Total	2,846

Since there are a number of potential developers, it is difficult to understand why the Council has selected to propose the urbanization of the Gentry-Waipio property. Is this a test case? If a favorable decision is made, will the Council then proceed to propose the urbanization of additional land in Central Oahu, Ewa, Windward Oahu, and Waianae? If not, then the decision to proceed with the Gentry property is quite out of order.

Thirdly, the fact that Mr. Gentry purchased a piece of property which was both planned and used for agricultural purposes on the speculation that it would be available for urban use, thereby undertaking a high risk and, at considerable expense but with a potentially large profit, is not a legitimate reason for this community to be pressured into a decision. It is not a legitimate or responsible action of government to underwrite speculation or to "bail-out" speculators who have taken a pure gamble. The decision for urbanization cannot be made on this basis.

Fourthly, it is incorrect to state, as the Council has done, that the Department has refused to process applications for General Plan and DLUM amendments. This is not true. What the Department has done is to refuse to independently process major amendments to urbanize land planned for agricultural use which would have the effect of closing out options and preempting the consideration of alternative policies for urban development. Rather than process these applications independently and in isolation of each other, they should be considered together and their total impact assessed. This is precisely what has been done in the General Plan Revision Program.

Finally, the Council further justifies its proposal by noting that the State Land Use Commission placed this land within the State Urban Boundary. But this in itself is not a sufficient basis to amend the General Plan. The decision of the Commission was notorious for its inadequate supporting rationale. Rather than use it as a reason to amend the General Plan, the more appropriate action may be to petition the Land Use Commission to return that land to the State Agricultural District.

However, the decision on whether or not to urbanize this land should be based on the selection of a policy to manage urban growth.

2. Concerning the selection of a policy to guide growth

The major alternatives for managing urban development and meeting residential and economic requirements have been set before the City Council. A decision on how we want to manage growth and the direction which growth should take must be made before a significant step to expand urbanization in Central Oahu is taken. Furthermore, individual proposals should not

be considered in isolation from these alternatives and the past practice of piecemeal, uncoordinated and undirected decisions should not continue. There has been ample time, and there still is time to make this decision.

3. Concerning the meeting of residential and industrial requirements

The Gentry-Waipio land is in no way unique. Residential requirements and industrial requirements may be met here or elsewhere. The fact that there is a successful and growing industrial area at Barbers Point, far removed from the agricultural land of Central Oahu, with potential access to a deep water port, and with extensive excess capacity is a sufficient basis to reject proposals for new industrial land in Central Oahu.

Housing needs may be met elsewhere in Ewa and Central Oahu, certainly at least to the same level in terms of prices, living space and type of units. In fact, there is reason to believe the minimum price can be substantially reduced below that set forth in the Council's proposal.

The key point is that the community is trading off valuable open space and making a decision concerning the direction of future growth. The alternatives need to be examined and we should be seeking to assure that all households benefit from this decision and that the costs of future urbanization are minimized.

4. Concerning the inadequacy of the supporting documentation

The alternatives evaluated in the supporting documentation for the urbanization of this land are inadequate. The information contained in the report does not support the conclusions it contains, and there is considerable misinformation or misuse of information.

In general, time limitations prevented a thorough review of the supporting information but a number of major issues are unresolved. For example, the supporting information relies on major transportation improvements to state facilities which, as far as can be determined at this time, are not now planned nor have they been formally evaluated by the State.

2. Recommendations

Therefore, my recommendation is that the Planning Commission return this proposal to the City Council with the strong recommendation that:

1. Council take no further action of this nature until a policy to guide growth has been adopted;
2. To act on the alternatives set forth in the proposed Revised General Plan as soon as possible; and
3. Be advised that the proposal and supporting documents and analysis do not constitute an adequate basis to amend the General Plan under the guiding standards set forth by the Supreme Court in "Dalton."

Evaluation of the Council's Proposal

This evaluation of Council's proposal is organized into three sections. First, the objectives of the community are considered and residential and industrial needs examined. Second, the alternatives available to the community to meet residential and industrial needs are identified. Third, these alternatives are then evaluated.

Objectives

Housing and industrial needs are among the important objectives the community seeks to attain and they have a prominent place in the current General Plan. The proposal for the revised General Plan suggests eight categories of needs to be met, or objectives to be attained. These are population, housing, economic activity, transportation, natural environment, health and education, public safety, and culture and recreation.

All of the objectives in these categories are desirable but not always equally attainable. Objectives related to housing may be attained by giving up natural open space and thereby hindering the attainment of an objective to maintain or preserve our natural environment. If this open space was usable for agricultural activities, it may also erode an objective to retain agricultural land.

Because the attainment of one objective may affect the community's ability to meet other desirable objectives, it is important to identify the alternative ways in which each objective can be met.

Thus, if the community desires to meet objectives for housing, then the impact of the alternative ways in which housing needs can be met must be identified and evaluated. That evaluation should determine how other related objectives are affected.

Housing objectives are quite important because the alternatives for achieving them are closely related to many other objectives

such as those pertaining to the natural environment, transportation, the location of economic activity, and culture and recreation.

In fact, housing is vital because on Oahu it has been and remains the prime determinant of the pattern of urban development. The conflict between open space and urban development is primarily generated by residential development. Such development is dominant in the determination of facility costs.

The evaluation of alternative ways of meeting this objective is essential since it enables the community to make explicit the costs of a given course of action.

Costs may be measured in part by considering what is being given up to meet housing needs (e.g., the trade-off of open space for housing) or what is the cost of not taking that course of action (i.e., the cost of not using open space for housing is the higher prices resulting from a more limited supply of selected types of housing). Another important cost is the impact of meeting housing needs in public facility systems and the public cost of improving those systems to maintain an acceptable level of services.

It is clear then, if the community wishes to meet housing needs, it must:

1. define the alternative courses of action to be taken in meeting these needs;
2. evaluate these alternatives in terms of their effect on other community objectives, in terms of their costs, and in terms of their effectiveness in attaining housing objectives, or meeting housing needs.

The same statements, of course, apply to other needs, as industrial needs.

Requirements

Before proceeding with the identification of alternatives to meet housing and industrial needs, it is desirable to first briefly examine the magnitude and nature of these needs. Since this has been done in other reports,^{1/} only a brief summary will be made in this report.

Residential Requirement

On the basis of recent projections the population of Honolulu is expected to reach a level of 965,000 by 1995.^{2/} On this basis,

^{1/}Housing Program Analysis, Technical Report #2, and Land Use Alternatives, Technical Report #3, Department of General Planning, City and County of Honolulu. March 1974.

^{2/}Economic Base, Hawaii Water Resources Regional Study, Honolulu, Hawaii. April 1975.

there is a need for 125,000 new dwelling units over the next twenty years, as shown in Table 1.

TABLE 1
INCREASE IN POPULATION AND DWELLING UNITS

<u>years</u>	<u>population</u>	<u>dwelling units</u>
1975-85	117,200	54,600
1985-95	146,300	69,800

The absolute number of units is only one aspect of need to be met. A recent study of housing needs estimated that nearly one-half of Oahu households could not afford the lowest priced units to be constructed in 1975.^{1/} Recent price escalation has no doubt increased the gap between ability to pay for housing and the cost of housing.

This estimate was arrived at by attempting to allocate households of different sizes and incomes into dwelling units providing a minimum amount of livable space at a monthly payment representing no more than 25 percent of the household's income. This was not possible.

Failure to match households with affordable units means that households must adjust to the situation by accepting less living space and devoting more income to housing, by having more members of the household work or allocating a larger share of its income to housing. Some households may also share living space.

The 125,000 dwelling units estimated to meet future needs may be contrasted with an existing planned capacity in excess of 240,000^{2/} new dwelling units. This computed capacity is well below the theoretical capacity permitted by zoning if all structures were built to the maximum permitted density.^{3/}

In general, there is ample capacity to meet the need for high density housing but major tracts of land planned for low density housing (up to 14 units per acre) are becoming exhausted.

^{1/} Housing Program Analysis. p. 42.

^{2/} From 1970.

^{3/} This estimate is based in part on experience derived from the construction of new structures.

Industrial Requirement

Based on recent employment estimates,^{1/} total industrial needs for land are expected to be approximately 759 acres for 1975 to 1995. Land which is currently planned and zoned for industrial use, which is either vacant or underutilized, amounts to 771 acres (734 of which is vacant and 37 is underutilized). About 67% of this available land, or 518 acres, is located at the Campbell Industrial Park. In addition to this acreage, 1,018 acres are planned for industrial use and available for industrial zoning to meet future needs.

Two factors are beginning to impact on the location of industry. The first is the growth of population in Leeward Oahu (Pearl City area), creating significant markets in that area. This trend is making the location of office space and economic activities economically feasible in Leeward Oahu.

The Leeward movement of population has been coupled with the second fact of the disappearance of available vacant land for industrial use and rising costs of locations in Central Honolulu. As a result, manufacturing and warehousing firms are finding the Campbell Industrial Park (or other locations in Leeward Oahu) increasingly attractive.

In general, there is insufficient land to meet the needs of industry in Central Honolulu, but there is an ample supply of planned industrial land in Leeward Oahu, and specifically in the Ewa area. Central Oahu has no discernible advantages over Ewa for the location of new industry.

Alternatives

The key issue to address is what are the alternative courses of action which should be considered. There are two basic ways of doing this.

1. incremental approach

In administering the General Plan adopted in 1964, it has been traditional to use the incremental approach. In this approach each landowner or developer submits a request to amend the city's General Plan whenever he feels ready to proceed with development. Such requests are not related to each other either in location or in time.

The result of using this approach is that each proposal is examined in isolation of all others so that it is impossible to evaluate their cumulative impact. Their impact on community objectives and on public costs cannot be determined. The direction in which these individual decisions are taking the community cannot be discerned.

^{1/} Employment Base, Hawaii Water Resources Regional Study, Honolulu, Hawaii. April 1975.

Since each proposal is in itself relatively small, the typical argument for the development is that its impact is not significant. Not much open space is lost and there is limited effect on public costs for facilities and services.

But in reality this is an insidious approach. While the impact of each individual development may be limited, their cumulative impact is not. It is very significant indeed.

It is this approach to making decisions regarding urban development which has been rejected in the program to revise the City's General Plan. In revising the General Plan the analysis avoided the short-sighted focus on where the next 4,300 units are put in place. Rather, the focus was on the cumulative impact of the direction of urban development over, roughly, the next twenty years. It is only by evaluating the total impact of this development that a rational decision can be made on how to meet housing needs.

2. Alternatives Proposed by Council

The Council offers no supporting information for its proposed amendment to the General Plan. However, since the Council has favorably responded to the request of Thomas Gentry, it apparently has accepted the adequacy of supporting information offered by Mr. Gentry. That information is contained in a document titled General Plan Amendment, City and County of Honolulu.

The alternatives presented in that report include (1) "downtown Honolulu and Waikiki," (2) the "fringe" (examples given are Hawaii Kai, Enchanted Lake, Newtown), and (3) the "Ewa census district." In these districts 11 sites were identified as possible "alternatives available to meet the problem of residential need."

But the statement of alternatives does not go beyond a simple identification of the sites and some of their locational characteristics. There is no attempt to determine over time to what extent residential needs must be met in these areas and whether they are mutually exclusive alternatives. That is, whether meeting residential needs on a site sufficiently large as in Ewa, excludes the need for other sites to be developed.

The selection of sites is not complete since there are potential sites excluded from consideration, such as the Bishop Estate land in Central Oahu which is also adjacent to the existing urban area. However, the primary and most basic issue is that the alternatives contained in the report do not represent an appropriate assessment of the alternative courses of action available to the community. The alternatives are carefully contrived to avoid any examination of the full public costs of development and the direction in which the series of incremental decisions is taking the community.

3. An adequate set of alternatives

What is required is a definition of the rationale and feasible courses of action available to the community to meet its future urban needs. On that basis the community may evaluate those alternatives and select a preferred course of action. These alternatives should include individual incremental changes, such as is being proposed by the City Council, but consider the cumulative impact of these changes.

An exhaustive study of the alternative courses of action available to the community to meet urban requirements has been made.^{1/} These alternatives and their relationship to the Council's proposal for the Gentry land in Waipio are summarized below.

<u>Islandwide Alternatives</u>	<u>Council's Proposal for Gentry-Waipio</u>
1. Intensive development Meet all future needs within the present urban boundary of the city General Plan	not permitted
2. Directed Growth Some urban needs can be met on land presently planned for agricultural use. But the alternative provides for a relatively compact form of development. Directed Growth requires the bulk of urban activity be directed to either one of the two following areas (but not both):	
a. Central Honolulu- Pearl City-Ewa	not permitted
b. Central Honolulu- Pearl City-Central Oahu	permitted.

^{1/}These alternatives are found in An Evaluation of Alternative Residential Policies, Department of General Planning, City and County of Honolulu. March 1974. pp. 13-58.

3. Private Sector Initiative

Under this alternative the city meets urban needs on the basis of proposals submitted by the private sector.^{1/} These proposals are then examined and selected for implementation in whole or in part. This aggregation of proposals represents a "shopping list" rather than a plan arrived at through an orderly planning process. It involves development in both Ewa and Central Oahu and elsewhere on Oahu. permitted

4. Moderate Expansion

This alternative is primarily designed to produce low and moderately priced housing without any major departure from the alternative of intensive development. may be permitted with strengthened housing program

These four broad alternatives identify all of the major feasible courses of action the city may take in meeting urban requirements. The Council's proposal is included in these alternatives and their evaluation. Given this fact, it is appropriate to consider this proposal within the context of these alternatives rather than in isolation. Failure to do so will set a precedent which preempts the community's choice of the proper course of action. The development involves 510 acres with an estimated future population of 14,600 people.

An argument that it is only 510 acres and does not involve a major "new town" is not sufficient to permit it to be considered in isolation. This is a specious argument since it carries with it the erroneous implication that this is all the development that will occur. This ignores the fact that it is only one of many incremental decisions.

The fact that it is not a "new town" is an equally inadequate basis for the proposal being considered in isolation. A major decision

^{1/}Under Directed Growth, development generally occurs where the private sector is proposing development but has added characteristics relating to the function of each area, densities, and implications for the timing of development. In general, government gives more direction and takes more initiative in guiding development than under the alternative Private Sector Initiative.

about the direction of growth such as a "new town" implies it is always a more difficult decision than a decision which is large enough to meet a substantial need but not large enough to, by itself, carry with it the weight of determining the direction of growth. But this argument, as shown above, is fallacious.

Evaluation of alternatives

Since the alternatives provided in the Council's proposal are not adequate, their evaluation would not be a useful basis for a decision. Therefore, the evaluation will concentrate on the broader adequate set of alternatives which include the proposal by Council. This evaluation will be only summarized since it is more fully stated elsewhere.^{1/} Where appropriate, specific comments are directed at Council's proposal for Gentry-Waipio.

Population

By preventing any further expansion of the urban boundary and thereby restricting the supply of land relative to demand, Intensive Development may have the effect of dampening population growth by making it more expensive for residents to live on Oahu and more expensive for non-residents to purchase Oahu goods and services.

The alternative of Directed Growth anticipates future population growth and directs development to meet urban requirements. It does not provide the same potential for impacting on population growth as Intensive Development, but neither does it necessarily encourage growth.

Housing Analysis^{2/}

There is adequate planned capacity to meet residential requirements within the area presently planned for residential use. Thus, enough land is planned for residential needs to provide dwelling units for future households through a population level of 1.1 to 1.3 million.^{3/}

However, providing sufficient land for an absolute number of dwelling units to match the number of households is an inadequate basis for meeting housing needs. The real problem is to match

^{1/}An Evaluation of Alternative Residential Policies.

^{2/}For a complete discussion, see Housing Program Analysis, Technical Report No. 2, Department of General Planning, City and County of Honolulu. March 1974.

^{3/}Land Use Alternatives, Technical Report.

the relationship between the location and type of planned capacity which will produce the type of units that households can afford.

In prior studies housing need is demonstrated by the estimation that the lowest-priced units which could be delivered by the private sector in 1975 will meet the needs of 49 percent of households. [Note these estimates were made in early 1974 prior to the escalation of costs and prices in late 1974 and early 1975. As a result the percentage of needs met will likely be less than the estimate of 49 percent.]

These production-oriented housing strategies were developed:

- a. Directed private development. This strategy is designed to provide more minimum cost units. This strategy is a negotiating tool in which government requires a specified portion of units in a development to be delivered at their "minimum cost" in return for the use of agricultural land or higher density zoning. This includes, for example, minimum overhead, profits, and land costs (no land premium in the case of leased land).

This strategy is based upon the premise that housing is a public need and government's decision to use land for residential purposes must be directly related to this need.

- b. Assisted private development. This second strategy, which may be used in combination with the first, is designed to reduce development costs by providing government assistance to private developers.
- c. Public development. In this strategy government acts as the developer.

To be effective these production-oriented strategies must be accompanied by measures to assure the delivery of units to intended target groups and prevent purchases for speculation.

Impact of Strategies on Housing Needs

Directed Private Development, without financial assistance by government, can reach 52 percent of 3-4 person households on fee simple land, but penetration increases to 63 percent of these households where housing cost does not reflect an increase in land value which results from a more intensive use of land (e.g., urban use of agricultural land, high density use of land used for low density development). Assisted Private Development reaches an additional 4 to 6 percent of households.

Public development reaches as many as 79 percent of households on "free" public land.

The effectiveness of these strategies in meeting housing needs when applied to geographical areas has extremely important implications for decisions affecting the use of land.

For example, when the Directed Private Development is applied to agricultural land, between 56 to 61 percent of households can qualify for housing units. But only between 48 and 55 percent of the same households qualify for units under this strategy when it is applied in the fringe area (e.g., Pearl City, Kaneohe-Kailua) and only 31 percent can qualify when it is applied in Central Honolulu.

This means that agricultural land has the greatest potential for meeting housing needs. The fringe area has the next largest potential, but unfortunately the few remaining large tracts of vacant land are already under development. Central Honolulu has the least potential for meeting housing needs without resorting to "free land."

Implications for Council's Proposal

The implication is that if the community is concerned with meeting the need for moderately priced housing, the utilization of agricultural land has the greatest potential provided there are adequate controls on the price of that land and other elements of housing cost.

However, this is not of itself a sufficient basis to even consider Council's proposal since these conditions apply to other areas throughout Central Oahu, Ewa, and North Oahu. There is no evidence of limitations on land prices or other costs which would give any indication that the developer involved is in anyway providing minimum cost units in accordance with the concept set forth above, nor is there any evidence to suggest the developer will keep within the price range set forth in the back-up report to Council's proposal. Finally, the information provided does not permit any assessment of the extent to which the needs of moderate and low income households will be met. For the most part, the minimum priced unit is \$45,000 which is above the minimum price needed for the key target group of households with incomes below \$18,000 to \$20,000 without excessive downpayments.

The report contains the hint of meeting such needs when low-rise condominiums are identified in the price range of \$24,000-\$60,000. But it is unknown whether the priced units are significant in number and will meet requirements of a range of household sizes.

Cost of Public Facilities^{1/}

The cost of providing new facilities to meet the demand for services was examined for each alternative as part of the analysis for the revised General Plan. Costs were estimated for the transportation system, water supply and distribution system, the sewerage disposal system, and the system of elementary and secondary schools.

This information indicates it is incorrect to assume that restricting urban growth to within the present urban boundary means that additional facility costs will be minimized. This is true only for special cases. The most viable case being one in which growth is directed into Central Honolulu until population reaches about the level of one million. After that, this alternative of Intensive Development becomes increasingly expensive relative to other alternatives as pressures for development within the urban boundary spread to Windward and rural Oahu.

Directed Growth becomes relatively less expensive than Intensive Development after a population of one million is reached. It provides the opportunity for organizing urban growth in a manner that places people and jobs in greater proximity and the opportunity to effectively minimize pressures for urban development in Windward and rural Oahu.

While Directed Growth becomes relatively less expensive than Intensive Development, there is no major cost difference between Directed Growth and the alternative of Private Sector Initiative. However, this considers only the long-run implications and not the immediate short-range impacts where the timing of improvements and new development is so important.

Implications for Council's Proposal

The traffic impact analysis supporting Council's proposal leaves major issues unresolved. These issues are sufficient to place the implementation of this proposal in jeopardy.

The supporting analysis relies on an additional interchange for H-2 to handle traffic from the development. However, as far as can be determined at this time, such an interchange is not a part of state plans and has not been formally evaluated by the State Department of Transportation.

^{1/}For a complete discussion, see Transportation Analysis, Technical Report #4, Education Facility Analysis, Technical Report #5, Analysis of Water and Wastewater Systems, Technical Report #6, and An Evaluation of Alternative Residential Policies.

Similarly, the analysis also relies on proposed access points which, as far as can be determined, have not been formally reviewed by the State. The signalization of a grade separated highway will likely require the approval of the Federal Highway Administration. In addition, the source of funding for this improvement is unknown.

Transportation Alternatives

The cost of providing alternative transportation systems was also examined. The conclusion drawn was that an intensive transit policy is preferred over a policy which provides transportation services primarily in the form of additional highways. The reasons for this preference are less air pollution, land conservation, increased safety, and less energy consumption.

Agricultural Land^{1/}

Intensive Development does not utilize land outside of the present urban boundary. The primary conflict between agriculture and urban activity would occur along the coastal areas (e.g., Windward Oahu and Waianae) where small tracts of land are being used for diversified agriculture.

Directed Growth utilizes land in either Ewa or Central Oahu (but not both). This alternative, as proposed, permits the utilization of up to 6,000 additional acres, if and when required, to support a population of up to one million. The alternative of Private Sector Initiative is expected over time to utilize substantially more land since these proposals are generally of a lower density.

The Directed Growth alternative permits the maintenance of a healthy agriculture industry and would provide sufficient land to meet most of the goals of the State Department of Agriculture but not full attainment of self-sufficiency goals.

Implication for Council's Proposal

The Directed Growth alternative may include either Ewa or Central Oahu (but not both). The selection between urbanization in either of these areas has significant implications for Council's proposal.

It is estimated that there is a total of 9,000 acres planned for agricultural use and available for urban development in the Ewa area. Approximately 38 percent of this land is categorized as class A land and 28 percent class B land. The remaining land is either in urban use or not suitable for agricultural use.

^{1/}For a more complete discussion, see Agriculture, Recreation and Residential Alternatives, Technical Report #9, and An Evaluation of Alternative Residential Policies.

The soils in the class B land within the Ewa area are difficult to work since they are very plastic and sticky when wet and very hard when dry. They are moderately well to imperfectly drained and may restrict growth of crops which require good drainage. If not irrigated, these soils have a class D capability and are poorly suited for cultivation.^{1/}

In Central Oahu, the soils lying between the H-2 Freeway and the Koolau mountains and extending from Wahiawa to Pearl City amount to about 5,000 acres. This is less than half the amount included in private sector proposals for this area since only cultivated land is being considered. The remaining land is typically characterized by either steep slopes or deep ravines and they are marginal for both agricultural and urban use. About 37 percent of this land is class A agricultural land, 46 percent is class B, and the remaining 17 percent is class C.

The class B soils in Central Oahu lie near Wahiawa and Mililani Town. Though the soils have a master rating of class B, they have a class A rating for pineapple production, which means a very good suitability for pineapple. These soils are deep, well drained, easily worked and they have a slight to strong acid reaction.

Only about 1,300 acres are in the B classification. Thus, in order to meet future urban requirements, either a significant amount of adjacent class A land must be used or urban development must be extended, as proposed by the private sector, into the Haleiwa-Wahiawa area.^{2/}

But the potential magnitude of growth, if the primary thrust is directed in this area, would mean the utilization of adjacent class A land.

The land being proposed by Council for conversion to urban use has a classification which is comparable to the soils in the surrounding area which are currently in pineapple. The specific Gentry site was in productive pineapple until only a few years

^{1/}See An Evaluation of Alternative Residential Policies. pp. 179-180.

^{2/}The Castle and Cooke proposal calls for about 4,000 acres of agricultural land to be converted to urban use, about 75 percent of which is class B land. The proposal is essentially the Private Sector Initiative alternative with priority given to the development of Castle and Cooke holdings. See: Oahu Land Study, prepared by Belt, Collins and Associates, Ltd., November 1973.

ago when it was purchased under the speculation that the land could be placed in urban use. Were it not for this action, that land would still be in productive agriculture. This makes all issues raised by the Council's back-up information regarding the inability to utilize this land for agricultural crops irrelevant.

Approximately 97 percent of this area is classified as classes I and II by the U.S. Department of Agriculture.^{1/} The focus of this classification is on soil erosion.

Based on this and other data, the Land Study Bureau classified land on the basis of its productivity. The Council's back-up information reports that the bulk of this land is classified as having an overall E rating. But this is only if the land is not irrigated. If irrigated, this site has an overall A rating for agricultural use and is prime agricultural land.^{2/} The soil classes I and II roughly corresponds to a productivity rating of A and B.

Thus, the land on this site carries a productivity rating of A for the production of pineapple, vegetables, sugar cane, forage, grazing, and orchards. The State Department of Agriculture reports it had excellent results from a test crop of alfalfa on similar land.

Information in the report indicates that the "annual climate is just too hot" to grow most crops on the site.^{3/} But the report also indicates that Waimanalo is a significant location "for small farmers to grow a number of diversified agricultural crops."^{4/} Yet, the U.S. Weather Bureau reports that the maximum average daily temperature in Central Oahu is approximately the same as exists in

^{1/}The site contains 506 acres in classes I, II, and III, with 42 acres in class I, and 453 acres in class II.

^{2/}At the time of the survey by Land Study Bureau in 1972, this site was not under irrigation and hence received a classification of E. But in its earlier classification the site was under irrigation and received an A rating. Discussion with soil specialists indicates that the A rating, with irrigation, is still appropriate.

^{3/}General Plan amendment, Gentry-Waipio. p. 13.

^{4/}Ibid. p. 93.

Waimanalo.^{1/} This simply indicates the poor quality of the report which makes sweeping comparisons on limited information which biases and distorts the evaluation.

The predominant factor working against the use of this land for agricultural purposes is not the productivity of the land but the economics of land speculation. This is vividly demonstrated by the information that "The overwhelming factor [against the agricultural use of this land], however, is the economics of agriculture on this property. The current taxes are about \$200 per usable acre per year, and while this tax rate might be lowered by dedicating the land to agriculture, the carrying cost of the investment in the property is in excess of \$2,000 per acre per year; this clearly precludes any legal agricultural use of the property."^{2/}

Recreation^{3/}

As may be expected, under existing standards, there is a deficiency of recreation facilities in the form of parks. As a general observation, the Intensive Development alternative will most severely aggravate the problem of providing open space within the urban area. The requirements grow most rapidly in Central Honolulu where residential, industrial, and other urban activities are competing for the use of land.

Water Supply^{4/}

The consumption of water did not differ significantly among the alternatives considered but the supply of water could act as a constraint on growth. Depending on the consumption of fresh water by the agricultural industry and technology, the fresh water supply is estimated to be sufficient to meet the needs of a population of only one million or may be adequate for a population of two million.

^{1/} For the period from 1970 to 1972 the maximum average daily temperature for Waimanalo (at the University Farm) was 81.3 degrees, and for Central Oahu (near Mililani Town) 81.7 degrees; the minimum average daily temperature for the same period was 69.5 degrees for Waimanalo and 63.4 degrees for Central Oahu.

^{2/} Letter from O. A. Lorez, Chairman, Department of Vegetable Crops, University of California, to Mr. Thomas H. Gentry.

^{3/} For a more complete discussion, see Agriculture, Recreation and Residential Alternatives, Technical Report #9, and An Evaluation of Alternative Residential Policies, p. 156f.

^{4/} Analysis of Water and Wastewater Systems, pp. 47-51.

Limiting development on land within the 50" rainfall contour, which is considered to be the area important to the recharge of the fresh water supply, has been a proposed criterion for controlling the location of urban development. The general relevance of this criterion was not disputed, but the proposed urban development within the 50" rainfall contour (which occurred in the alternative of Private Sector Initiative) was found to have a limited impact on the supply of fresh water.

Rural and Urban Open Space^{1/}

The alternatives of Directed Growth and Private Sector Initiative utilize agricultural land while Intensive Development does not. However, the assessment of environmental issues is made complex by the fact that Intensive Development requires a more intensive utilization of land within the present urban boundary. Much of this remaining vacant land is less suitable, or marginal, for urban development. Bringing these smaller marginal parcels under development pressure is generally associated with environmental problems.

Directed Growth tends to provide more flexibility in decisions regarding the utilization of these marginal parcels. Directed Growth is specifically designed to minimize intensive development in Windward and rural Oahu where environmental problems stemming from the use of these parcels are regarded by the community as being particularly important.

^{1/}An Evaluation of Alternative Residential Policies. p. 169.

ENVIRONMENTAL
COMMUNICATIONS
INC.

October 27, 1976

J. RODRIGUEZ,
PRESIDENT

Mr. Robert R. Way
Chief Planning Officer
Department of General Planning
City & County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Way:

SUBJECT: Environmental Assessment/Determination for the
Proposed Gentry-Waipio Project, Waipio, Oahu

Thank you for your letter of September 20, 1976 expressing your position on the above indicated project. In view of the concerns expressed in your letter and also the comments contained in the Mayor's veto message to the City Council, dated July 30, 1976, we believe that most, if not all, of the concerns expressed in the Mayor's veto message were addressed and considered by responsible government agencies during the General Plan Amendment recently adopted by the City Council.

We are also proceeding under the provisions of the City Council's Ordinance Nos. 4619 and 4620 which permit the zoning application process to move ahead. It is understood that the review from your office will cover several, if not all, of the points discussed previously by you and your staff; hopefully, we will be able to respond adequately to these points and more particularly, we will fulfill the requirements imposed on this project by those government agencies who have specific review and approval control authority.

Thank you again for your letter and we look forward to your departmental review.

Very truly yours,



F. J. Rodriguez

cc: Norman Dyer, A.I.A., and Associates

XI-59

AMERICAN  LUNG ASSOCIATION *of Hawaii*

September 16, 1976

Mr. F. J. Rodriquez, President
Environmental Communications, Inc.
P. O. Box 536
Honolulu, Hawaii 96809

Dear Mr. Rodriquez:

Subject: Preparation of an Environmental Impact Statement
for the Proposed Waipio-Gentry Project, Oahu

Thank you for your letter (September 3, 1976) seeking our comments during the consultation phase of EIS preparation. We have reviewed the EIS Preparation Notice for the subject project and have the following suggestions regarding air quality impact analysis.

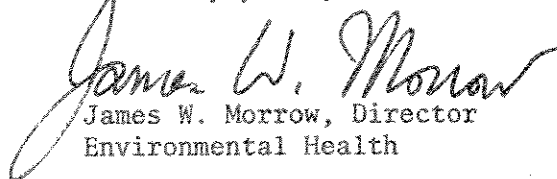
Since the principal long-term impact of the proposed project on air quality will be due to increased traffic within the project itself and on the access roads leading to it, we recommend that you first employ a screening procedure such as the one described in the following EPA publication. This will enable you to make an initial determination as to whether CO concentrations will approach or exceed state or national air quality standards.

Guidelines for Air Quality Maintenance Planning and
Analysis, Volume 9: Evaluating Indirect Sources.
EPA-450/4-75-001 (January, 1975).

If the rough screening method indicates possible violations, then more refined analysis would be desirable, and this same publication provides suitable methodology in Appendices A and H. If the detailed analysis still indicates possible violations then revision of project design may be the only recourse.

Considering the magnitude of the proposed housing development we strongly recommend that a thorough analysis of traffic and air quality impact be conducted. If we can be of any further assistance in this matter, please do not hesitate to call on us.

Sincerely yours,


James W. Morrow, Director
Environmental Health

JWM:ct


cc: Dr. Richard E. Marland
Mr. John Whalen

9-17-76

XI-60

Is Fight TB, Asthma, Emphysema, Air Pollution

ENVIRONMENTAL
COMMUNICATIONS
INC.


F. J. RODRIGUEZ,
PRESIDENT

October 27, 1976

Mr. James W. Morrow
Director, Environmental Health
American Lung Association of Hawaii
245 North Kukui Street
Honolulu, Hawaii 96817

Dear Mr. Morrow:

SUBJECT: Environmental Assessment/Determination for the
Proposed Gentry-Waipio Project, Waipio, Oahu

We have received your letter of September 16, 1976 relating to the above indicated document. We requested the Department of Health's assistance in providing us with a methodology which would be acceptable in estimating the impact of the project on air quality. This letter of request to the Department of Health, dated September 20, 1976, is attached for your information. On October 21st, we received a letter from the Department of Health providing information on the type of methodology and various aspects which we should include in our assessment of impact on air quality. Presently, we are in the process of preparing this data and will include the findings of this study in the Environmental Impact Statement.

Thank you for your comments.

Very truly yours,


F. J. Rodriguez

Enclosures

cc: Norman Dyer, A.I.A., and Associates

XI-61

UNIVERSITY OF HAWAII

Water Resources Research Center

Office of the Director

September 15, 1976

Mr. F.J. Rodriguez, President
Environmental Communications, Inc.
225 Queen Street
P.O. Box 536
Honolulu, Hawaii 96809

SUBJECT: Environmental Assessment for Proposed Gentry-Waipio
Project, Waipio, Oahu, September 3, 1976

Dear Mr. Rodriguez:

On page 7 (3. Alternatives), it is stated that: "The property has already been removed from agricultural use by the previous owner. Agricultural experts have concluded that it is next to impossible to return the land to a profitable venture in farming. Agricultural use of the 510 acres is not economically feasible. Because of climatic conditions, it is not agronomically feasible to grow most of the crops listed in the State's policy of agricultural diversification."

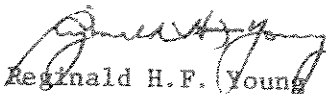
- (1) This quotation must be documented: (i) who are the agricultural experts being quoted; (ii) what are their qualifications; (iii) the entire quotation needs documentation.
- (2) The subject property is probably suitable for pineapple, because that was what it had been used for before, and pineapple is presently being grown across Kamehameha Highway from the subject. Therefore, the applicant should address the possibility or impossibility of growing pineapples. This is in addition to the diversified crops list discussed below.
- (3) If it is not agronomically feasible to grow most of the diversified crops on the State's list, the ones that can be grown should be presented and discussed.
- (4) The availability of water will determine the feasibility of the subject property for either urbanization or agricultural use. Its effect on urbanization will be the development of the property as proposed. On the other hand, what will be the effect of using this same 2.5 mgd of water for various agricultural crops, pine and sugar as well as diversified crops?

XI-62

Mr. F.J. Rodriguez, President
Environmental Communications, Inc.
September 15, 1976
Page 2

The proposed EIS should include discussion of the alternatives of (1) proposing a new high school to handle the estimated population of 11,500, (2) the present capacity of adjacent high schools of Waipahu and Mililani Town and the impact of increased loading from the proposed project, and (3) the probable increased load on Leeward Community College.

Sincerely,


Reginald H. F. Young
Assistant Director, WRRC

ETM/HG:jtn
cc: E.T. Murabayashi
H. Gee

J. RODRIGUEZ,
PRESIDENT

ENVIRONMENTAL
COMMUNICATIONS
INC.

October 27, 1976

Mr. Reginald H. F. Young
Assistant Director
Water Resources Research Center
2540 Dole Street
Honolulu, Hawaii 96822

Dear Mr. Young:

SUBJECT: Environmental Assessment/Determination for the
Proposed Gentry-Waipio Project, Waipio, Oahu

We have received your September 15, 1976 response to the above indicated document. Your concerns regarding the agricultural use of the project site is a frequent issue. For this reason, an extensive agricultural assessment study was prepared by George Myers and Oscar A. Lorenz. A copy of the Agricultural Assessment prepared by Myers and Lorenz is attached for your review and further information. We hope that your concerns (Items 2 & 3) are addressed adequately by this document. The quotation mentioned (Item 1) is from the Agricultural Assessment document and will be cited appropriately in the Environmental Impact Statement document.

You will find that the Agricultural Assessment study discusses the availability of water. The cost of developing the water facilities needed as well as the water itself, was found to be prohibitive and thus, in the opinion of the agricultural specialist, economically infeasible.

Your last paragraph also pointed out the need for an EIS to include discussion relating to a new high school, present capacity of adjacent high schools and possible increase load on Leeward Community College. The developer, through his planner, Norman Dyer, has coordinated the project plans with the Department of Education. For your information, the Department of Education's letter of April 22, 1976 is included. Presently, DOE finds no new high school will be needed, nor would the present capacities of the adjacent high schools of Waipahu and Mililani Town be adversely affected. At this time, no analysis has been conducted on the possible increase load on Leeward Community College. As per your request, however, a review of this educational aspect will be included in the EIS.

Thank you for your response and we hope that we have provided satisfactory comments to your response.

Very truly yours,


F. J. Rodriguez

cc: Norman Dyer, A.I.A., and Associates

Enclosures

XI-64

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII



CHRISTOPHER COBB, CHAIRMAN
BOARD OF LAND & NATURAL RESOURCES

EDGAR A. HAMASU
DEPUTY TO THE CHAIRMAN

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

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

September 15, 1976

Environmental Communications, Inc.
P. O. Box 536
Honolulu, Hawaii 96809

Attention: Mr. F. J. Rodriguez, President


Dear Mr. Rodriguez:

Thank you for your letter of September 3, 1976 regarding your consultation process prior to filing the Environmental Impact Statement for the proposed Gentry-Waipio Project at Waipio, Oahu.

We have no further comments to offer at this stage of the project.

Thank you for providing us the opportunity for review.

Very truly yours,

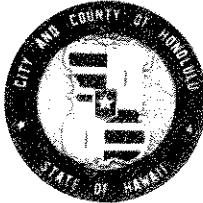

CHRISTOPHER COBB
Chairman of the Board

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813
PHONE 523-4181

FRANK F. FASI
MAYOR

RICHARD K. SHARPLESS
MANAGING DIRECTOR



WILLIAM BLACKFIELD
DIRECTOR

TYRONE T. KUSAO
DEPUTY DIRECTOR

September 15, 1976

Mr. F. J. Rodriguez
Environmental Communications, Inc.
P. O. Box 536
Honolulu, Hawaii 96809

Dear Mr. Rodriguez:

We have reviewed the Environmental Assessment/
Determination for the Gentry Project in Waipio.

We do not have any comments on the physical impacts. However, we suggest the social and economic impacts of the project be expanded in the EIS. Types of people to be served, sales price of units, rental range, use of Federal and State housing assistance programs, income, etc., should be discussed.

Thank you for the opportunity to review and comment on this matter.

Sincerely,

A handwritten signature in black ink, appearing to read "W. Blackfield".

WILLIAM BLACKFIELD
Director

ENVIRONMENTAL
COMMUNICATIONS
INC.

October 27, 1976

F. J. RODRIGUEZ,
PRESIDENT

Mr. William Blackfield
Director, Department of Housing
and Community Development
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Blackfield:

SUBJECT: Environmental Assessment/Determination for the
Proposed Gentry-Waipio Project, Waipio, Oahu

Thank you for your letter of September 15, 1976 regarding the above indicated document. You will be pleased to note that your specific areas of concern (the social and economic impacts of the project) will be covered in the Environmental Impact Statement. The anticipated types of people to be served, sales prices of the units, rental range, anticipated Federal and State housing programs will be discussed in the EIS.

We are providing for your information, the excerpt from the Gentry-Waipio Rezoning Application which covers the socioeconomic data developed by the applicant.

Thank you again for your expression of concern and your letter of September 15 will be incorporated in the EIS which will be available shortly.

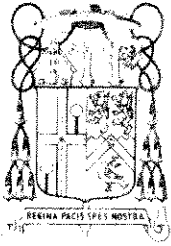
Very truly yours,


F. J. Rodriguez

Enclosure

cc: Norman Dyer, A.I.A., and Associates

XI-67



ROMAN CATHOLIC DIOCESE OF HONOLULU
CHANCERY OFFICE 1184 BISHOP STREET HONOLULU, HAWAII 96813

September 15, 1976

Mr. F. J. Rodriguez
Environmental Communications Inc.
P. O. Box 536
Honolulu, Hawaii 96809

Dear Mr. Rodriguez:

This will acknowledge receipt of your Environmental Impact Statement Preparation Notice.

We are presently reviewing the report and if necessary will make comments prior to October 6, 1976.

Sincerely yours,

Jon H. Miki
Business Manager

dk



EIS Preparation

University of Hawaii at Manoa

Environmental Center
Crawford 317 • 2550 Campus Road
Honolulu, Hawaii 96822
Telephone (808) 948-7361

Office of the Director

27 May 1976

Mr. F.J. Rodriguez
Environmental Communications, Inc
Harbor Square, Town Towers, 7-F
225 Queen Street
Honolulu, HI 96813

Dear Fred:

Kalakaua Commercial Complex

We have received your EIS preparation notice and environmental assessment on the above project in both the Environmental Center and HESL. Although we do not plan to review the matter at this stage, you should not assume, as indicated in the third paragraph of your letter of 21 May that we may not have significant comments on the EIS during the public review phase. The Environmental Center does not contribute to the EIS consultation process so as not to appear to be in competition with consulting firms such as yours.

Sincerely,

Doak C. Cox
Director

cc: HESL

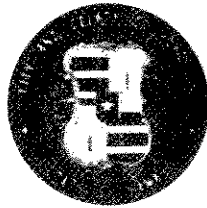
Dear Fred:

The above comments are pertinent in the case of Mr Gentry - Waipio project EIS (your letter of 3 Sept)

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR



KAZU HAYASHIDA
DIRECTOR AND CHIEF ENGINEER

ENV 76-354

September 10, 1976

Mr. Fred J. Rodriguez
Environmental Communications, Inc.
P. O. Box 536
Honolulu, Hawaii 96809

Dear Mr. Rodriguez:

Subject: Consultation Process For The Environmental
Impact Statement For The Proposed Gentry-
Waipio Project At Waipio, Oahu

The proposed project may have a major impact on our facilities and operation, including the collection, treatment and disposal of sewage, refuse collection, grading and erosion control, and storm drainage/flood control. These areas of our concern and responsibility should be thoroughly discussed in the EIS. Our main specific comments are as follows:

1. The proposed development is within the tributary areas of the proposed Honouliuli sewer system. As of this date, no component of the system has been completed although construction contracts for the ocean outfall sewer, the modification of the Waipahu pump station, and the preliminary treatment facility of the Honouliuli wastewater treatment plant (WWTP) have been awarded. The proposed treatment, disposal and interceptor sewer systems will be adequate to serve the proposed development; however, the anticipated completion date is early 1980, assuming that Federal, State and local funds will be or become available.
2. Existing sewer and sewage treatment facilities are inadequate to serve the proposed development, inasmuch as the proposed site was outside the tributary area of the Waipahu sewer system. Consequently, a major trunk sewer has to be constructed from the mauka boundary of the Crestview subdivision to the existing Waipahu pump station located on Depot Road. Although the preliminary

alignment has been selected, pipe capacity has not been resolved. The City and County presently has no plans to participate in the financing of the proposed trunk sewer, assuming eligibility can be established.

3. The cost of providing collection sewers, including a pump station, if any, within the proposed development, will be the responsibility of the developer. The utilization of a sewage pump station will have to be justified based on an economic study. A sewer master plan for the proposed development will have to be approved by the Division of Sewers.
4. Plans to expand the capacity of the Waipahu stabilization pond by the developer is still under review since operational costs and solid handling problems are still being evaluated by the developer's consultant. The City has no plans to expand the pond's capacity.
5. Storm runoff from the proposed development drains into the Waiawa and Waikele watersheds. Runoff discharging into Panakauahi Gulch will drain into Waiawa Stream. Waiawa Stream from the highway crossing to its mouth at Middle Loch, Pearl Harbor, is already subject to occasional flooding. The effects of the change of land use of the proposed site on the flooded areas of the stream should be analyzed and discussed in the EIS.
6. Runoff draining into the Waikele watershed will be served by the existing Kahu drainage channel. The method of conveying the runoff to the existing channel terminus at TH-1 should be discussed. The effects of the increasing runoff flows from the proposed development on the capacity of the existing channel should also be analyzed and discussed in the EIS. The drainage plan for the proposed project should be coordinated with the Drainage Section of the Division of Engineering.
7. Refuse collection will be provided from the Pearl City Corporation Yard. Refuse will be hauled to the Waipahu Incinerator for final disposal. Two additional refuse collection crews will be required to serve the completed development at an annual cost of \$103,000.
8. Grading, soil erosion, and sediment control measures that will be employed during and after construction should be discussed in the EIS.

Very truly yours,

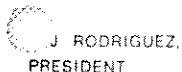

KAZU HAYASHIDA

Director and Chief Engineer

cc: Dept. of Land
Utilization
Divs. of Engineering, Refuse, Sewers

XI-71

SEP 15 1976



ENVIRONMENTAL
COMMUNICATIONS
INC.

November 4, 1976

Mr. Kazu Hayashida
Director & Chief Engineer
Department of Public Works
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Hayashida:

SUBJECT: Environmental Assessment/Determination for the
Proposed Gentry-Waipio Project, Waipio, Oahu

We would like to acknowledge the receipt of your letter of September 10, 1976 regarding the proposed proposed project. Based upon your comments, we would like to provide the following dispositions:

1. We will include this information in the Environmental Impact Statement.
2. Negotiations are proceeding between the applicant, through Park Engineering, the retained engineering consultant, to achieve compliance with the Department of Parks and Recreation and the Department of Public Works for the treatment and disposal of sewage effluent from approximately 1,600 units comprising the Phase I development (the interim sewage treatment proposal).

The plan is to provide onsite sewage treatment (minimum secondary treatment) and transport the effluent to holding ponds located at Waipio Peninsula. The effluent would then be pumped to the Makalena Golf Course for irrigation use.

The applicant would pay for all onsite improvements as well as the transmission lines and forced pump station. The ponds would be lined at the applicant's expense to mitigate potential impact on water quality in West Loch. The anticipated volume of treated effluent is 500,000 gpd.

3. We concur with your statements relating to the cost of the sewage facilities and the sewer master plan.
4. As stated above, the interim plans have been changed and interim utilization of the Waipahu Stabilization Pond is no longer being considered.
5. Based upon the Water Considerations Impact Report prepared by Michael J. Chun, Ph.D., and Gordon L. Dugan, Ph.D., no downstream areas are anticipated to be flooded because of the implementation of this project.

Mr. Kazu Hayashida
November 4, 1976
Page Two

6. The developer's retained engineers, William Hee and Associates, Inc., are presently preparing the drainage plans for the proposed project. We understand that their staff is coordinating this material with the drainage section of the Division of Engineering.
7. The information regarding refuse collection would be incorporated into the Environmental Impact Statement.
8. Measures to control soil erosion will be discussed in the Environmental Impact Statement.

Very truly yours,



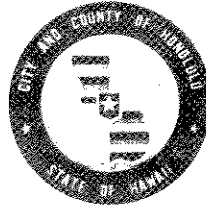
F. J. Rodriguez

cc: Norman Dyer, A.I.A., and Associates
Park Engineering, Inc.

FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU

1455 S. Beretania Street, Room 305
Honolulu, Hawaii 96814

FRANK F. FASI
MAYOR



B. K. AIU
CHIEF

September 9, 1976

Mr. F. J. Rodriguez, President
Environmental Communications, Inc.
P. O. Box 536
Honolulu, Hawaii 96809

Dear Mr. Rodriguez:

Subject: Environmental Impact Statement for
the Proposed Gentry-Waipio Project

This is to inform you that the proposed Gentry-Waipio Project will have an effect on our fire protection program.

A development of this magnitude requires that the nearest fire protection services should not be further than one and one-half (1½) mile from the nearest fire station. The nearest fire stations to this project are Mililani Fire Station and Pearl City Fire Station which are approximately three (3) miles away.

We have recommended that a site of 20,000 square feet be set aside for a new fire station to which it was agreed by the developer in their letter to the City Council dated August 4, 1976.

Very truly yours,

A handwritten signature in cursive script that reads 'Boniface K. Aiu'.

BONIFACE K. AIU
Fire Chief

BKA:SWGT:sb

ENVIRONMENTAL
COMMUNICATIONS
INC.

November 4, 1976

J. RODRIGUEZ,
PRESIDENT

Chief Boniface K. Aiu
Fire Department
City & County of Honolulu
1455 South Beretania Street
Honolulu, Hawaii 96814

Dear Chief Aiu:

SUBJECT: Environmental Assessment/Determination for the
Proposed Gentry-Waipio Project, Waipio, Oahu

Thank you for your letter of September 9, 1976 regarding the above
indicated document. We have reviewed your statements and will
incorporate this information and your letter into the Environmental
Impact Statement.

Very truly yours,



F. J. Rodriguez

cc: Norman Dyer, A.I.A., and Associates

X1-75

PROJECT OFFICES

WAIMEA OFFICE
P. O. BOX 125
MAUI, HAWAII 96743

KEAUKAHA OFFICE
P. O. BOX 833
HILO, HAWAII 96720



STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
P. O. BOX 1879
HONOLULU, HAWAII 96805

PROJECT OFFICES

MAUI OFFICE
P. O. BOX 22
KAHULUI, MAUI 96732

MOLOKAI OFFICE
P. O. BOX 198
HOOLEHUA, MOLOKAI 96729

KAUAI OFFICE
P. O. BOX 332
LIHUE, KAUAI 96766

September 9, 1976

Mr. Fred Rodriguez
Environmental Communications Inc.
P. O. Box 536
Honolulu, Hawaii 96809

Dear Mr. Rodriguez:

SUBJECT: Gentry-Waipio Project
TMK: 9-4-06: 08

In response to your letter dated September 3, 1976, this Department has no comments nor does it require any additional information regarding the development of the subject project.

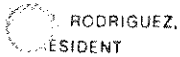
Thank you for the opportunity to comment.

Owau no meka haahaa,
(I am, humbly yours)

A handwritten signature in cursive script, appearing to read "Billie Beamer".

(MRS.) BILLIE BEAMER, CHAIRMAN

WB : mkn



ENVIRONMENTAL
COMMUNICATIONS
INC.

September 3, 1976

Department of Hawaiian Home Lands
P. O. Box 1879
Honolulu, Hawaii 96814

Subject: Consultation Process Prior to Filing the Environmental
Impact Statement for the Proposed Gentry-Waipio Project
in Waipio, Oahu

Gentlemen:

Enclosed is a copy of the Environmental Impact Statement Preparation Notice and a copy of the Environmental Assessment/Determination for the above-mentioned project. At this time we would like your comments on this initial document. We note that your agency has previously reviewed the proposed project as it pertains to your office's expertise and/or jurisdiction. For your convenient reference, we attach the most recent correspondence provided by your agency on this project. If you have any additional comments, we will incorporate these into the Environmental Impact Statement.

We request your comments prior to October 6, 1976. If you require further information, please do not hesitate to contact us (521-8391). If we are not contacted or receive comments prior to October 6, we will assume that your agency does not have any significant comments or foresees any conflicts with this proposed project at this time. We will then proceed to prepare and process the Environmental Impact Statement.

We appreciate your review and look forward to any comments you may provide.

Very truly yours,

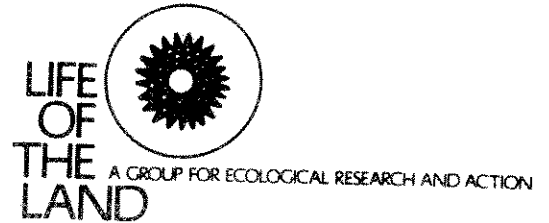

F. J. Rodriguez

FJR:rys

Enclosures

cc: Norm Dyer, A.I.A. and Associates
Department of Land Utilization
Environmental Quality Commission

XI-77



September 3, 1976

F. J. Rodriguez
President
Environmental Communications Inc.
225 Queen Street
P. O. Box 536
Honolulu, Hawaii 96809


Subject: Consultation Process Prior to Filing the
Environmental Impact Statement for the Pro-
posed Gentry-Waipio Project at Wapio, Oahu

Dear Mr. Rodriguez:

We have received your letter dated September 3, 1976,
regarding the above project.

In response to your willingness to provide "further
information" please send us copies of the letters mentioned
in Environmental Assessment/Determination footnotes as well
as copies of all of the studies listed on pages 7 & 8 of
the Assessment. The Assessment states on page 7 that the
studies were prepared by the applicant, so I am assuming
you have copies. Please have this requested information
in the mail by September 8, 1976, so that we can comply
with your October 6, 1976 deadline for submittal of
comments.

Very truly yours,


Walter P. Zulkoski
Law and Research Project

cc: Department of Land Utilization
Environmental Quality Commission

September 8, 1976

Mr. Walter P. Zulkoski
Law and Research Project
Life of the Land
404 Piikoi Street, Room 209
Honolulu, Hawaii 96814

Dear Mr. Zulkoski:

Subject: Your letter dated September 3, 1976 relating to the Consultation Process Prior to Filing the Environmental Impact Statement for the Proposed Gentry-Waipio Project at Waipio, Oahu

On this date we received your letter of September 3, 1976 requesting additional studies and letters for the above-mentioned project. As per your request, we are delivering these studies and letters as itemized in Attachment I of this letter.

As you may surmise, the extent and bulk of these materials is such that we are requesting that they be returned upon completion of your review and comments. We will be happy to pick up these copies on or before October 6, 1976. Please contact us at 521-8391.

During the formal Environmental Impact Statement Review Period, we will provide both the Office of Environmental Quality Control and the Environmental Quality Commission with a set of these reports and letters and thereafter these can be reviewed at their office at 550 Halekaiwila Street, Room 301. If, for some reason, they are unavailable at their office, please do not hesitate to contact us.

Very truly yours,

F. J. Rodriguez

Attachments

cc: Norm Lyer, A.I.A. and Associates
Department of Land Utilization
Environmental Quality Commission

ATTACHMENT I

EXHIBIT I. Correspondence and Comments from Various Governmental and Private Organizations Regarding Gentry-Waipio (As of August 17, 1976).

(For specific correspondence, please see attached.)

EXHIBIT II. Environmental Assessment for Gentry-Waipio, January 1976

EXHIBIT III. General Plan Amendment

EXHIBIT IV: General Plan Amendment - Appendices. Please note that the Appendices of this document includes the following studies:

1. "A Preliminary Survey of the Plant Materials in Panakauahi Gulch," prepared by Paul R. Weissich, A.S.L.A. (Landscape Architect). September, 1973.
2. "Agricultural Assessment." Prepared by George Myers and Oscar A. Lorenz. September, 1974.
3. "A Comparative Analysis of Agricultural Soils," prepared by George A. Myers and Oscar A. Lorenz. September, 1974.
4. "Master Plan List for Tree Program," prepared by Paul R. Weissich. April 27, 1975.
5. "Traffic Impact Statement for Gentry-Waipio Development," prepared by Henry Tuck Au, Consulting Engineer, September, 1975.
6. "Surface Water Runoff and Water Considerations for the Gentry-Waipio Project near Pearl Harbor, Oahu, Hawaii," prepared by Michael J. Chun, Ph.D. and Gordon L. Dugan, Ph.D., October 3, 1974.
7. "A Species List of the Birds, Insects and Mammals of Panakauahi Gulch, Oahu, Hawaii," prepared by Thomas F. Sourisseau. November, 1973.
8. "Survey of Demand & Availability of Industrial Space in Selected Areas of Oahu," prepared by Loren Peterson. December, 1973.

EXHIBIT V: Revised copy of Traffic Impact Statement, August 1, 1976.

XII. SUMMARY OF UNRESOLVED ISSUES

At this time, it is felt that the only unresolved issues existing were incorporated into the comments from Robert Way, Director, Department of General Planning, City and County of Honolulu, dated September 20, 1976 (found on XI-34). In general, his response focused on the previous concerns expressed by the Department of General Planning and the Mayor's veto message (for Gentry-Waipio). It is felt that the concerns expressed in these documents are primarily differences relating to planning and the availability of governmental facilities and support services. To respond to each item raised in this comment, we provide the following pages of response:

"Department of General Planning Report on Gentry-Waipio General Plan Amendment." (Dated March 22, 1976.)

It is emphasized that the reviewer keep in mind that the Report provided by the Department of General Planning is over nine months old. At that time, the Department of General Planning had provided the City Council with a proposed new General Plan. Since that time their submitted proposed Plan was rejected and the City Council has drafted a new General Plan (the latest was the draft of October 6, 1976). Also, at the time of the General Plan amendment request to the Department of General Planning, the developer was informed that his request would not be processed until a new General Plan was adopted. Thus, the response is being provided to the Department of General Planning only as a result of their resubmittal of these same arguments for the Environmental Assessment.

Lastly, the developer feels that many of the issues raised in the Department of General Planning Report is now obsolete due to the reasons cited above.

DEPARTMENT OF GENERAL PLANNING REPORT ON GENTRY-WAIPIO GENERAL PLAN AMENDMENT

PAGE DEPARTMENT'S COMMENTS OUR RESPONSE

1

Concerning the Council's proposal, "it continues the process of making land use decisions without any overall policy guidelines concerning the direction of growth. This proposal will have the effect of closing out some options."

"This action, in fact, results in the selection of the alternative of Private Sector Initiative and the selection is made by default..."

3

"The fact that Mr. Gentry purchased a piece of property which was both planned and used for agricultural purposes on the speculation that it would be available for Urban use."

There is no established Directed Growth Policy. It has been recently determined by the Corporation Counsel that the Department of General Planning has the obligation to process General Plan Amendments which can be taken in context of the 1964 General Plan.

Further back in the report, they state that Gentry-Waipio will be permitted under three of the four island wide alternatives. The only exception is the intensive development which all future needs are met within the present Urban boundary of the City General Plan.

The property was being phased out of pineapple by Dole. In 1970, it is our understanding that H.H.A. was contacted by Castle & Cooke who expressed an interest in acquiring the property because it had the proper physical characteristics to provide the base for moderate income housing. However, State officials determined that the State should stay out of major housing developments and leave those complex matters up to private industry. Also, the Department of Transportation was working on general aviation airport proposed near Milliani Memorial Road and additional housing in the area would be a conflict.

The property was ideally located with few development problems was recently confirmed by the Director of the Department of Housing and Community Development who made an offer to purchase the property for a City housing program.

Regarding the "speculation" issue, Gentry-Pacific is established solely as a home building organization. The continued accusation by the Chief Planning Officer regarding speculation only detracts from the real issues as to whether the property is suited for urban uses at this time.

No comment.

"The Council further justifies its proposal by noting that the State Land Use Commission places this land in the State Urban Boundary. But this in itself, is not sufficient basis to amend the Commission's decision of the Commission was

4

"The Gentry-Waipio land is no way unique. Residential and industrial requirements may be met here or elsewhere."

The Department agrees that the proposed site can meet the residential and industrial requirements. However, being bounded by a Freeway, Highway, existing housing

and land currently planned for industrial use. It is level, with excellent accessibility, domestic water availability and community support.

4

They refer to a successful industrial area at Barber's Point with potential access to a deep water port with extensive excess capacity which is sufficient basis to reject proposal for no industrial land for Central Oahu.

Recent discussions with tenants in need of industrial land, are explicit that Barber's Point is too far removed. A substantial number of small and service distribution oriented businesses need to be located near the center of business activity. Barber's Point does not meet the most important criteria and it is not likely that it ever will. Why force business to operate at higher costs?

4

"Housing needs may be met elsewhere in Ewa and Central Oahu. Certainly in the same level in terms of prices, living space and types of units."

We disagree with the statement and ask that the Department provide technical information which support the statement that other lands in the area can be developed at prices competitive with Gentry-Waipio.

4

"There is reason to believe that the minimum price can be substantially reduced than those set forth in the proposal."

Also how they intend to substantially reduce the minimum price below that set forth. Is it through massive government involvement and subsidies?

4

Referring to the "information contained in the report does not support the conclusions it contains and there is considerable misinformation or misuse of information."

We disagree, however, it is hoped that the Council will request the Department of General Planning to be more specific, and, if necessary, will contract with a qualified consultant to review the information to determine its adequacy, accuracy or misuse.

4

The only specific item mentioned is the reliance upon major transportation improvements to State facilities....(an interchange with the H-2 Freeway).

The interchange proposed at the Milliani interchange was intended to show the flexibility of the plan. An error was found, the wording has been changed and a revised traffic report by the engineer will be submitted to Transportation Services and the Department of Transportation for their review.

5

The Department as part of their recommendation advised the Commission that the proposal and support documents and analysis did not constitute an adequate basis to amend the General Plan under the guiding standards set forth in the "Dalton" case.

See above

Under Objectives, "Housing and industrial needs are more important objectives that community seeks to attain and they have a prominent place in the current General Plan."

"If the community desires to meet objectives for housing, then the impact of alternative ways in which housing needs can be met must be identified and evaluated."

Based on the Hawaii Water Resources Regional Study for Honolulu, they have determined that by 1995, the population for Oahu will reach 965,000 people which relates to an additional 125,000 new dwelling units. By 1985, between 5,000 to 6,000 new dwelling units will be needed each year.

The computed housing requirements are well below all theoretic capacity permitted by zoning if all structures were built to the maximum permitted density.

"In general, there is ample capacity to meet the need of high density housing, but major tracts of land planned for low density housing (up to 14 units per acre) are becoming exhausted."

Industrial land requirements determined by the 1975 Hawaii Water Resources Regional Study are expected to be approximately 750 acres between 1975 and 1985. Land which is currently planned and zoned for industrial use which is either vacant or under utilized amounts to 771 acres. About 67% of this available land or 518 acres,

We agree. Our proposal meets those important objectives.

We believe that this is accomplished utilizing the information within the General Plan Revision Program reports and the alternatives discussed in the Gentry-Waipio Amendment.

We have no argument with these projections. They tend to be a little conservative but are still a practical estimate. One item, we believe, that the Department failed to mention that there exists a considerable shortage of housing on Oahu today based on studies prepared by many governmental agencies. The lengthy delays encountered in the processing and approval of new or redevelopment areas continually adds to the shortage of attractive and affordable housing. The report also doesn't recognize that there are only a few developments currently under production at a price that can be considered moderate and at low density standards.

Obviously, many of the properties currently zoned are not capable of meeting housing needs due to limitations of location, ownership, current uses, financial ability and desire, physical characteristics, marketability, topography, et. al.

We agree with the Department conclusions. It is obvious that only Mililani, Makakilo and a few other less attractive developments in the Ewa Census District are currently under production where there exists a demand.

Our consultants established that there is currently only 23 acres vacant between Kalihi and Waipahu properly located at the base of business and service. The lack of well located industrial zoned land has forced rentals excessively high.

is located at the Campbell Industrial Park. Another 1,000 acres are planned for industrial use and available for industrial zoning to meet future needs.

The Department admits that the population growth in the Pearl City area has created significant markets and the location of office space and other business activities are now more feasible. "There is insufficient lands to meet industrial needs of Central Oahu, however, there is ample supply of planned industrial land in Ieeward Oahu including the above mentioned Campbell Industrial Park."

The location of Campbell Industrial area is too far removed from the population and is inconvenient for a service area and therefore isn't capable of meeting the basic requirement of location. It is leasehold, and has "heavy" industrial uses. Waipio is fee acquisition and will be developed as a "non-pollutant" type employment center in attractive surroundings and will provide highly competitive employment facilities where businesses can operate in less expensive shipping zones.

Alternatives Proposed by Council:

"The Council offers no supporting information for its proposed amendment and apparently has accepted the adequacy of supporting information offered by Gentry."

The Statement of alternatives does not go beyond a simple identification of the sites and location characteristics. "There is no attempt to determine over time to what extent residential needs must be met in these areas and whether they are mutually exclusive alternatives."

The selection of sites is incomplete since there are potentially sites excluded from consideration such as Bishop Estate lands in Central Oahu. The primary and most basic issue is that the alternatives contained in the report do not represent any appropriate assessment of the alternative and courses of action available to the community. The alternatives are carefully contrived to avoid any examination of the full public cost of the development.

The Reports are adequate in locational and physical characteristics to define their ability to meet residential needs. The Gentry-Waipio amendment also discusses some of the socio-economic aspects related to each potential project site. We believe that the information does represent an appropriate and reasonable assessment to determine this appropriateness of the amendment. The requirement of "full public cost to the development" are infinite, however much is understandable, and subject to the decisions of this and future City Councils. The Department fails to identify any other or more attractive alternatives.

The alternatives that are suggested in the report does include the Bishop lands.

10

An exhaustive study of alternative courses of action available to the community to meet urban requirements has been made and is part of the General Plan Revision program dated March 1974. Gentry-Waipio is included in three of four island wide alternatives listed and would not be permitted if the decision is to direct growth to the Ewa area.

We believe that the Gentry-Waipio project would not detract from the Ewa thrust and could be logically included.

11

The Department restates its position that the Council is considering this project in isolation which will set a precedent to preempt the community's choice for the proper course of action.

Growth is evolutionary in nature in time and change. In the Gentry project, physical characteristics of the property surrounded by natural and man made barriers including gulches, fireways, highways, and urban uses.

12

The 510 acres does not involve a major "New Town" and is one of many incremental decisions, therefore it cannot be considered in isolation.

The property can be considered "contained" and defineable as compared to the expansionary commitment recommended by the Department of General Planning of up to 6,000 agricultural acres in Ewa currently under production.

13

The alternatives provided by the Council's proposal are not adequate, their evaluation would not be a useful basis for a decision. Therefore, the Department's evaluation will concentrate on the broader adequate set of alternatives which include the Council's proposal.

We disagree with the statement. The alternatives discussed in the General Plan Amendment report are sufficient to provide the basis for a decision. However, we shall consider the comment on the alternatives described by the Department.

14

Population. The Intensive Development alternative (which precludes Gentry-Waipio) has the affect of dampening population growth and making it more expensive for residents to live. The Directed Growth Alternatives anticipates future population urban requirements.

We agree

15

Housing Analysis:

a. Directed Private Development: One method to provide affordable housing is to require private developments through negotiation, to provide a portion of the dwellings in the development be delivered at a "minimum" cost in return for the granting of zoning.

This appears to be what we proposed, but was rejected by the Department of Housing and Community Development.

b. Assist Private Development: In combination with (a) is designed to reduce development costs through government assistance.

c. Public Development: Under this strategy, the government acts as the developer.

A sales price comparison between utilizing agricultural lands, fringe area and downtown/centra-Honolulu to meet moderate priced housing.

Reaffirms that the moderate priced housing requires the utilization of agricultural land but that it in itself is not sufficient basis to consider Gentry-Waipio since these conditions apply to other areas throughout Centra: Oahu, Ewa and North Oahu."

"There is no evidence or guarantee that the developer will keep within the price range as set forth in his report."

Cost of public facilities: It is incorrect to assume that restricting urban growth within the present urban boundary means additional facilities costs will be minimized. While Directed Growth becomes relatively less expensive than Intensive Development, there is no major cost difference between diverted growth and the "Private Sector" alternative.

Refers to the report which relies on an additional interchange for I-2 to handle traffic from the development.

The access point on Kam Highway as far as can be determined, have not been formally reviewed by the State."

A good program

Not proven successful and we seriously question its desirability.

We generally agree with this analysis that some agricultural lands have the greatest potential. However, alternative sites have not been analyzed in detail by the Department.

There are a few lands capable of providing moderate priced housing in fee which are currently available for development. None are closer to the employment and activity centers with the adequate transportation system substantially complete.

The prices were based on their current estimates. However, without all the requirements imposed upon the development in terms of park dedication, school(s), on and off-site utilities and roadways, it is only an estimate. A commitment has been made by the developer to provide a certain percentage of the units at minimum cost which can be determined and checked by simple accounting practices.

We agree. The Department of General Planning does not consider the social implications of requiring people to live in one location reducing the alternatives available to existing and future families for choice. The socio-economic ramifications of the Department's recommendations are infinite. The short term financial requirements of the Ewa "Directed Growth" policy is massive without any assurance of success.

The traffic report was in error. It stated that the interchange was essential. A revised impact statement has been prepared. However, upon completion of the I-2 Freeway to Wahiawa traffic volume is substantially reduced on Kam Highway.

Agricultural land: The Directed Growth Recommendation permits utilization of up to 6,000 agricultural acres, if and when required. It permits the maintenance of a healthy agricultural industry to meet most of the goals of the State Department of Agriculture but not full attainment of self-sufficient goals.

adequate capacity for at least 2,000 additional units in Gentry-Waipio. The development of the entire project would never bring the number of vehicles up to what the current existing highway capacity is. Two accesses to Kam Highway has been tentatively approved. Compared to almost any other site, this property is well served for the existing and future highway systems for convenient access.

This is contrary to the Department of Agriculture testimony at the Planning Commission hearings. Farias' statement was that the Department recommends the preservation of agricultural lands for agricultural uses. However, if the choice is between 600 or 6,000 acres, it would be in his judgement that the 600 would be a much more desirable decision for urbanization especially when "contained" by natural and/or man made barriers and already removed from agricultural uses.

The Gentry-Waipio land has a classification which is comparable to the soils in the surrounding area which are currently in pineapple. The subject property was in productive pineapple until only a few years ago.

This is incorrect. The land was in the process of being phased out from further pineapple production by Castle & Cooke (Doie Co.) and the property had been considered surplus. Reasons given for the discontinued further farming were:

1. "The soils just aren't as good down there."
2. "It's awfully dry in the summer. We got 60"-70" rain per year up near Wahiawa, there's a ridge that seems to bring the rain down where we need it."
3. "The traffic down there is a major problem. This is a fresh fruit operation now, we have to take our equipment down there and we have to bring the fruit back up to Wahiawa."

XIII. LIST OF NECESSARY APPROVALS

The proposed Gentry-Waipio project must obtain the following approvals and permits prior to its implementation:

- (1) Rezoning Approval - Department of Land Utilization (line agency)
- (2) Grading Permit - Department of Public Works
- (3) Building Permit - Building Department

We also note that in obtaining these permits (i.e. Grading and Building) the following agencies must provide certification (by signing the plans) which indicates that the plans are acceptable from the standpoint of meeting the applicable codes, standards, and regulations.

Sewage Treatment Plant - State Department of Health
Department of Public Works, City & County of
Honolulu

Roadways - State Department of Transportation
Department of Transportation Services, City & County of
Honolulu

Water Supply - Board of Water Supply, City & County of Honolulu

Drainage - Department of Public Works, City & County of Honolulu

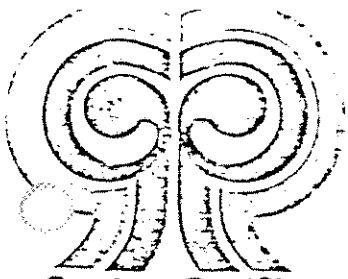
Fire Protection - Fire Department, City & County of Honolulu

XIV. REPRODUCTION OF COMMENTS AND RESPONSES
MADE DURING THE EIS REVIEW PERIOD

The following list of agencies or individuals provided comments on the Environmental Impact Statement. These agencies or individuals are identified with the date of their letter. The remainder of Section XIV consists of the copy of the comments received followed by the response of the applicant.

<u>Agency or Individual</u>	<u>Date of Letter</u>
*Department of the Army, Headquarters United States Army Support Command, Hawaii	November 8, 1976
*Department of Defense	November 15, 1976
Department of Public Works	November 18, 1976
Department of Agriculture	November 18, 1976
Department of Land and Natural Resources	November 30, 1976
Department of the Air Force	December 1, 1976
Board of Water Supply	December 2, 1976
Department of General Planning	December 3, 1976
Department of Transportation Services	December 3, 1976
Department of Housing and Community Development	December 6, 1976
Department of Land Utilization	December 6, 1976
Department of Transportation	December 6, 1976
*Water Resources Center	December 6, 1976
*Department of the Army, Honolulu District, Corps of Engineers	December 6, 1976
Bert Y. Kimura	December 6, 1976
United States Department of Agriculture, Soil Conservation Service	December 7, 1976
Office of Environmental Quality Control	December 8, 1976
Office of Environmental Quality Control	December 8, 1976
Department of Health	December 8, 1976
Environmental Center	December 8, 1976
West Oahu Soil & Water Conservation District (to OEQC)	December 8, 1976
West Oahu Soil & Water Conservation District (to DLU)	December 8, 1976
American Lung Association of Hawaii	December 8, 1976
Mililani Town Association	December 8, 1976
Neighborhood Board No. 25 (Mililani-Melemanu-Waipio)	December 8, 1976
Headquarters, Fourteenth Naval District	December 10, 1976

*No response necessary.



Gentry Pacific

P.O. Box 295
Honolulu, Hawaii 96809
phone 531-8491

December 13, 1976

Mr. George S. Moriguchi, Director
Department of Land Utilization
City & County of Honolulu
650 So. King Street
Honolulu, Hawaii 96813

Re: Gentry-Waipio - Environmental Impact Statement

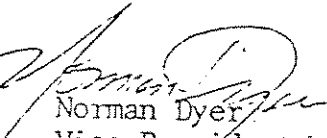
Dear Mr. Moriguchi:

As of this date, we have received comments from twenty five agencies and/or individuals (listed on the attachment) to the Environmental Impact Statement. We are presently in the process of responding to each agency having a significant comment as required in the Environmental Statement Regulations, Subpart G, Section 1:62, 1. & 2.

We feel that we can provide accurate and adequate responses along with the necessary revisions to the Environmental Impact Statement within the 14-day period which is allowed by Subpart G, Section 1:62. For your information, we will forward copies of our responses to each agency providing sufficient comments. We plan to submit the appropriate number of copies of a Revised Environmental Impact Statement on or before December 22, 1976.

Please advise if these procedures conform with your office's positions or procedures as the accepting agency relating to this Environmental Impact Statement.

Very truly yours,


Norman Dyer
Vice President
Project Director

ND:lo

cc Environmental Quality Commission:
Environmental Communications, Inc.
on file

AGENCY

DATE OF LETTER

City & County of Honolulu

Department of Public Works	November 18, 1976
Department of Parks and Recreation	November 22, 1976
Board of Water Supply	December 2, 1976
Department of General Planning	December 3, 1976
Department of Transportation Services	December 3, 1976
Department of Land Utilization	December 6, 1976
Department of Housing and Community Development	December 6, 1976

State of Hawaii

Department of Defense	November 15, 1976
Department of Agriculture	November 18, 1976
Department of Land and Natural Resources	November 30, 1976
Department of Transportation	December 6, 1976
Office of Environmental Quality Control	December 8, 1976
Department of Health	December 8, 1976

University of Hawaii

Water Resources Research Center	December 6, 1976
Environmental Center	December 8, 1976

Federal Agencies

Department of the Army, Headquarters	
United States Army Support Command, Hawaii	November 8, 1976
Department of Air Force	December 1, 1976
Department of the Army, Honolulu District,	
Corps of Engineers	December 6, 1976
Department of Agriculture, Soil Conservation Service	December 7, 1976
Department of the Navy, Headquarters 14th Naval District	December 10, 1976

Private Agencies

Bert Y. Kimura	December 6, 1976
West Oahu Soil and Conservation District (to OEQC)	December 8, 1976
West Oahu Soil and Conservation District (to DLU)	December 8, 1976
American Lung Association of Hawaii	December 8, 1976
Mililani Town Association	December 8, 1976
Neighborhood Board No. 25 (Mililani- Melemanu-Waipio)	December 8, 1976



DEPARTMENT OF THE ARMY
HEADQUARTERS UNITED STATES ARMY SUPPORT COMMAND, HAWAII
APO SAN FRANCISCO 96558

AFZV-SG-EC

8 November 1976

Richard E. Marland, PhD
Office of Environmental Quality Control
State of Hawaii
Room 301, 550 Halekauwila Street
Honolulu, Hawaii 96813

Dear Dr. Marland:

The following Environmental Impact Statements were reviewed by our office:

Gentry-Waipio, Waipio, Oahu

Sanpo Land Industrial (Hawaii Co., Ltd., Retail Complex in Waikiki

1.5 Million Gallon Heeia-Kai Reservoir at Heeia, Koolaupoko, Oahu

We have no comments to offer at this time.

Thank you for the opportunity to review these statements.

Sincerely,

LEE C. HERWIG, JR.
Colonel, MSC
Environmental Consultant to Commander,
U.S. Army Support Command, Hawaii



GEORGE R. ARIYOSHI
GOVERNOR



VALENTINE A. SIEFFERT
MAJOR GENERAL
ADJUTANT GENERAL

STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL
FORT RUGER, HONOLULU, HAWAII 96816

HIENG

15 NOV 1976

Dr. Albert Tom, Chairman
Environmental Quality Commission
550 Halekauwila Street
Honolulu, Hawaii 96813

Dear Dr. Tom:

Gentry-Waipio, Waipio, Oahu

Thank you for sending us a copy of the Environmental Impact Statement for the proposed "Gentry-Waipio". We have received the publication and have no comments to offer.

We are returning the Environmental Impact Statement for the proposed project per your request.

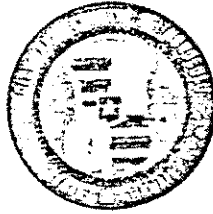
Yours truly,


WAYNE R. TOMOYASU
Captain, CE, HARNG
Contr & Engr Officer

Enclosure

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813



FRANK F. FASI
MAYOR

KAZU HAYASHIDA
DIRECTOR AND CHIEF ENGINEER

ENV 76-419

November 18, 1976

MEMORANDUM

TO: MR. GEORGE S. MORIGUCHI, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM: KAZU HAYASHIDA, DIRECTOR AND CHIEF ENGINEER

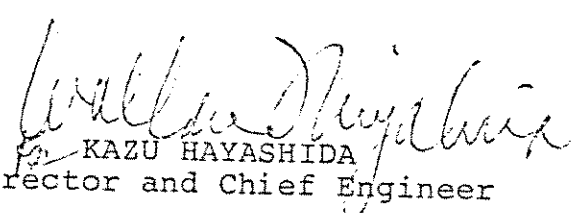
SUBJECT: ENVIRONMENTAL IMPACT STATEMENT FOR
GENTRY-WAIPIO, WAIPIO, OAHU

We have reviewed the subject statement and have the following comments.

1. The proposed interim wastewater treatment and disposal systems which will serve approximately 1,600 units have been approved in principal. The location for the on-site interim treatment plant should be identified. Also, the short term environmental effects of the proposed facility should be discussed. The applicant-developer will be responsible for the operation and maintenance of the interim system.
2. The treated effluent from the interim plant is planned to be utilized for sod irrigation at the Ted Makalena Municipal Golf Course at Waipio Peninsula. Although sod irrigation by wastewater effluent has been proven to be feasible in many areas, soil type and conditions must be compatible. If the soils in the golf course are tight and impermeable, the application of effluent could result in the buildup of salts and boron which could affect the health and growth of the sod and other vegetation on the golf course.
3. According to our information, the golf course's daily irrigation requirement is 400,000 gallons per day (gpd). The anticipated volume of effluent for the first phase development is 500,000 gpd. The excess 100,000 gallons will have to be accounted for.

November 18, 1976

4. Another concern of ours is the disposal of treated effluent during periods of rainstorm when sod irrigation is discontinued. The alternative methods of effluent disposal or bypass and their environmental effects during periods of rainstorm should be discussed.
5. It is our understanding that none of the surface runoff from the proposed development enters the Waikele Stream watershed. Runoff collected by Kamehameha Highway which acts as a berm as stated is eventually discharged into Waiawa Stream near the cane haul road underpass. If only 2,250 cfs from 475 acres enters the Waiawa watershed, what is the final disposition of the runoff from the remaining 35 acres (510-475 acres)?
6. If Waiahole-Waikane is developed (page V-10), it would be served by a proposed treatment work in Kahaluu. No outfall disposal system would be needed, since the effluent would be discharged via the new Mokapu ocean outfall sewer.
7. The method of effluent disposal from the interim treatment works during periods of rainstorm has not been resolved (page XII-1).


KAZU HAYASHIDA
Director and Chief Engineer

cc.: Mr. Norman Dyer, Gentry Pacific
Div. of Engineering
Div. of Sewers



December 17, 1976

P.O. Box 295
Honolulu, Hawaii 96809
phone 531-8491

Mr. Kazu Hayashida
Director and Chief Engineer
Department of Public Works
City and County of Honolulu
650 So. King Street
Honolulu, HI 96813

Dear Mr. Hayashida:

Thank you for your comments on the Gentry-Waipio Environmental Impact Statement submitted in your letter dated November 18, 1976. Discussions with the engineering consultant retained for this project (Park Engineering), provide the following responses to the points raised by your office:

1. The location of the proposed onsite treatment plant is identified in the plot plan attached. In terms of operation and maintenance of the interim sewage treatment plant, the facility will be built to the "Design Standards of the Division of Sewers," so that dedication of the plant can be accomplished. Short-term environmental effects of the proposed facility are not anticipated to be significant due to the compliance with Sewers Division standards for design and construction. This will in effect, require compliance with the Department of Health under Chapters 37, 37-A and 38.

2. The use of secondary treated effluent for sod irrigation at the Ted Makalena Golf Course has been discussed with the Department of Parks and Recreation and they are receptive to this alternative means of disposal subject to certain conditions outlined in their letter dated November 22, 1976. It is felt that the potential problem of salts and boron build-up is not considered to be a significant problem since the golf course maintenance staff will be periodically treating the sod to minimize the compaction of the golf course grounds.

3. The ability of the Makalena Golf Course to utilize approximately 400,000 GPD for sod irrigation has been determined in discussions with the Department of Parks and Recreation department staff. Any effluent volume over the stated 400,000 gallons could be managed in the following manner:

Utilize the existing reservoir near the proposed temporary treatment plant for additional storage capacity to dispose of the 100,000 GPD and irrigate the unused property located in the direction of Mililani Memorial Road. A computation of sewage flow based on occupancy is provided for your use.

Mr. Kazu Hayashida
Page Two
December 17, 1976

4. The problem of periodic rainstorms that could affect the sewage flow volumes can be accommodated by the golf course's ponds as described in Item 3. The Department of Health in a memorandum dated November 30, 1976 has also discussed this potential problem and its impact on DPDES regulations. The golf course's ponds have stated capacities that can accommodate flow volumes for approximately 5-7 days in the event of heavy rainstorms.

5. The subject of surface runoff and its ultimate flow patterns are resolved in the following manner by the engineering consultant (William Hee & Associates, Inc.). "As stated in the Environmental Impact Statement for Gentry-Waipio (Page II-6 under Environmental Considerations: Water Run-off and Drainage): There are several existing culverts that cross Kamehameha Highway which convey portions of the above storm water across the highway. The quantity of water that these culverts can carry is approximately 100 cfs (25 acres tributary).


The quantity of storm water eventually ends up in the Kahu Drainage Channel in Waipahu. This accounts for 25+ acres of the remaining 35 acres. The remaining 10+ acres lie on the extreme north end of the parcel and flow onto Kamehameha Highway towards Kipapa Gulch. Thus, 36+ cfs of storm water from the project would end up in Kipapa Gulch by way of surface run-off along Kamehameha Highway."

6. We concur with the statement.

7. Mitigating measures described in Item 4 are considered applicable to the problem of effluent disposal during periods of severe rainstorms.

These comments represent the current thinking of the consulting engineers and are also consistent with our wishes to comply with applicable rules and regulations as mandated by the State and County agencies. We look forward to your favorable consideration and if there is anything further that you desire, please feel free to contact us.

Very truly yours,


Norman Dyer
Vice President
Project Director

cc Department of Land Utilization
Environmental Quality Commission
Environmental Communications, Inc.

December 6, 1976

Environmental Communications, Inc.
P. O. Box 536
Honolulu, Hawaii 97809

Attention: Mr. Fred Rodriguez

Gentlemen:

Subject: Gentry-Waipio
Environment Impact Statement

As requested, we are providing the following information:

- a. Item 1. Enclosed is a map of the Temporary Treatment Plant Site. The temporary sewage works will be operated and maintained by the Division of Sewers. State in your response to Department of Public Works that the plant will be designed and constructed according to the "Design Standards of the Division of Sewers".
- b. Item 3. At the present time, we have no solution for the disposal of the excess 100,000 gpd effluent, however, in the event that the average flow reaches 400,000 gpd, the Developer will cease all development. Enclosed is computation of the sewage flow based on occupancy schedule.
- c. Item 7. Should have been included in "Summary of Unresolved Issues." The capacity of the existing ponds is 4+ million gallons and assuming the available storage during a rainstorm is 3 million gallons which is sufficient for over one week of storage.

Sincerely yours,

PARK ENGINEERING, INC.

Edwin Maruyama
Edwin Maruyama
Project Manager

EM:sa

Enclosures

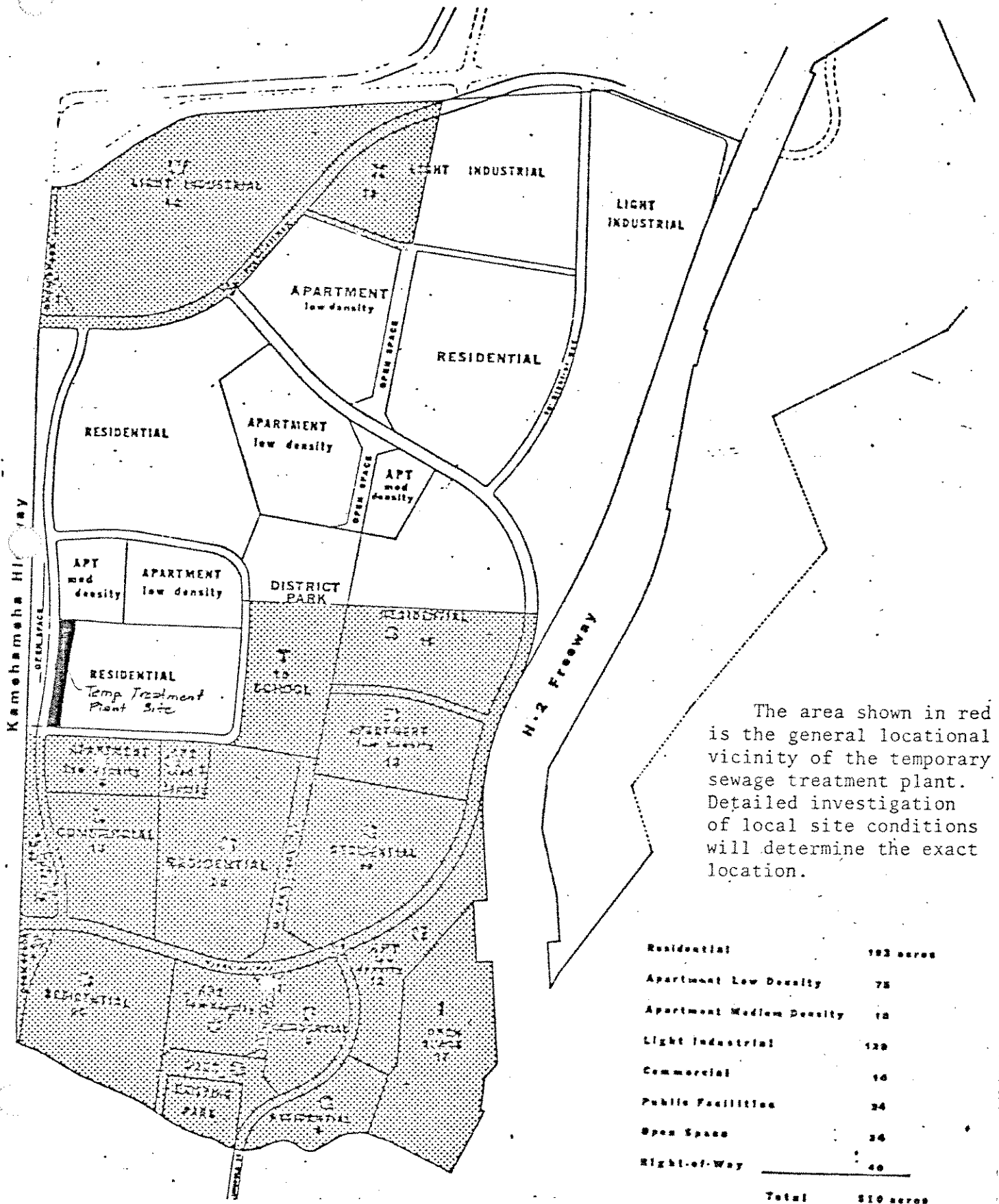
cc: Mr. Norm Dyer

XIV-10

Park Engineering, Inc.

FIGURE 5
 PROPOSED ZONING MAP
 GENTRY-WAIPIO
 August, 1976

(Proposed areas in the rezoning request are shaded.)



The area shown in red is the general locational vicinity of the temporary sewage treatment plant. Detailed investigation of local site conditions will determine the exact location.

OCCUPANCY SCHEDULE

SITE	1978			1979			1980			1981		
	Res.	Apt.	Comm. Ind.	Res.	Apt.	Comm. Ind.	Res.	Apt.	Comm. Ind.	Res.	Apt.	Comm. Ind.
B	50			150			50					
C								100			40	
F	50											
G												
H					100			100				
L			7									
M	86			50								
N											200	
O												
Q	100						100					
R												
S										200		
W			10						10			
X						10						10
TOTAL	292	-	17	200	100	10	150	200	10	200	240	10

Ave. Sewage Flow

	Residential (400 gpd)	Apartment (250 gpd)	Comm/Ind. (400 gpd)	Total (MGD)	Summation Ave. Flow
1978	.117	0	.068	.185	.185
1979	.080	.025	.040	.145	.330
1980	.060	.050	.040	.150	.480
1981	.080	.060	.040	.180	.660
TOTAL	.377	.135	.188	.660	

← Use 0.5 MGD

PROJECT: <u>GENTRY-WAIPID</u> <u>FIRST PHASE SEWAGE FLOW FOR</u> <u>TEMPORARY SEWAGE TREATMENT PLANT</u>		JOB NO. _____ BY <u>Wm</u> DATE <u>10/1/78</u> CHKD. _____ DATE _____ SHT. NO. <u>1</u> OF <u>1</u>
--	--	--

Revised 10/1/78

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII



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

November 30, 1976

GEORGE A. L. YUEN
DIRECTOR OF HEALTH

Audrey W. Mertz, M.D., M.P.H.
Deputy Director of Health

James S. Kumagai, Ph.D., P.E.
Deputy Director of Health

Henry N. Thompson, M.A.
Deputy Director of Health

In reply, please refer to:
File: _____

Mr. Larry Matsuo, President
Park Engineering, Inc.
190 S. King Street, Suite 2085
Honolulu, HI 96813

Dear Mr. Matsuo:

Subject: Gentry-Waipio Interim Sewage Treatment Facility

Reference is made to your letter of November 3, 1976 regarding your latest proposal of the subject facility.

The concept of secondary treatment and effluent irrigation of golf courses is acceptable, however, the following comments must be addressed prior to our conceptual approval of the subject plan:

1. Clarification is needed as to what extent the effluent pump station at Waipahu is related to the existing pump station. Currently, the existing pump station is undergoing modifications. The effects of the new pump station on the aforementioned modification must be known.
2. Emergency effluent disposal method must be considered. An overflow from the ponds during wet weather may be in conflict with NPDES regulations.

It is apparent that the City and County of Honolulu must be involved in the following areas:

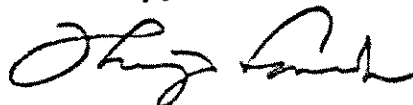
1. The pump station and effluent force mains must be approved by the City and County of Honolulu. City and County of Honolulu standards must be followed.
2. Easements and Rights-of-Ways must be granted by the City and all appropriate landowners.
3. Legal agreements between the owner's/developer's and the City are needed to maintain effluent quality since the effluent will be applied to a municipal golf course used by the public.

Therefore, it is our contention that the viability of your proposal is contingent upon the acceptance of the City and County of Honolulu to operate and maintain the proposed facility.

Mr. Larry Matsuo
Page 2
November 30, 1976

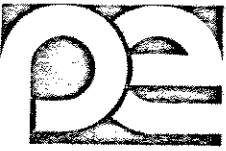
Should you have any questions, please feel free to contact the Pollution
Technical Review Branch at telephone 548-6410.

Sincerely,



SHINJI SONEDA, CHIEF
Environmental Protection and
Health Services Division

HKY/mt



December 15, 1976

Mr. Shinji Soneda
Department of Health
Environmental Protection
and Health Services Division
P. O. Box 3378
Honolulu, Hawaii 96813

Dear Mr. Soneda:

Subject: Gentry-Waipio
Interim Sewage Treatment Facility

Reference is made to your letter of November 30, 1976.

The new effluent pump station at Waipahu will not be connected directly into the existing Waipahu Pump Station.

There are two emergency effluent disposal methods which were considered:

- a. The existing pond has a capacity of 4 plus million gallons and would be partially lined to allow the effluent to percolate.
- b. An emergency overflow line would be constructed from the new pump station to the existing Waipahu Pump Station.

We have been meeting with the Division of Sewers for the above mentioned project. The Sewage Works will be designed and constructed according to the "Design Standards of the Division of Sewers". Therefore, the Sewage Works will be operated and maintained by the City and County of Honolulu.

Your favorable consideration will be greatly appreciated.

Sincerely yours,

PARK ENGINEERING, INC.


Larry K. Matsuo
President

MARUYAMA:sa

cc: Mr. Norm Dyer

Park Engineering, Inc.

GEORGE R. ARIYOSHI
GOVERNOR



JOHN FARIAS, JR.
CHAIRMAN, BOARD OF AGRICULTURE

YUKIO KITAGAWA
DEPUTY TO THE CHAIRMAN

STATE OF HAWAII
DEPARTMENT OF AGRICULTURE
1428 SO. KING STREET
HONOLULU, HAWAII 96814

November 18, 1976

MEMORANDUM

To: Environmental Quality Commission
Subject: EIS for Gentry-Waipio

The Department of Agriculture has reviewed the subject EIS. This agency disagrees with the statement on page V-20 that "... pineapple is becoming less and less economically feasible."

To quote from the "Castle & Cooke, Inc. 1975 Annual Report:"

"Dole fresh pineapple operations in 1975 generated higher earnings than in 1974 and continue to be one of the most promising growth areas in our food business." page 20 (emphasis added).

We appreciate the opportunity to comment.

for Yukio Kitagawa
JOHN FARIAS, JR.
Chairman, Board of Agriculture

JF:k:h

cc: Dept. of Land Utilization, C&C of Honolulu
Norman Dyer, Gentry Pacific



P.O. Box 295
Honolulu, Hawaii 96809
phone 531-8491

December 15, 1976

Mr. John Farias, Jr.
Chairman, Board of Agriculture
State of Hawaii
Department of Agriculture
1428 So. King Street
Honolulu, Hawaii 96814

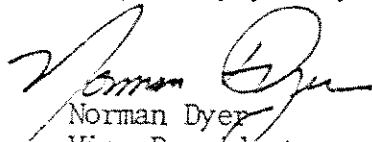
Dear Chairman Farias:

Thank you for your Department's comment on the proposed Gentry-Waipio Environmental Impact Statement as stated in your letter dated November 18, 1976. We appreciate the updating of our agricultural discussion on the economic viability of pineapple as per Castle & Cooke, Inc.'s 1975 Annual Report. When the data was developed by Dr. Lorenz, the future for pineapple, particularly the canned fruit market, was not promising; the advent of the fresh fruit market as an alternative solution to foreign competition is due in part to the efforts of your Department and is duly observed.

We should mention, however, that during the same period that the Castle & Cooke Report was published, a General Plan Amendment application dated October, 1975, was submitted to the Department of General Planning by Mililani Town, Inc., (a Castle & Cooke subsidiary), which would phase out approximately 400 acres of pineapple production. It discusses the pineapple economic productivity in light of Central Oahu's current and future production (page 188, 189) and acreage requirements. The projection by both Del Monte and Dole indicate a 4,000 acre reduction (14,000 to 10,000) by the year 2000.

Thank you again for your comments.

Very truly yours,


Norman Dyer
Vice President
Project Director

ND:lo

cc Department of Land Utilization
Environmental Quality Commission
Environmental Communications, Inc.

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII



CHRISTOPHER COBB, CHAIRMAN
BOARD OF LAND & NATURAL RESOURCES

EDGAR A. HAMASU
DEPUTY TO THE CHAIRMAN

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

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

November 30, 1976

Environmental Quality Commission
550 Halekauwila St.
Honolulu, HI 96813

Gentlemen:

Thank you for referring to us the EIS for the Gentry-Waipio project.

There appears to be some contradiction regarding the agricultural productivity (p.V-16) and suitability (p. X-10) of the soils in the project area.

Except for this, we have no further comments to add to our December 12, 1975 letter to Mr. Dyer (p. X-70) and our September 15, 1976 letter to Environmental Communications, Inc. on this matter.

Very truly yours,

GORDON SOH
Program Planning Coordinator

cc: Roger Evans
DOWALD
Land Management



P.O. Box 295
Honolulu, Hawaii 96809
phone 531-8491

December 15, 1976


Mr. Gordon Soh
Program Planning Coordinator
Department of Land and Natural
Resources
State of Hawaii
P.O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Soh:

Thank you for your comments on the proposed Gentry-Waipio Environmental Impact Statement as stated in your letter dated November 30, 1976. The contradiction between the agricultural productivity and the suitability of the soils deal with different value tables as established by the Land Study Bureau and the USDA Soil Conservation Service. The Land Study Bureau ratings are established on various crop potentials for the soils in question, while the USDA Soil Conservation provides information on the soil properties and characteristics.

We hope that the above has clarified your concern. Thank you again for your comments.

Very truly yours,


Norman Dyer
Vice President
Project Director

ND:lo

cc Department of Land Utilization
Environmental Quality Commission
Environmental Communications, Inc.

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 15th AIR BASE WING (PACAF)
APO SAN FRANCISCO 96553

EIS



1 DEC 1976

REPLY TO
ATTN OF: DEEE (Mr. Nakashima, 4492158)

SUBJECT: Environmental Impact Statement

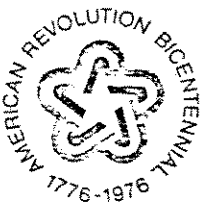
TO: Environmental Quality Commission
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813

1. This headquarters has no comment to render relative to the Environmental Impact Statement for the proposed Gentry-Waipio Development Project.
2. However, should the proposed action be permitted to proceed, the major concern of this office is the two 10" aviation fuel lines and appurtenances that provide the required fuel for our aircraft operations here at Hickam Air Force Base. Non-restrictive accessibility to these lines is essential in our scheduled maintenance of the lines. A schematic drawing indicating the approximate location of the lines relative to the proposed site is attached for your information and guidance.
3. If you have any further questions pertinent to our comments, please contact Mr. Norman Reynolds (Mechanical Engineer) or Mr. Herbert Nakashima (Environmental Coordinator). Both may be reached at 4492158.

BEN D. KOSA
Dep Dir of Civil Engineering

1 Atch
Schematic Dwg

Cy to: Dept. of Land Utilization
Mr. Norman Dyer,
Gentry-Pacific



PEARL CITY

WAIPAHU

KIPAPA STORAGE AREA NO. 7

PROPOSED GENTRY-WAIPIO DEVELOPMENT

FREeway

CRESTVIEW

FARRINGTON HIGHWAY

STRIPPER V.P. NO. 23

BLEEDER V.P. NO. 24

LAUNCHERS TO AREA NO.

EWA JUNCTION VALVE HOUSE NO. 25

OLD WAIWA BOOSTER V.P. NO. 26

MANANA BOOSTER V.P. NO. 27

MANANA V.P. NO. 28

"B" LINE

V.P. NO. 21

V.P. NO. 20

"A" LINE

V.P. NO. 22

BLEEDER V.P. NO. 19

BLEEDER V.P. NO. 18

KIPAPA V.P. NO. 17

BLEEDER V.P. NO. 16

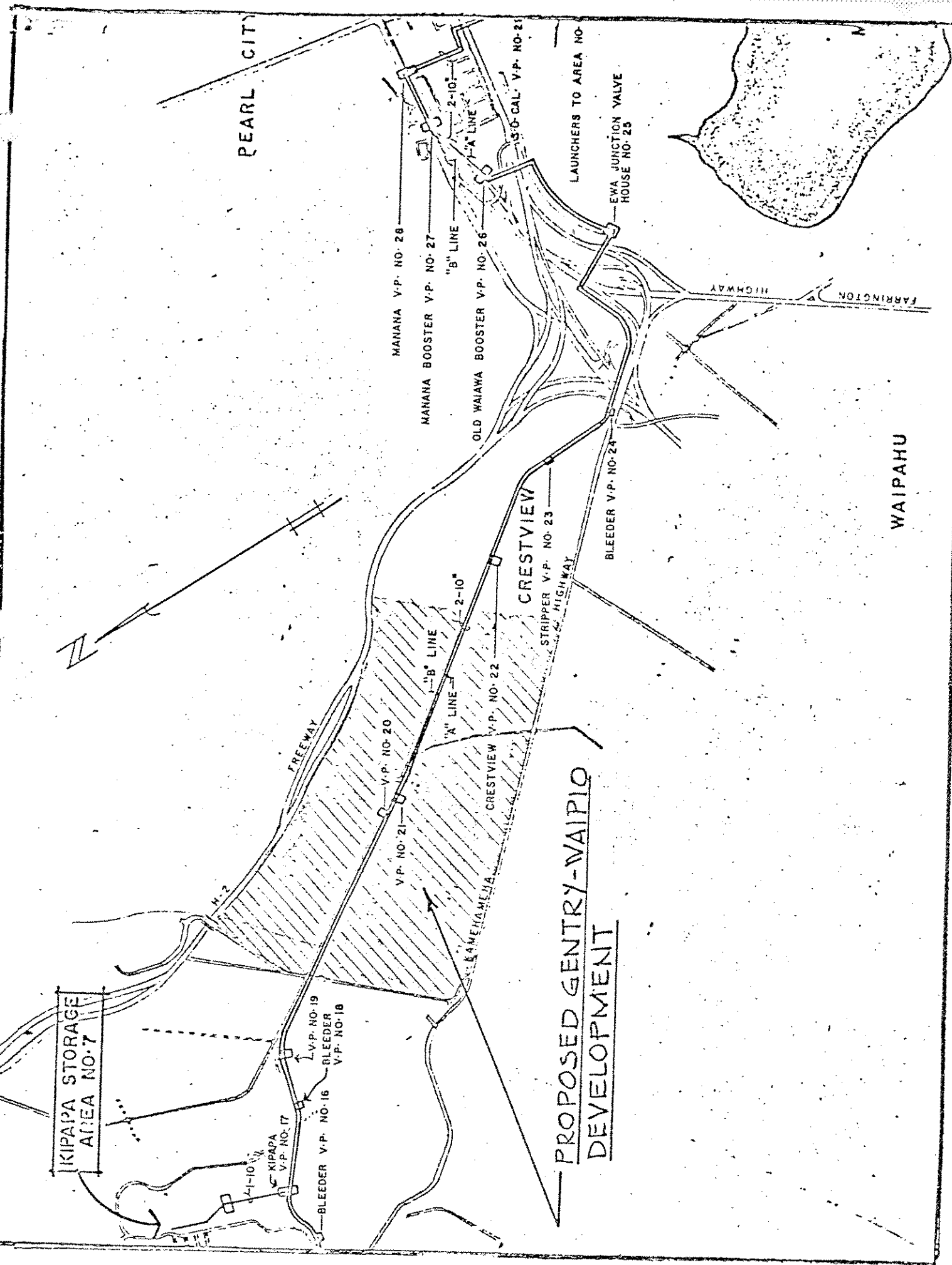
"B" LINE

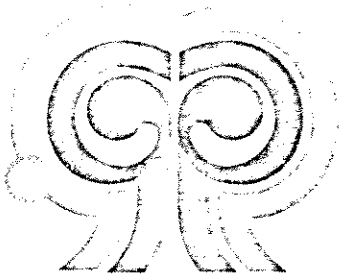
2-10"

"A" LINE

2-10"

5:0 CAL. V.P. NO. 21





Gentry Pacific

P.O. Box 295
Honolulu, Hawaii 96809
phone 531-8491

December 15, 1976


Mr. Ben D. Kosa
Deputy Director
Civil Engineering Department
Department of the Air Force
Headquarters 15th Air Base Wing
(PACAF)
APO San Francisco 96553

Dear Mr. Kosa:

Thank you for your comment on the proposed Gentry-Waipio Environmental Impact Statement as stated in your Memorandum dated December 1, 1976. We will take necessary steps to insure access to the two ten inch (10") aviation fuel lines essential to aircraft operations at Hickam Air Force Base. We will maintain communication with your office to pursue this matter and our engineering consultant (William Hee & Associates) will also be available.

Thank you again for your comment. If you desire further information, please do not hesitate to call or write.

Sincerely,


Norman Dyer
Vice President
Project Director

ND:lo

cc Department of Land Utilization
Environmental Quality Commission
Environmental Communications, Inc.

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU

620 SOUTH BERETANIA

HONOLULU, HAWAII 96813



FRANK F. FASI, Mayor

YOSHIE H. FUJINAKA, Chairman

STANLEY S. TAKAHASHI, Vice Chairman

KAZU HAYASHIDA

EDWARD F. C. LAU

TERESITA R. JUBINSKY

E. ALVEY WRIGHT

12:16:13 PM 3 1A

December 2, 1976

EDWARD Y. HIRATA
Manager and Chief Engineer

Mr. George Moriguchi, Director
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Moriguchi:

SUBJECT: Environmental Impact Statement
Gentry - Waipio

We request that maps shown on pages X-35, X-36 and X-37 be removed from the statement. These maps are not attachments to our letters.

Please call Mr. Lawrence Whang at 548-5221 if further information is needed.

Very truly yours,

E. Y. Hirata
For EDWARD Y. HIRATA
Manager and Chief Engineer

cc: Norman Dyer
Gentry-Pacific
P. O. Box 295
Honolulu, Hawaii 96813



P.O. Box 295
Honolulu, Hawaii 96809
phone 531-8491

December 15, 1976

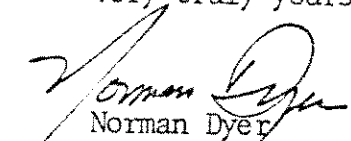
Mr. Edward Y. Hirata
Manager and Chief Engineer
Board of Water Supply
City and County of Honolulu
630 So. Beretania
Honolulu, HI 96813

Dear Mr. Hirata:

Thank you for your letter dated December 2, 1976 regarding the proposed Gentry-Waipio Environmental Impact Statement. We will comply with your request to remove the described maps on pages X-35, X-36 and X-37. Their inclusion was not meant to indicate that they were attachments to your correspondence immediately preceding, but was provided as visual aids to readers of the E.I.S. We regret any misunderstanding this may have caused.

Thank you again for your comments and we look forward to working with your staff on this project.

Very truly yours,


Norman Dyer
Vice President
Project Director

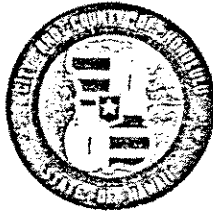
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cc Department of Land Utilization
Environmental Quality Commission
Environmental Communications, Inc.

DEPARTMENT OF GENERAL PLANNING
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR



ROBERT R. WAY
CHIEF PLANNING OFFICER

DGP11/76-2651 (CKC)

December 3, 1976

Dr. Richard E. Marland, Director
Office of Environmental Quality Control
State of Hawaii
550 Halekauwila Street
Honolulu, Hawaii 96813

Dear Dr. Marland:

We have reviewed the Environmental Impact Statement for the proposed Gentry-Waipio development in Waipio, Oahu and have the following comments to offer:

Section III of the environmental report points out explicitly that the Gentry-Waipio project is consistent with the goals and policies of the draft report of the new General Plan in that the development of Ewa is encouraged. We feel that this is questionable since the project site is located within a land corridor connecting Pearl City and Waipahu with Mililani and Wahiawa. Although technically in the Ewa District, it is obvious to us that the urbanization of this site would instead promulgate development in the direction of Central Oahu rather than Ewa itself.

In examining the review of alternatives in Section V of this report, it appears that community benefit, particularly from the perspective of public facility and housing costs was not adequately addressed. As a whole, the comparison of alternatives was overly diluted and under substantiated to draw a meaningful conclusion about the project areas being considered.

Thank you for allowing us to comment on this project.

Sincerely,

A handwritten signature in black ink that reads "Robert R. Way".

ROBERT R. WAY
Chief Planning Officer

RRW:co

cc: Department of Land Utilization
Mr. Norman Dyer - Gentry Pacific XIV-25



P.O. Box 295
Honolulu, Hawaii 96809
phone 531-8491

December 15, 1976

Mr. Robert Way
Chief Planning Officer
Department of General Planning
City and County of Honolulu
650 So. King Street
Honolulu, Hawaii 96813

Dear Mr. Way:

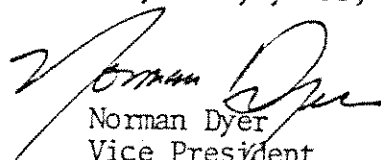
Thank you for your comments on the proposed Gentry-Waipio Environmental Impact Statement as stated in your letter of December 3, 1976. We regret that there is confusion as to the project location in relation to the New General Plan. As you are aware, planning and land management is a dynamic situation, since the preparation of this document, the position that our project is more suitably designated within a land corridor connecting Waipahu and Crestview. We will correct and update our E.I.S. to reflect this more current thinking.

Your comment on the adequacy of our discussion on community benefit, particularly from the perspective of public facility and housing costs was sufficiently examined by all concerned who were involved in the development of the E.I.S. document. During the recent General Plan/Land Use Map proceedings and amendment approvals (Ordinances 4619 and 4620), this issue was not only discussed by the applicant, but considered in a report prepared by the Office of Council Services. Wherever applicable, ordinances that mandate the provision of public facilities, the Gentry-Waipio project would comply as required.

Housing costs are extremely unpredictable due to the prolonged processing development schedule. Every effort to remain competitive with comparable market projects will be made so that the objectives of providing attractive and affordable housing will be attained.

We appreciate your office's comments and hopefully, future misunderstandings will be avoided.

Very truly yours,

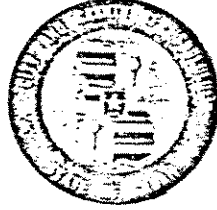

Norman Dyer
Vice President
Project Director

cc Department of Land Utilization
Environmental Quality Commission
Environmental Communications, Inc.

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

HONOLULU MUNICIPAL BUILDING
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR



GEORGE C. VILLEGAS
DIRECTOR

TEll/76-2305

December 3, 1976

Environmental Quality Commission
550 Halekauwila St., Rm. 301
Honolulu, Hawaii 96813

Gentlemen:

Subject: Environmental Impact Statement for the
Proposed Gentry-Waipio

We have reviewed the Environmental Impact Statement for the proposed Gentry-Waipio project and offer the following comments:

The section on Public Transportation (page II-20) is very vague and does not adequately answer the letter from the State Department of Transportation regarding the impact that other transit means such as buses would have on traffic generation. It is not clear how motor vehicle trip volumes generated by the development will show a decrease by 20% for the 12-minute headway bus service, and by 25% for the 5-minute headway bus service. Also, where did the 12 and 5-minute headway bus services come from?

Very truly yours,

George C. Villegas
GEORGE C. VILLEGAS
Director

cc: DLU
Norman Dyer, Gentry Pacific
P. O. Box 205
Hon. Hawaii 96809



P.O. Box 295
Honolulu, Hawaii 96809
phone 531-8491

December 16, 1976

Mr. George C. Villegas
Director
Department of Transportation Services
City & County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Villegas:

Thank you for your comments on the proposed Gentry-Waipio Environmental Impact Statement as stated in your letter of December 3, 1976. Our retained traffic consultant, Mr. Henry T. Au has reviewed your letter and offers the following response:

The traffic analysis used higher than normal traffic generation figures to assure that a sufficient margin of safety was built into the study. Therefore, no reliance was made on mass transportation to reduce the traffic impact of the project. The traffic analysis was based on the use of the automobile for maximum impact and the 24 hour and peak hour volumes reflect this assumption.

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

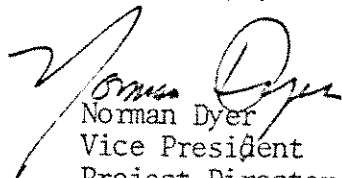
From surveys conducted throughout the United States, not more than 25% of the travel made will be by mass transportation even with excellent bus service and that the provision of additional service will not result in increased patronage of mass transportation. Thus, vehicle trip volumes should show a decrease by not more than 20% for the 12 minute headway bus service and by not more than 25% for the 5 minute headway bus service.

Ridership on mass transportation will increase if bus service is improved when headways are between 5 and 12 minutes. Thus, the 12 minutes and 5 minutes headways are assumptions for improved bus service. These assumptions do not indicate that such headways will be provided by the City's bus service in the near future, but only as a basis of alternative evaluation of the transportation system.

Mr. George C. Villegas
Page Two
December 16, 1976

Thank you for your comments and we hope that we have adequately provided responses to your points of concern.

Very truly yours,


Norman Dyer
Vice President
Project Director

ND:lo

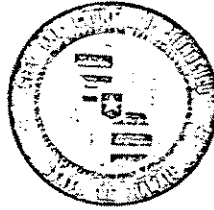
cc Department of Land Utilization
Environmental Quality Commission
Environmental Communications, Inc.

DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813
PHONE 523-4161

FRANK F. FASI
MAYOR

RICHARD K. SHARPLESS
MANAGING DIRECTOR



WILLIAM BLACKFIELD
DIRECTOR

TYRONE T. KUSAO
DEPUTY DIRECTOR

December 6, 1976

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

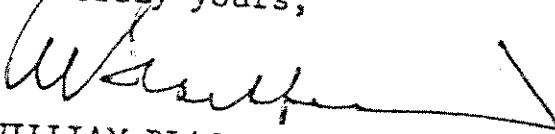
Gentlemen:

Subject: Gentry-Waipio

We have reviewed the Environmental Impact Statement for the proposed Gentry-Waipio and returning the copy of the EIS. We are somewhat disappointed at the projected prices for the moderate income units. We believe that at \$40,000 to \$50,000 per unit, the needs of the moderate income families will not be adequately served.

Thank you for giving us an opportunity to review the EIS for the proposed Gentry-Waipio Project.

Sincerely yours,


WILLIAM BLACKFIELD
Director

Enc.

cc: Dept. of Land Utilization
Gentry-Pacific



December 15, 1976

P.O. Box 295
Honolulu, Hawaii 96809
phone 531-8491

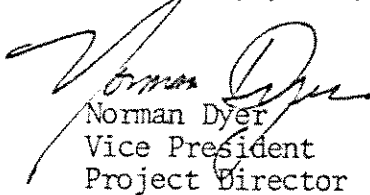
Mr. William Blackfield
Director
Department of Housing and
Community Development
City & County of Honolulu
650 So. King Street
Honolulu, Hawaii 96813

Dear Mr. Blackfield:

Thank you for your comment on the proposed Gentry-Waipio Environmental Impact Statement as stated in your letter dated December 6, 1976. We are also concerned over the continually rising costs of developing housing that can be purchased by moderate income families. The prolonged period of government review of our project has seen the increasing costs for materials and supplies, labor and development costs accrue at a rate that was not foreseen in 1972 when our project was first conceived. Please be assured that we will take the necessary steps to provide housing for all segments of the general public (including moderate income families) to the best of our ability.

Thank you for your comment and continuing concern.

Very truly yours,


Norman Dyer
Vice President
Project Director

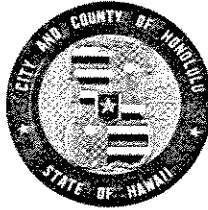
ND:lo

cc Department of Land Utilization
Environmental Quality Commission
Environmental Communications, Inc.

DEPARTMENT OF LAND UTILIZATION
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR



GEORGE S. MORIGUCHI
DIRECTOR

76/Z-22 (JW)

December 6, 1976

Mr. F. J. Rodriguez
Environmental Communications, Inc.
P. O. Box 536
Honolulu, Hawaii 96809

Dear Mr. Rodriguez:

Environmental Impact Statement
Gentry-Waipio Rezoning Request, Waipio, Oahu

In our review of the above, we have attempted to confine our comments to issues normally covered in an Environmental Impact Statement. In view of the scale of the proposal and its present planning stage, we realize that not all of the questions we raise can be answered with certainty at this time and will thus be considered "unresolved issues". We may need to address some of these questions to appropriate public agencies. However, all these issues must be resolved before the rezoning request can be presented to the Planning Commission and City Council. As a general observation, we find that the submittals lack the specificity necessary for an acceptable rezoning request, and we would expect that additional materials, including site plans, will be submitted by the applicant.

Our comments are arranged in order of the references' appearance in the EIS text and take into account accompanying technical reports.

1. Reference: Housing demand in Ewa district. P. I-7

Comment: Aggregated housing demand figures have limited significance in themselves. The demand varies according to the cost of the unit, so it cannot necessarily be assumed that the Gentry-Waipio proposal would provide 15% of the required new housing units in Ewa between 1970 and 1985. Furthermore, we question whether the project site could be considered "Ewa", as reflected in our comment #16, below.

2. Reference: Project housing unit prices. P. I-7

Comment: If moderate income families can afford housing "up to \$45,000" in price, then not all of the 25% of Gentry-Waipio units priced in the \$40,000 to \$50,000 range would be within the means of a moderate income family. Moreover, the "moderate income families" who could afford units priced over \$40,000 would be those at the upper end of the scale, unless special, highly-favorable financing arrangements are involved. Also, what assurance is there that units would be sold at these prices if there is no firm commitment from Hawaii Housing Authority or some other governmental housing agency to participate in the project? What is the status of a possible subsidy program?

3. Reference: Housing for elderly. P. I-7

Comment: Apparently, the average (mean) annual income for all elderly persons is used as the criterion for placing them in the moderate income category, although this is not specified. The median annual income would be lower and more appropriate in this case. At any rate, it would seem to be the low-income elderly who are most in need of housing.

4. Reference: Industrial land. P. I-10, 20, 21, 22 and "Survey of Demand and Availability of Industrial Space in Selected Areas of Oahu".

Comment: Much of the data provided in the EIS and the supplementary technical report are outdated or incomplete. Several new industrial subdivisions in the triangular area formed by Honolulu Airport, Campbell Industrial Park and Waipio Valley are now in progress. The availability of this additional industrial space is not accounted for in the applicant's presentation. Also, just outside of this triangle are 310 acres of vacant industrial land on Sand Island, which do not appear in Table 5 (p. I-20).

The EIS is incorrect in its dismissal of the potential of Campbell Industrial Park for smaller-scale operations. As a matter of fact, we anticipate very shortly from Campbell Estate an application for a 56-lot subdivision, on industrial-zoned land, consisting primarily of one-acre lots. Also, the planned development of a deep-draft harbor and the proposed new General Plan's policy of directed growth toward the Ewa plain will greatly enhance the feasibility of Campbell Industrial Park for smaller-scale operations.

The description of the proposed 120-acre industrial park is too general to provide a clear indication of the probable traffic and water quality impacts. A wide range of uses is permitted in

I-1 districts and potential impacts will vary accordingly. Lot sizes will also influence environmental effects. No rezoning request will be processed until more information on anticipated industrial uses is provided. This is consistent with our policy on other recent industrial rezoning applications involving even less significant extentions of land.

5. Reference: Potable water supply. P. I-22 and "Surface Water Runoff and Water Considerations for the Gentry-Waipio Project".

Comment: The discussion of water requirements for the Gentry-Waipio project and the "sustainable capacity" and "sustainable yield" in Service Areas 8 and 7B is somewhat confusing.

The reason for the discrepancy in the projected consumption rate (2.4 mgd as opposed to 2.74 mgd) is not explained. Which rate did the Board of Water Supply use in determining infrastructure requirements?

The basis for determining a 26 mgd "surplus" sustainable capacity in Service Areas 8 and 7B by 1985 is unclear. Apparently, the population projections in the Board's "2020 Plan" are used to estimate the proportion of sustainable capacity destined for the Honolulu District, but these are not necessarily in accord with population projections in the proposed new General Plan. In any case, the "2020 Plan" was revised last year, so the applicant's figures are outdated and the "Service Areas" are now re-drawn as "Water Use Districts". Furthermore, the policy of directed growth toward Ewa will put stronger competing demands for use of the sustainable capacity in former Service Areas 8 and 7B. Even now, the "Water Considerations" report acknowledges that the average daily draft in this area has been increasing faster than that originally projected by the Board.

Information on sustainable yield is even more vague. The sustainable yield has critical long-range implications for the planning policies of this island, yet the examination of this issue in the applicant's submittals is not very reassuring, nor even very enlightening. For example, it is admitted that the specific amount of basal ground water in this area is unknown, but that "the average daily draft is generally considered to be less than the sustainable yield". (emphasis added) In view of such uncertainty about the quantity of ground water, the presence of other water-consuming operations, such as agriculture and the military, outside of the Board's jurisdiction, and future demands on water supply in the Ewa area, it would seem that the possibility of saline encroachment is not given due consideration in the EIS.

6. Reference: Sewerage treatment. P. I-25

Comment: If the arrangements to dispose of effluent during the interim period by transporting it to Makalena Golf Course for irrigation use are approved by the Departments of Parks and Recreation and Public Works, how much of the anticipated daily volume would be absorbed? Where would surplus effluent be stored should absorption capacity be exceeded during periods of heavy rainfall? If storage is required, what problems may be anticipated with algal formation? Where would the on-site sewerage treatment plant be located? What would be done with these interim facilities once the Honouliuli system is completed? The EIS should also discuss alternative methods of effluent disposal during the interim period.

7. Reference: Solid waste disposal. P. I-26

Comment: No consideration is given to refuse generated by proposed commercial and industrial uses. It should be noted that the Refuse Division's estimates do not take these into account, since municipal service covers only residential areas and certain commercial facilities which choose to pay a user's fee.

8. Reference: Electric utility lines. P. I-26

Comment: It is stated that the two existing 45 kv transmission lines "can be relocated to a less obvious place" to minimize visual impact. The location should be described more precisely than that.

9. Reference: Public elementary school. P. I-27

Comment: Has DAGS completed the site selection study for the school?

10. Reference: Recreational areas and facilities. P. I-27

Comment: How does the applicant intend to comply with the Park Dedication Ordinance (No. 4621)?

11. Reference: Impact on topography. P. II-1, 3

Comment: Phrases such as "minimal grading" should be defined by at least a rough approximation of cubic yards, particularly for such a large area.

12. Reference: Impact on soils. P. II-3

Comment: Decrease in moisture content of soils due to increased area of impervious surface may also diminish aquifer recharge.

13. Reference: Storm water runoff and water pollution. P. II-6, 7, 8 and "Surface Water Runoff and Water Considerations for the Gentry-Waipio Project".

Comment: The rainfall-runoff coefficients used to calculate anticipated post-development storm water flow were appropriate when the State Urban District boundary change was requested, since the nature of urban uses was not known at that time. However, the General Plan amendment includes large tracts designated for industrial, apartment and commercial uses, where relatively high coefficients are applicable. As a result, the original estimate would tend to undervalue the amount of storm water runoff, and the difference may be significant.

14. Reference: Aesthetics. P. II-15

Comment: If the applicant in fact intends to place "medium rise structures" in locations where minimal view corridor obstruction would occur, we would request that site plans for such buildings be presented with the rezoning request for our review.

15. Reference: Traffic impact. P. II-16-20, 22

Comment: The projected numbers of persons per dwelling unit in the Gentry-Waipio development are lower than observed persons per unit for comparable housing types and sizes in the existing Crestview and Mililani developments. What is the justification for this?

16. Reference: Relationship to land use plans and policies. P. III-3

Comment: We take exception to the comment that this project is consistent with the policy to develop Ewa as a secondary urban center. In fact, it is in substantial conflict with this policy, in light of competing demands for water supply, sewerage treatment, transportation improvements and other urban infrastructure.

According to the map accompanying the new General Plan, the subject parcel is located in Population Area #7, encompassing Waipahu and Crestview, and is designated as "urban fringe". This would indicate lower development priority for this area relative to Ewa.

Mr. F. J. Rodriguez
Page 6

17. Reference: Alternatives to the proposed action. P. V-4

Comment: The discussion of alternative development patterns is rather superficial and, in parts, highly conjectural, but we would maintain that it is not the function of this EIS to elaborate in any more detail on County-wide land use plans or potential developments sponsored by other parties. However, the implication that residential development in Ewa, on what is now Campbell Estate Land, would be leasehold is contrary to the stated policy of Campbell Estate and is too misleading to overlook.

We have no comment to make on the assessment of the agricultural alternative, but this does not imply our concurrence with the analysis or conclusions drawn therefrom.

Very truly yours,


GEORGE S. MORIGUCHI
Director of Land Utilization

GSM:ls

cc: Norman Dyer
Gentry Pacific
P.O. Box 295
Honolulu, HI 96809



P.O. Box 295
Honolulu, Hawaii 96809
phone 531-8491

December 17, 1976

Mr. George Moriguchi
Director
Department of Land Utilization
650 So. King Street
Honolulu, Hawaii 96813

Re: Gentry-Waipio Environmental Impact Statement

Dear Mr. Moriguchi:

Thank you for your Department's detailed comments on the proposed Gentry-Waipio project as stated in your letter to Environmental Communications, Inc., on December 6, 1976. The review of the E.I.S., has apparently been integrated with our zoning request application also filed with your Department. Naturally, we will comply with the additional information required for the zoning application. We will be pleased to meet with your zoning staff and discuss in detail, the specific items that are currently lacking. Please advise when this will be convenient and we will be at your service.

We are responding to your comments as they were provided by reference to the E.I.S.

1. Housing Demand in Ewa District: The Rezoning Application and the Environmental Impact Statement both include substantial information as to the type, number, size and approximate price range of the housing units being proposed in the Gentry-Waipio project. It should be noted that we believe that the 15% projection of the new housing within the Ewa Census District was a very conservative estimate, especially in light of the lack of comparable and competitive housing projects being initiated during the next few years. Within the lower density ranges (four to fifteen units per acre) Mililani has contributed a significant number of units within this district, and has attracted the largest number of buyers during the last two years.

There is normally some confusion between "demand" based upon statistical analysis alone in relation to and compared with the availability of attractive and affordable housing in a convenient location. It has been our past experience that in providing the latter, it in itself, creates some of the "demand." As an example, we believe that younger couples currently living in condominiums will find our low density housing product(s) attractive and at a price that they are capable and willing to pay for.

Mr. George Moriguchi
Page Two
December 17, 1976

2. Project Housing Units Prices: The definition of moderate income family or "gap" is generally defined only by income and not family size, age or housing requirements. Our statement will be modified to read, "Some moderate income families can afford housing up to \$55,000 in price but unfortunately some probably cannot afford or qualify for \$25,000 mortgages." The discussion in the E.I.S., reflects families of fewer members with incomes in the range of \$17,000 to \$20,000 per year who would normally qualify for housing up to \$50,000 in price based on current lending practices (30 year mortgage at 8-3/4% interest).

As to the comment, "what assurance that the dwelling units will be sold at these prices," our response is that the sales prices are based on 1975 Cost Index in relation to estimated on-site improvements regardless of any government assistance. We would assume that government involvement would assist in helping families into home ownership who are not able to qualify for privately financed long term mortgages. Gentry-Waipio marketing data also indicates that to effectively proceed on an overall eight year schedule and develop the entire residential portion of the project, approximately 25% of the units should be priced below \$50,000 (1975 Cost Index).

As to the status of possible subsidy programs, the City Department of Housing and Community Development at the time of the General Plan Amendment (February-August, 1976) indicated that they had no interest in the project; the Hawaii Housing Authority has indicated that they continue to have interest in participating in the project and the Federal Department of Housing and Urban Development are currently preparing an Environmental Impact Statement as the basis for issuing insurance for long term mortgages under the Federal Housing Administration and to be able to qualify the project for Federal subsidy programs such as Act 235 (Revised) and 221 D-3.

3. Housing for the Elderly: The information very specifically determines through the State Commission on Aging Report that between 1,400 to 1,600 dwelling units are currently needed on Oahu for housing for the elderly. Land needed for the 90 dwelling units (which will require some governmental participation due to the lower levels of income) will be reserved for a reasonable number of years to be implemented based on Hawaii Housing Authority criteria.

4. Industrial Land: The comment is correct that additional industrial land has now become available principally in Waiawa Valley (approximately 40 acres by Horita Realty) and near Halawa Stadium by Amfac (approximately 35 acres). The Amfac Project is well located and will attract a great number of users with the only apparent drawback being the possible high improvement cost and leasehold land tenure system. The Waiawa Industrial area has been burdened with very expensive improvement costs creating high land values and has limited access to the highway network, especially in the direction of Honolulu and Waipahu.

The intent of the comments in the Environmental Impact Statement and the General Plan Amendment Rezoning Application for the Gentry-Waipio project,

Mr. George Moriguchi
Page Three
December 17, 1976

is not to "dismiss" the potential of Campbell Industrial Park for smaller scale operations, but only to point out the inappropriateness of most of those operations and businesses being located at such a remote location. It has been explained by many in business that in order to operate efficiently and successfully, it must be well located to serve their market. If the business' main purpose is to serve other businesses located in Campbell Industrial Park, then there is no doubt that Campbell is an excellent location to be based. However, if the business must be conveniently located to serve existing residential population and commercial enterprises, then Gentry-Waipio Industrial Park is much better located. As to specifics, the one acre lot subdivision minimum size in Campbell is considered too large for many companies to operate economically. Gentry-Waipio intends to sell some 15,000 sq.ft., parcels in fee which reflects a definite need in the community.

Your observation that the possible deep-draft harbor and the directed growth to the Ewa Plains greatly enhances the feasibility of the industrial park for smaller key operations is well taken. The latest announcement regarding the agreement between the State of Hawaii and the Campbell Estate on the development of the deep-draft harbor has brought the possibilities of improved feasibility for the industrial park closer to actuality. Therefore, it is our belief that the stated factors, despite the long drawn-out implementation schedule still facing both parties, can provide benefits to the Campbell Industrial Park.

We believe your comments as to our description of the proposed 120 acre Industrial Park being too general are correct. We are now preparing a preliminary site plan for the property included in the Rezoning Application showing specific building sizes, parking areas, setbacks, landscaping standards, etc., which represents our current status of the planning for this area.

5. The comments expressing concern over the availability of an adequate source of potable water are appreciated. Based on the General Plan Amendment land use approval, the average daily water requirement is 2.3 MGD, slightly less than previous requirements. We of, course, will be subject to the Board of Water Supply and their making available sufficient water to meet our service demands. We have been in constant communication on this subject with them and will comply with their directives. As to the increasing average daily draft and saline encroachment potential, we are subject to the management capability of the total water supply for Oahu by the Board of Water Supply.

6. Sewage Treatment: The amount of secondary treated effluent to be disposed of during the interim period of the Makalena Golf Course is estimated to 400,000 GPD. One of the holding ponds next to the Golf Course will be lined to accommodate surplus volume if capacity is exceeded during periods of heavy rainfall. The proposed location of the on-site sewage treatment plan is tentatively located near the abandoned reservoir and Kamehameha Highway. These interim facilities will be removed from the site once the Honouliuli System is completed. The State Department of Health and

Mr. George Moriguchi
Page Four
December 17, 1976

the City and County Department of Public Works also share your concerns. We have been resolving this problem to their satisfaction and will comply with their directions.

7. Solid Waste Disposal: Refuse generated by non-residential sources will be serviced by private refuse collection companies that normally provide these services. Those condominium projects with density rates exceeding the service levels normally met by the City refuse service, will also be covered by private collectors.

8. Electric Utility Lines: We have a tentative understanding with Hawaiian Electric Company on 45KV transmission line relation to a parallel line located within the gulch mauka of the H-2 Freeway (see attached exhibit).

9. Public Elementary School: Based on recent discussions with the staff at the Department of Education, it appears that it will be at least one year before the site selection study will be completed by the Department of Accounting and General Services. It should be noted, however, that there have been numerous discussions with members of the Department of Education and the Department of Accounting and General Services over the tentative location for the elementary school site shown on the General Plan/Detailed Land Use Map.

10. Recreational Areas and Facilities: The applicant fully intends to comply with the Park Dedication Ordinance #4621 and any revisions thereto. It is our understanding that the amount of open space that is being proposed in the rezoning application and the overall plan for the project is approximately double of what the Park Dedication Ordinance currently requires.

11. Impact on Topography: Based on our recently completed preliminary grading master plan, it has been estimated that approximately 1,000,000 cubic yards of grading will be required, or roughly 2,000 cubic yards per acre. This does not include localized subdivision grading for streets, building pads, et cetera. All grading will conform to the Grading Ordinance, City and County of Honolulu. We believe this amount reflects minimal grading, compared to nearly any other project on Oahu.

12. The described impact on the aquifer recharge capability attributable to the increased surface areas of hard and impervious materials is well taken. We are fortunately not located in the water shed (conservation District) where the greatest amount of rainfall and aquifer recharge take place.

13. The retained engineering consultant (William Hee & Associates), has developed with the Department of Public Works, a preliminary master drainage plan establishing the current run-off coefficient and storm water surface flow based on the approved General Plan/Detailed Land Use Map designations. It has been determined that recent land use changes have minimal effect on run-off quantity calculations compared to previous considerations.

Mr. George Moriguchi
Page Five
December 17, 1976

We will also be complying with applicable code requirements as imposed on the Drainage Division, Department of Public Works, as well as the State Department of Health rules and regulations pertaining to stream discharge quality.

14. Aesthetics: Three locations have been designated for 8-10 story medium density apartment development (A-3 zoning designation). A preliminary site plan is currently being prepared for submission to the Department of Land Utilization as part of the Zoning review.

15. Traffic Impact: The number of persons or household sizes per dwelling unit is not only proposed for the Gentry-Waipio development, but as reflected elsewhere (see Mililani's recent General Plan Amendment), the trend does support the theory that household sizes are decreasing, specific to housing projects that have a multiple of different types when compared to "Single Family" subdivisions such as Crestview and the initial portions of Mililani (reference page 21, dated September 15, 1976 from the Department of Transportation).

16. Relationship to Land Use Plan and Policies: Your comment that this project is not included in the Proposed New General Plan's Ewa designation "Secondary Urban Center" and is located in Area 7 of the New General Plan which encompasses Waipahu and Village Park as the Urban Fringe. Statements referencing our error on this matter have been revised in the Revised E.I.S. It is our understanding that the priority placed on the location aspects take into consideration government's participation, capital improvement requirements and existing urban infra-structures. As has been stated in the past, and which is still a current observation, the development of the Gentry-Waipio project requires little governmental capital investment on the urbanization of the property such as:

- | | |
|----------------------------|---|
| A. New Water Supply System | Responsibility of the Developer |
| B. Sewage Extension | Responsibility of the Developer |
| C. Sewage Treatment | Part of the Honouliuli Treatment Facilities |
| | Interim treatment, responsibility of the Developer |
| D. Highway Improvements | A. Initial improvements to Kamehameha Highway and the vicinity of the inter-sections (acceleration/deceleration) signalization, the responsibility of the Developer |
| | B. The ultimate widening of Kamehameha Highway from Waipahu Street to Mililani should be the responsibility of the State |

Mr. George Moriguchi
Page Six
December 17, 1976

E. Parks

Based on the Department of Parks and Recreation's recommendations, land will be dedicated as per the Park Dedication Ordinance. Facilities to be constructed on these properties will be the responsibility of the City and County of Honolulu.

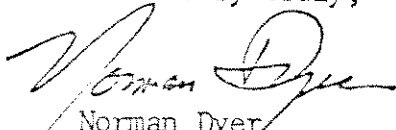
F. Schools

The Developer will dedicate the land required by the elementary school facility. However, it is our understanding that the State will pay for their share of the improvements which benefit the property and its use, and will bear responsibility for facilities constructed on this site.

17. Alternatives to the Proposed Action: We agree that a discussion of alternative development patterns is not the function of the E.I.S., and that this matter was substantially reviewed and analyzed during the City Council's deliberation over the General Plan Amendment on the subject project. We stand corrected as to Campbell Estate's stated policy as to the sale of residential land including transfer of title. However, it is our understanding that developments on Campbell Estate land are still selling under leasehold tenure as is development in the industrial area. This was primarily our basis for this comment.

We appreciate the comments made and hope that our response adequately fulfills the requirements under Environmental Impact Regulations Subsection 1:62 (1 & 2). The portions of the comments that relate to the zoning application will be provided as stated earlier. We will be pleased to meet with you and/or your staff and discuss the specificity of the requirements.

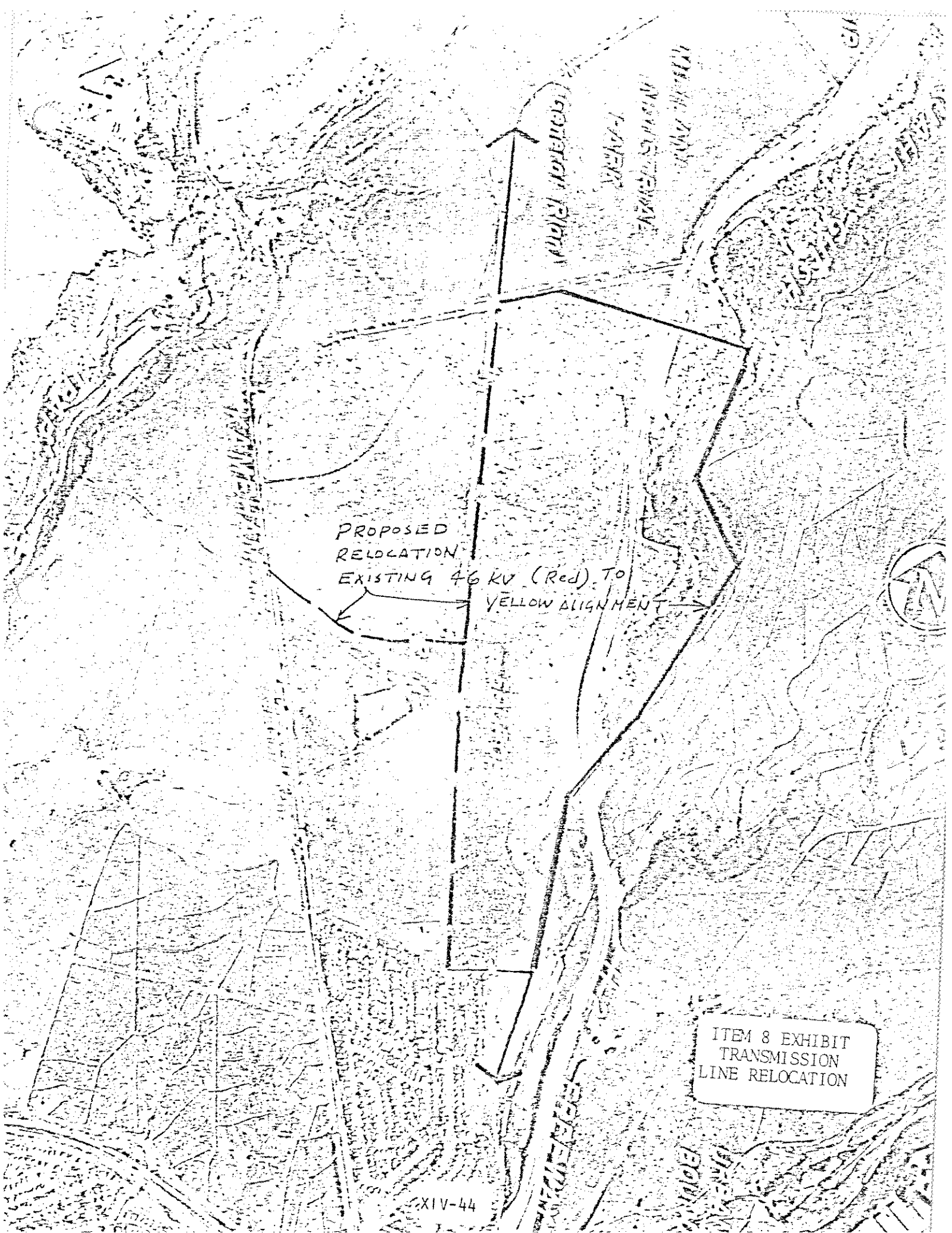
Yours very truly,


Norman Dyer
Vice President
Project Director

ND:10

enclosures

cc Environmental Quality Commission
Environmental Communications, Inc.



PROPOSED
RELOCATION
EXISTING 46 KV (Red) TO
YELLOW ALIGNMENT

ITEM 8 EXHIBIT
TRANSMISSION
LINE RELOCATION

December 16, 1976

Environmental Communication, Inc.
P. O. Box 536
Honolulu, Hawaii 96809

Attention: Mr. Fred Rodriguez

Gentlemen:

Subject: Gentry-Waipio
Sewage Treatment Facilities

In reference to the Department of Land Utilization's letter dated December 6, 1976:

1. The Makalena Golf Course would be using 400,000 GPD for irrigation.
2. The existing ponds within the golf course has a capacity of 4 plus million gallons and with an available storage of 3 million gallons during rainstorms which is sufficient for over one week of storage.
3. The liquid will be chlorinated effluent that has been given secondary treatment and will not create any odor or algae problem.
4. The on-site sewerage treatment plant would be located as shown on the attached plans.
5. After the Honouliuli System is completed, the interim sewage facilities will be removed from the project site.
6. Some other effluent disposal methods that were investigated for the interim period are:
 - 6a. Subsurface disposal - Restriction imposed by the Board of Water Supply. Subsurface disposal will not be permitted within the immediate vicinity of the project site. Deep injection well close to the existing Waipahu Pump Station site is subject to review after subsurface investigation (boring). Shallow disposal wells will be permitted within this area but because of the anticipated soil formation (tight alluvium) chances of success would be slim.

park engineering, inc.

Environmental Communications, Inc.
Gentry-Waipio
December 16, 1976
Page 2

- 6b. Irrigation of the project site - treated effluent would be stored in an existing reservoir within the project site and the effluent would be used to irrigate to undeveloped portion of the project.
- 6c. Restrictions imposed by the Department of Health as to the effluent quality discharging into streams and near shore waters.

Sincerely yours,

PARK ENGINEERING, INC.

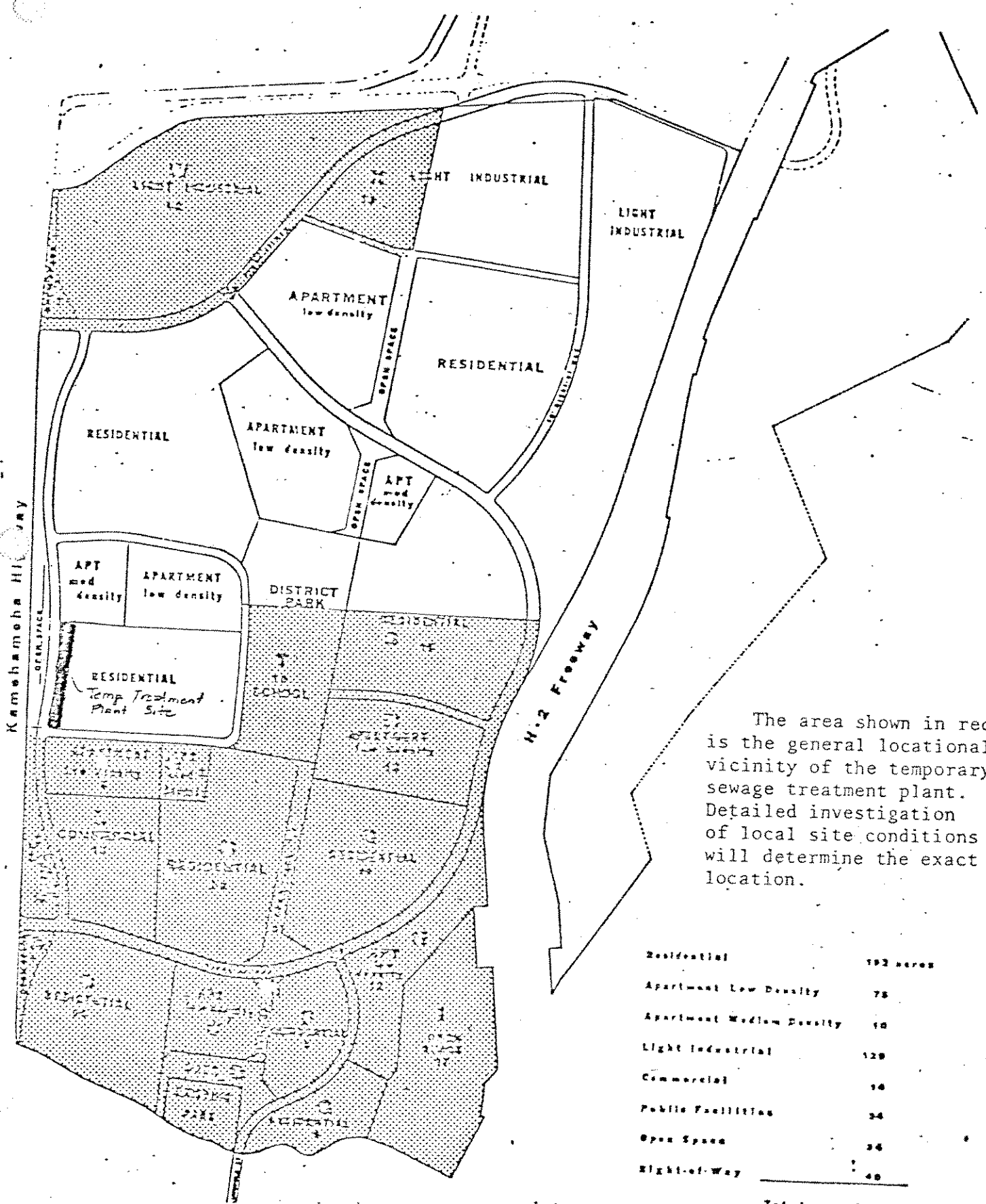
Edwin Maruyama
Edwin Maruyama
Project Manager

EM:sa

cc: Norman Dyer

(Proposed areas in the rezoning request are shaded.)

PROPOSED ZONING MAP
 GENTRY-WAIPIO
 August, 1976



The area shown in red is the general locational vicinity of the temporary sewage treatment plant. Detailed investigation of local site conditions will determine the exact location.

Residential	192 acres
Apartment Low Density	78
Apartment Medium Density	10
Light Industrial	129
Commercial	16
Public Facilities	24
Open Space	26
Right-of-Way	40
Total	510 acres

GEORGE R. ARIYOSHI
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

E. ALVEY WRIGHT
DIRECTOR

DEPUTY DIRECTORS
WALLACE AOKI
RYOKICHI HIGASHIONNA
DOUGLAS S. SAKAMOTO
CHARLES O. SWANSON

IN REPLY REFER TO:

December 6, 1976

STP 8.3998

Mr. Donald Bremner
Acting Chairman
Environmental Quality Commission
550 Halekauwila Street
Honolulu, Hawaii 96813

Dear Mr. Bremner:

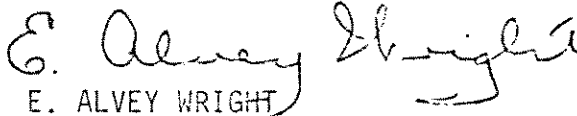
SUBJECT: EIS FOR GENTRY-WAIPIO

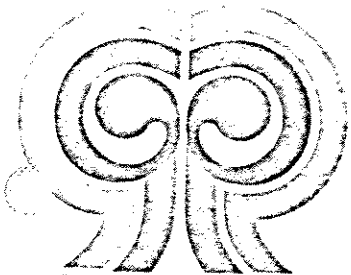
We have reviewed the above-captioned document and find the statement describes quite well the impact of the development on our highway facilities.

Regarding Section F. TRANSPORTATION (Pages 11-16 to 11-20), we have the following comments to offer:

1. There seems to be a conflict between the 1st (2,960 one direction) and 4th (2,960 both directions) paragraphs on page 11-19 that needs clarification.
2. There are no legislative appropriations at present for the widening of Kamehameha Highway along the subject area. We also do not foresee any funds being available in the near future. Thus, we cannot commit ourselves to this widening until a preliminary engineering design study is conducted justifying the widening and funds for construction become available.

Sincerely,


E. ALVEY WRIGHT
Director



Gentry Pacific

P.O. Box 295
Honolulu, Hawaii 96809
phone 531-8491

December 16, 1976

Mr. E. Alvey Wright
Director
Department of Transportation
State of Hawaii
869 Punchbowl Street
Honolulu, Hawaii 96813

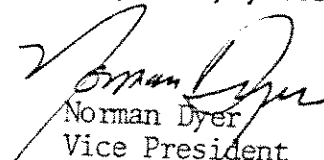
Dear Mr. Wright:

Thank you for your comments on the proposed Gentry-Waipio Environmental Impact Statement as stated in your letter of December 6, 1976. Our retained traffic consultant, Mr. Henry T. Au has reviewed your letter and offers the following response:

- 1) The "2,960 one direction" statement is in error and has been corrected to read "2,960 both directions."
- 2) The project developers are aware of the fact that the State cannot commit themselves at this time to the widening of Kamehameha Highway until the widening is justified and construction funds are available. (This has been clarified in the Revised E.I.S.)

Thank you for your comments and we hope that we have adequately provided responses to your points of concern.

Very truly yours,


Norman Dyer
Vice President
Project Director

ND:lo

cc Department of Land Utilization
Environmental Quality Commission
Environmental Communications, Inc.

University of Hawaii at Manoa
Water Resources Research Center

MEMORANDUM

December 6, 1976

MEMO TO: Norman Dyer
Gentry-Pacific

FROM: Reginald H. F. Young¹⁻³¹⁷
Asst. Director, WRRRC

SUBJECT: EIS for Gentry-Waipio

We have reviewed the EIS for the proposed Gentry-Waipio development and have no critical comment. We are retaining the EIS for our files.

RHFY:jmn

cc: Env. Ctr.



DEPARTMENT OF THE ARMY
 HONOLULU DISTRICT, CORPS OF ENGINEERS
 BLDG. 230, FT. SHAFTER
 APO SAN FRANCISCO 96558

111/76 - 3918

PODED-P

176 1 11 11 11

6 December 1976

Mr. George S. Moriguchi, Director
 Department of Land Utilization
 City and County of Honolulu
 650 South King Street
 Honolulu, Hawaii 96813

Dear Mr. Moriguchi:

We have reviewed the Environmental Impact Statement for the proposed Gentry-Waipio development. The Corps commented on the draft environmental impact statement for this project in a letter to Mr. Norman Dyer, dated 29 December 1975. Our comment is addressed in the present document, and we have no further ones to make at this time.

Thank you for the opportunity for additional input.

Sincerely yours,

Kisuk Cheung
 KISUK CHEUNG
 Chief, Engineering Division

Cy furn:
 Mr. Norman Dyer, Gentry-Pacific
 P. O. Box 295
 Honolulu, HI 96809



UNIVERSITY OF HAWAII

LEeward COMMUNITY COLLEGE

6 December 1976

12:30 PM 3 13

Mr George S Morishige, Director
Department of Land Utilization
City and County of Honolulu
Honolulu, HI 96813

SUBJECT: Comments on Gentry-Waipio EIS, November, 1976

Dear Mr Morishige:

I.E. Use of Public Funds. Are the remaining 63% of the homes built affordable only by high income families? The text is unclear.

II.B.1. Flora The environmental setting with regard to flora is inadequately described for the following reasons:

- (1) There are many more existing plant species than the six identified.
- (2) No poinsetta (sic) exists along Kam Highway. There are several easily identifiable royal poinciana (Delonix regia) trees.
- (3) Grasses make up almost 30% of the ground cover but no species have been identified.
- (4) Some of the more abundant species such as Pluchea odorata (sour bush), Buddleja asiatica (dogtail), Erigeron bonariensis (hairy horseweed), and Emilia javanica (red pua-lele) are not even mentioned.
- (5) Several african tulip trees (Spathodea campanulata) can be seen from Kam Highway—not just one within the proposed 510 acres.
- (6) The "trees next to the reservoir" should be identified specifically.
- (7) The information needs documentation with regard to method and time of survey.

A more complete and accurate survey should be done resulting in a check list of all species observed within the proposed project area.

Anticipated impact. Most plant species will be destroyed during project construction. The impact on the existing flora is a major one. It is probably true, however, that no rare or endangered species will be affected.

Further, the project may have a secondary impact upon the floral composition in Panakauahi Gulch. The existence of the endemic Osteomeles anthyllidifolia and the endemic Dodonaea sandwicensis (syn. D. viscosa) will be threatened. These species are not normally found within close proximity to developed lands.

II.D.4. Air Quality. The inclusion of an air quality impact model for vehicular traffic is commendable. However, it is self-defeating

to state, on one hand, that CO standards may be exceeded, while on the other, fault the model for being too conservative. Instead, all assumptions and data utilized should be carefully reevaluated and a more realistic set of results presented. If data can be recognized as being an over estimate, then it should be amended.

The published data suggests a potential violation of State ambient air quality standards yet no alternatives or mitigation measures are discussed in compliance with 1:42g and 1:42i, Environmental Impact Statement Regulations pursuant to Chapter 343, HRS.

II.F.1. Highways and Streets. Since there is no written commitment to widen Kam Highway, more attention should be directed towards obtaining pragmatic solutions based on the best available data. Environmental impacts cannot be based on promises or assumptions of events which may or may not occur in the future. In addition to "flared intersections," other alternatives for alleviating traffic congestion should be discussed in detail.

III. Relationship of Proposed Action. The list in Appendix C was not originally intended as a program for tree planting. It is the result of a floral survey of Panakauahi Gulch. Some species, such as Acacia confusa (Formosan koa), Eugenia cumini (Java plum), Grevillea robusta (silkoak), Spathodea campanulata (African tulip tree), and Schinus terebinthifolius (Christmas berry) are considered weeds in some forested areas and gulches. They are not normally cultivated in subdivisions. It is inconceivable that Leucana leucocephala (syn L. glauca, koa haole) would be used as a landscape tree. Cultivation of these will simply perpetuate its existence and enable it to widen its habitat range on Oahu. A separate list tailored for the proposed project environment would be much more appropriate.

VII. Mitigation Measures. Since several consulted parties have raised concerns about siltation and soil erosion, the "conventional methods" should be identified and the best available alternatives described. No description of any mitigation measure is provided. This is required by 1:42i, Environmental Impact Statement Regulations.

XI. Response. What impact will the mentioned agricultural activities (XI-4) including field burning, insects, dust and pesticide applications have upon the residents of the development? Is this a case where residents have to take what they get? It is unlikely for Kam Highway to act as a significant buffer (XI-6) from smoke and particulate fallout when the cane fields are burned, especially during Kona wind conditions.

Leeward Community College's present enrollment is in excess of the originally projected ceiling. Students are being subjected to crowded classes, laboratories and working conditions far from ideal. The concern raised by Dr. Young (XI-62) is significant and is not addressed in this EIS contrary to the response given (XI-64).

Solid Waste Reduction. In the future, EIS documents should be printed on both sides. If practiced widely and conscientiously, this will greatly reduce wolid wastes being generated by the EIS process.

Aloha,

Bert Y Kimura

Bert Y Kimura
Division of Math and Sciences

cc: Mr Norman Dyer, Gentry Pacific



P.O. Box 295
Honolulu, Hawaii 96809
phone 531-8491

December 21, 1976

Mr. Bert Kimura
Leeward Community College
96-045 Ala Ike St.
Pearl City, Hawaii 96782

Dear Mr. Kimura:

We have received your letter of December 6, 1976 regarding comments on the Environmental Impact Statement for the Proposed Gentry-Waipio Project. We understand that the comments submitted by you reflect comments from a private citizen rather than Leeward Community College. If this is incorrect, please contact us.

Below we have provided an item-by-item response to your comments. We note that these comments were provided after discussions with the various applicable sub-consultants and environmental consultants.

I.E. Use of Public Funds

Housing costs are extremely unpredictable due to the prolonged processing development schedule. Every effort to remain competitive with comparable market projects will be made so that the objectives of providing attractive and affordable houses will be obtained. For further clarification, we have revised page 1-31 to state: "Based on 1975 costs, the Gentry-Waipio development is expected to provide 25% of the total housing units priced from \$40,000 to \$50,000." It is also unlikely that the proposed dwelling units will be at prices that only high income families (\$40,000 per year) can afford.

II.B.1. Flora

In general response to your comments on flora, we would like to discuss the rationale for our relatively brief discussion of the flora. First of all, we would like to note that no detailed flora survey of the project site itself was undertaken. The reasons for not conducting a detailed flora survey were:

1. The area was previously cultivated for sugar cane and pineapple production and was cleared; it is highly unlikely that rare and endangered species of flora would remain or proliferate

Mr. Bert Kimura
Page Two
December 21, 1976

after this agricultural use was discontinued;

2. A walk through the project area indicated that much of the plant life consists of weeds (including grasses), scrub brush, and the other plants indicated on page 11-5; and
3. We felt that the primary need to discuss existing plants was based on the possibility that rare, endangered, or unique flora would be affected, however, as indicated above, the probability of this is remote.

Below we are also providing responses to each of your points on flora:

1. We agree that there are many plant species other than that identified on page 11-5. However, as indicated above, we determined that a detailed survey of the project site was not necessary and thus the five specifically identified plants and the general "scrub brush" characteristics of the plant life were sufficient.
2. This statement was an error. The sentence will be modified to read: "Aside from the royal poinciana and monkeypod trees along Kamehameha Highway and the mango and banyan trees next to the resevoir, the area is dominated by scrub brush about 2-4 ft. high and various weed type grasses."
3. See general response provided above.
4. See general response provided above.
5. The statement referred to has been corrected to reflect that several African tulip trees can be found within the project site.
6. As indicated in item 2 above, the trees have been identified.
7. As indicated, no flora survey was conducted of the project site.

Anticipated Impact (Flora)

Our conclusion that there will be negligible impact on flora was based on the determination that there is no endangered or endemic species on the project site. Regarding the endemic species of Osteomeles anthllidifolia and the endemic Dodonaea sandwicensis (syn D. viscosa), the following

noted:

Both the endemic species cited, Dodonaea sandwicensis (syn. D. viscosa) and the Osteomeles anthyllidifolia are found commonly in Panakauahi Gulch. These Hawaiian shrubs (sometimes growing to become small trees) will not be removed or destroyed. Precautions will be taken by the developer to avoid adverse impact on these plants. Such precautions may include the relocation of these plants; reestablishing plants in the landscaped area of the project; and/or diverting the drainage waters away from these plant groups.

II.D.4. Air Quality

The methodology on air quality was checked with the Department of Health prior to the carbon monoxide study being conducted. As indicated in the attached Department of Health's letter of December 8, 1976, they have accepted this methodology.

Mitigation measures regarding air pollution will be discussed in the Revised EIS with the inclusion of the following discussion:

"Aside from mitigating measures suggested by the traffic consultant, the implantation of a dense row of shrubs or low trees along the highway could help to reduce actual concentrations of pollutants generated by automobiles. It should be noted that the setback of any homes from the highway will be at least 70 feet (21.2 meters) as planned by the developer. It is also important to note that the estimated CO values do not take into account the effect of installing a set of synchronized traffic signals at the Kamehameha Highway accesses. The air pollution analysis currently assumes that any traffic signals in the area will be operating independently, and that no special turn lanes or green arrows will be provided. If installed, these too would be mitigating measures."

II.F.1. Highways and Streets

Regarding your comments on highways and streets, our traffic consultant, Henry T. Au, has provided the following response:

"With 80 feet entry roads to the project, there should not be any necessity for improvement at the connections to Kamehameha Highway. The statement relating to "flared intersection" was made to indicate to the State Department of Transportation, who has jurisdiction over Kamehameha Highway, that if they consider that some improvements are necessary or if upon completion

Mr. Bert Kimura
Page Four
December 21, 1976

of the project it becomes necessary to provide for improvements at the connections, the project developers would be willing to undertake these improvements at their own expense."

III. Relationship of Proposed Action

The reference to the proposed plant materials on page III-1 has been deleted. This reference was made in error. Enclosed is a list of plant materials which was proposed.

VII. Mitigation Measures

The drainage consultant engineer, William Hee and Associates, have reviewed erosion and siltation measures and provided the following response:

"Erosion control measures subject to the approval of the City and County of Honolulu will be used during the development to minimize erosion and sedimentation. Studies will be made of the overall drainage scheme to dissipate the waters entering the Panakauahi Gulch to further minimize the nuisances that might be created by the discharge of the storm waters."

In addition, we note that the following City and County requirements, "The Soil Erosion Standard and Guidelines," prepared by Department of Public Works, City and County of Honolulu, November, 1975, were used. At this time it would be premature to be more specific as to the mitigation measures to be provided other than the procedure described above.

XI. Response

We note that field burning procedures are restricted to those periods when meteorological conditions will divert smoke away from urban areas. Additionally, pesticide and dust applications are directed on those areas of sugar cane cultivation and settle within the field area and its near proximities and subsequently the Gentry-Waipio project, buffered by Kamehameha Highway and a minimum setback of 70 ft. from the highway, is not anticipated to be affected.

The University of Hawaii's community college system enrolls students from a state-wide basis. Although there are geographical reasons for enrollment, one of the objectives of the community college system is to provide educational opportunities to young adults. There is, no doubt, going to be some increase in enrollment due to the proposed project. However, in light of the rapid urbanization of the Ewa-Waipahu

Mr. Bert Kimura
Page Five
December 21, 1976

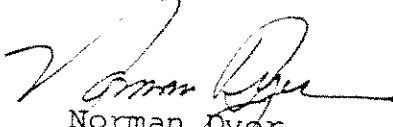
area, an enrollment problem is likely to continue to exist regardless of the project's implementation.

Solid Waste Reduction

This alternative of printing on both sides was considered, however, was not selected because of the additional time necessary to print the document, making us unable to meet the November 5, 1976 submittal date.

We trust that we have provided adequate responses to your comments.

Very truly yours,


Norman Dyer
Vice President
Project Director

Enclosures (DOH's letter 12/8/76)
(List of plant materials)

ND/aw

December 8, 1976

- 38

MEMORANDUM

To: Mr. George S. Moriguchi, Director
Department of Land Utilization, City & County of Honolulu

From: Deputy Director for Environmental Health

Subject: CENTRY-WAIPIO, Waipio, Oahu
Environmental Impact Statement
November 1976

Thank you for allowing us to review and comment on the subject EIS. Please be informed that we have several concerns in regard to the proposed development.

We submit the following comments for your consideration. In addition, we have also attached a copy of our November 30, 1976 communication with Mr. Larry Matsuo, President, Park Engineering, Inc., in regard to the proposed Gentry-Waipio interim sewage treatment facility.

Water Runoff and Drainage

1. The drainage system design engineer indicates that an additional 300 cfs runoff to Panakauahi Gulch and eventually into Middle Loch will be created by the urbanization of the proposed project area. Consideration should be given during the design stages to detain, or, partly retain this additional runoff at the project site in order to control and minimize the runoff from this project to Middle Loch. Drain system outlets to Panakauahi Gulch should not cause any long-term erosion problems in said gulch. It is understood, however, that public health and safety are of utmost importance but a balance could be struck, and present environmental conditions could be preserved, if not enhanced, by good design.
2. The existing culverts under Kanehameha Highway are being considered for use in the project design stages. Design efforts should be directed to maintain, if not minimize, the existing flow towards the canefields and eventually to West Loch by retaining the bulk of additional flows generated in the project area and, at the same time, not compromising the public safety and use of Kanehameha Highway.

December 8, 1976

3. Peak runoff flow rate attenuation techniques should be incorporated in the final design (i.e., increase the time of concentration and decreasing the magnitude of the peak runoff; provide runoff percolation areas.)

Sewage Treatment During Interim Period (on-site secondary sewage treatment; effluent stored and used for irrigation of public golf course)

4. Precautions should be taken or addressed with respect to potential health hazards associated with the use of domestic sewage for golf course irrigation. Our recommendations include the following:
 - (a) fencing of the reservoir;
 - (b) effluent irrigation restricted to only when no one is playing golf on the course;
 - (c) chlorination of effluent to assure complete removal of pathogenic micro-organisms; and
 - (d) protection of potable water systems from cross-connection with the irrigation system.
5. The golf course reservoir should have adequate holding capacity to retain unused effluent during wet weather. At the same time, measures to prevent odors and algal blooms in the reservoir should be considered.

Carbon Monoxide Analysis

6. We agree with the methodology and conclusions as they apply to the carbon monoxide impact analysis.
7. Furthermore, it is our conclusion that this carbon monoxide analysis indicates a need for a smoother traffic egress from the project area unto Kanehamaha Highway. Stop signs and/or traffic signals may cause State Ambient Air Quality Standards for carbon monoxide to be exceeded. We suggest that the City & County Traffic Signal Engineer investigate available alternatives to the use of stop signs or traffic signals for controlling egress from the project area unto Kanehamaha Highway.

Since our comments are based on preliminary plans, we, therefore, reserve the right to impose future environmental restrictions on the project at the time final plans are submitted to our office for review.

cc: Pollution Technical Review Branch
Mr. Fred Rodriguez ✓
Mr. Norman Dyer


JAMES S. KUMAGAI, Ph.D.

MASTER PLAN LIST FOR TREE PROGRAM

by Paul R. Weissich

April 27, 1975

DRAFT

Gentry-Waipio
1st Increment

Paul Weissich
Landscape Architect
April 27, 1975

$$\frac{120 \text{ Acres}}{510 \text{ Acres}} = 23.5\%$$

Assuming 10,000 trees total for 510 acres:

Increment No. 1 = 660 fruit trees (See App. A & B)
Increment No. 2 = 1,690 ornamentals other than fruit
trees (23.5% X 10,000 - 660 = 1,690)

Of the 1,690 ornamentals other than fruit trees assume:

3/4 are major "color trees" available now = 1,269
1/4 are accent ornamentals available now = 421

Major Color Trees:

169 Tabebuia donnell-smithi
200 T. chrysantha
300 Jacaranda acutifolia
300 Rainbow Shower
(100 each "Wilhelmina Tenny", "Lunalilo Yellow" and "White")
300 Delonix regia (Poinciana)

Major color trees to be used in categories below plus accent
ornamentals as follows:

A. Roads: 280 Trees
20 T. donnell-smithi
35 T. chrysantha
50 Jacaranda
75 Rainbow shower (equal quantities of the
three varieties)
100 Poinciana

B. Greenway - Buffer 325 (Assuming 170 in each area)

1. Greenways: 170 Trees
20 T. donnell-smithi
20 T. chrysantha
20 Jacaranda
25 Rainbow Shower
0 Poinciana
24 Bauhinia blakeana
36 Bombax ellipticum
12 Cannonball Tree
12 Erythrina cristi-galli

Greenways: 14 Mindanao Gum
12 Lemon Gum
24 Red Indian Wili Wili
24 Allspice Tree
12 Bayrum Tree

2. Buffer: 170 Trees

30 Ficus elastica decora
15 Erythrina fusca fastigiata
50 Cinnamomum cassia
50 Clusia rosea
25 Filicium decipiens

C. Public Park/School/Church 238 trees

75 T. donnell-smithi
50 T. chrysantha
75 Jacaranda
25 Rainbow shower
75 Poinciana

D. Commercial: 60 Trees

30 Jacaranda
30 Poinciana

E. Single Family: 170 Trees

70 Rainbow shower
50 T. chrysantha
24 T. donnell-smithi
21 Poinciana

F. Gentry Plan Townhouse: 280 Trees

30 T. chrysantha
50 Jacaranda
50 Rainbow Shower
25 Poinciana
50 Red Indian wili wili
25 Erythrina cristi-galli)
50 Tabebuia argentea) 42 over total

G. Low-Rise Condominium: 280 Trees

10 T. donnell-smithi
15 T. chrysantha
75 Jacaranda
50 Rainbow Shower
49 Poinciana
41 Pterocarpus indicus
40 Platymiscium pinnatum

H. Mid-Rise Condominium: 57 Trees

20 T. donnell-smithi
18 Pterocarpus indicus
18 Platymiscium pinnatum

Suggest also immediate propagation (upon final approval of subdivision plans) of many more - for next increments Lagerstroemias, Spathodea nilotica etc., and odds and ends if Kuraoka will use (Bombax malabaricum, other spices, Ficus religiosa, etc.)

APPENDIX A

Assuming 2 fruit trees per single family unit
Assuming 1 fruit trees per Gentry-Plan townhouse

1976	85 SFU	X	2	=	170
	140 GPT	X	1	=	140
					<u>310</u>

1977	40 SFU	X	2	=	80
	180 GPT	X	1	=	180
					<u>260</u>

1978	45 SFU	X	2	=	90
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Assuming relative popularity : Mango - 1/2; Lychee & Avocado - 1/8 each; citrus - 1/4

1976 310 fruit trees

155 mangos
39 avocado
38 lychee
78 citrus

1977 260 fruit trees

130 mango
65 Citrus
33 Lychee
33 Avocado

1978 90 fruit trees

45 mango
23 citrus
12 lychee
12 avocado

APPENDIX B

Fruit Trees: Recommended Varieties

A. Avocado

1. Illialu (winter fall)
2. Fujikawa (winter spring)
3. Masami (winter spring)
4. Hayes (winter spring)
5. Itxamna (spring summer)

B. Citrus

1. Dancy Mandarin
2. Fremont Mandarin
3. Fairchild mandarin
4. Bears Lime
5. Orlando Tangelo

C. Longan

1. Kohala

D. Lychee

1. Kwai Mi
2. Hak Ip
3. Groff
4. Pat Po Hung

E. Mango

1. Haden
2. White Pirie
3. Brookslate

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

440 Alexander Young Bldg., Honolulu, HI 96813

December 7, 1976

Dr. Richard E. Marland, Director
Office of Environmental Quality Control
550 Halekauwila St., Room 301
Honolulu, HI 96813

Dear Dr. Marland:

Subject: EIS - Gentry-Waipio Project, Waipio, Oahu

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

Our major concern is the location of the proposed project. This area is located on what is considered to be potential prime farmland. If irrigation water is available, 490 acres or 96 percent of the 510 acres would be considered prime farmland under USDA criteria. At the present time, even without irrigation water, these lands are still considered as important farmland because of their potential to become prime farmland. This area, Central Oahu, has the largest contiguous acreage of prime farmland on the island.

Since the area is still zoned Agriculture 1, we suggest a land exchange alternative be considered. This alternative being to exchange the 510 acres for nonagricultural or less desirable agricultural land. Some areas in the Ewa plain fit this category.

As for the availability of irrigation water, a study should be made on the feasibility of using Waiahole ditch water or ground water for this area.

Another concern is: What effect will this urban zoning have on agriculture in Central Oahu?

Specific Comments:

1. Page iv. The draft report of the New General Plan (City and County of Honolulu) does not consider Ewa as a primary urban center but a secondary one. Furthermore, the Gentry-Waipio area is more properly located in the Central Oahu district. This area is considered a fringe urban area in the draft plan.




2. Page III-4. While it may be true that the parcel may be separated from other sugarcane areas, this parcel is nevertheless in close proximity to the Waipahu sugar mill.
3. Page V-20. The continuing success of the fresh fruit market has changed the economics of raising pineapple. Many of the announced cutbacks have not occurred.
4. Page V-22. Table 25 shows that most vegetable crops are well-suited for this area. This, plus the close proximity to the Honolulu market, makes it an ideal agricultural area. The Central Oahu Planning Study, Technical Supplement 2, "The Future of Hawaiian Agriculture," January 1973, mentions the need for additional farmland.
5. Page V-24. Dr. Lorenz considered only head lettuce and celery; these are temperate-zone crops that will not grow in most areas in Hawaii. Did he consider tomatoes, cucumbers, etc.?

We want to reiterate our concern of the loss of potential prime farmland. We recommend that our proposed alternative of land exchange be carefully analyzed before a decision is made to commit these acres for urban use.

Thank you for the opportunity to comment on this document.

Sincerely,


Jack P. Kanalz
State Conservationist

cc: Dept. of Land Utilization, C&C of Honolulu
Norman Dyer, Gentry-Pacific, P.O. Box 295, Honolulu, HI



Gentry Pacific

P.O. Box 295
Honolulu, Hawaii 96809
phone 531-8491

December 15, 1976

Mr. Jack P. Kanalz
State Conservationist
United States Department of Agriculture
Soil Conservation Service
440 Alexander Young Bldg.
Honolulu, Hawaii 96813

Dear Mr. Kanalz:

Thank you for your comments on the proposed Gentry-Waipio Environmental Impact Statement as stated in your letter dated December 7, 1976. The concerns as stated reflect the position of your office and as such are consistent with the goals and objectives of the United States Department of Agriculture.

Regarding your comment that our project site is considered "prime" agricultural land, it is also the case that these lands are also "prime" lands for urban use. The specific items listed in your letter have been covered by our agricultural consultant, Dr. Oscar Lorenz during the public hearings and proceedings when this project was under the consideration by the State Land Use Commission (1974) and the City and County General Plan Amendment (1976) to urbanize the property. It is agreed that since that time when Dr. Lorenz developed his agricultural analysis, the market conditions for some of the crops have either improved as in the case of pineapple, or declined as in the case of sugar.

In response to your suggestion of a land exchange for other less agriculturally suitable lands (Ewa Plains) we know of no other land(s) which is better located for urban expansion having the physical characteristics to easily support the type of development discussed in the E.I.S.

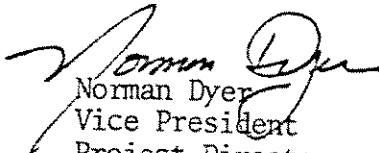
The timeliness of the documented material in the E.I.S. and the recent changes to the proposed General Plan are noted and we agree that we are now located in what is more aptly stated as an urban fringe area, located between the Primary and Secondary Urban Centers.

Mr. Jack Kanalz
Page Two
December 15, 1976

Finally, the option to utilize this parcel for agricultural purposes would require a new and substantial water system and have to be accomplished at urban land rates, it is the opinion of the State Department of Agriculture among others, that this would prove to to economically unfeasible.

We appreciate your office's comments and thank you again for your comments.

Yours very truly,


Norman Dyer
Vice President
Project Director

ND:lo

cc Department of Land Utilization
Environmental Quality Commission
Environmental Communications, Inc.

GEORGE R. ARIYOSHI
GOVERNOR



RICHARD E. MARLAND, PH.D.
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
December 8, 1976

George Moriguchi, Director
Department of Land Utilization
City and County of Honolulu
Honolulu, Hawaii 96813

SUBJECT: Environmental Impact Statement for Waipio-Gentry,
Waipio, Oahu

Dear Mr. Moriguchi,

As of this date, this Office has received nine comments on the above subject. An attached sheet lists the responding agencies and organizations.

Our review is limited to the environmental impact statement. In our evaluation, we have found several areas in which the discussion should be expanded. We offer the following comments:

SEWAGE TREATMENT (p. I-25)

For the interim period, the EIS indicates that an onsite sewage treatment will occur. However, the discussion is too brief to give the reviewer a complete scope of the action. What will be its capacity? Is the 500,000 mgd for the onsite plant or for Honouliuli STP? Will it be in operation in all the phases of development? What will happen when the sewage is diverted to the Honouliuli Wastewater Treatment Plant? Where will the sewage lines be located? What other disposal methods have been considered? An expanded discussion is recommended.

FIGURE 10 (p. II-4)

Where is MpD-Manana on the map? It is listed on the legend, but not on the map.

SURFACE RUNOFF (p. II-7)

The discussion of surface runoff and drainage pertains mainly to the present land conditions (i.e. vacant land). However, surface runoff increases as the area for water percolation decreases which leads to less percolation to the ground water supply. Thus, discussion should be directed to the amount of runoff generated by the development, its effect on the stream, and its effect on Pearl Harbor.

WATER POLLUTION (p. II-7)

The discussion on water pollution is also quite brief. Consideration should be given to the impact of debris during surface runoff which could stimulate bacteria growth in the stream and at the outlet of Pearl Harbor. Studies have shown that urban surface runoff do significantly affect water quality of receiving bodies of water. For example, domestic wastes contain bacteria such as fecal coliforms that may increase in receiving bodies of water. Another consideration is the wood-treating material used in construction of house. Traces of these chemicals are found in surface runoff that may adversely affect marine and aquatic life. Thus, a discussion is warranted.

AIR QUALITY (p. II-10)

Consideration should not only be given to H-2 and Kamehameha Highway but impact on H-1 should also be discussed. What percentage of the traffic from the proposed action will utilize H-1? Will the proposed action significantly affect traffic on H-1?

HIGHWAYS AND STREETS (p. II-16)

Have bikeways been considered for the proposed development?

On page II-19, the EIS states, "The two traffic arteries are Kamehameha Highway and the H-2 Freeway and the traffic volume capacities of only these two highways need be analyzed. "Since this statement relates to the paragraph of whether the proposed action will have adverse impacts on the main traffic arteries, consideration should be given to H-1 freeway also. The H-2 freeway does lead into H-1 and during peak hours, the additional traffic will affect H-1 regardless. A discussion should be expanded to include this.

PROBABLE ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED

Page IV-1 states, "it is more difficult to provide feasible methods of mitigating water pollution (long-term). Therefore, at this time, no economically vially feasible alternative to prevent long-term water pollution to Pearl Harbor is know." This assumption is misleading. Regular street sweeping aids in reducing debris and bacteria growth that adversely affects receiving bodies of water. Mitigation measures could be implemented in the industrial portions of the development which would reduce oil and other harmful chemicals from entering the drainage system. Also, instead of using chemically treated wood to build houses, other materials could be feasible. These are some viable steps toward improving the water quality and should not be discounted. Thus, thoughtful deliberation and evaluation is necessary.

Also, discussion should include any adverse effects or consequences adverse to the environmental guidelines of Chapter 344, Hawaii Revised Statutes.

Lastly, this section needs expansion. According to the EIS Regulations, section 1:42 f. states,

"This should be a brief summary of any adverse impacts including those effects discussed in paragraphs (e) which are adverse and unavoidable under the proposed action. Also, rationale for proceeding with a proposed action notwithstanding unavoidable effects must be clearly set forth in this section."

SHORT-TERM USES VS. LONG-TERM PRODUCTIVITY (p. VI-1)

This section is inadequate. Areas such as secondary impacts have not been covered. Or as Department of General Planning describes in lengthy detail, the possibility of urban sprawl should be discussed as part of this section. What are the trade-offs for short-term losses? Does it narrow the beneficial uses of the environment? How will existing lifestyles change? Will this development stimulate potential growth on surrounding areas?

CONSIDERATION OF GOVERNMENTAL POLICIES TO OFFSET ENVIRONMENTAL EFFECTS (p. IX-1)

Has a cost-benefit analysis been prepared? If so, we recommended a discussion.

TESTIMONIES AND CORRESPONDENCE

If the EIS contains testimonies and correspondences in favor of the proposed action, it should also contain unfavorable ones for fairness and objectivity. Or, the favorable testimonies should be omitted from the EIS. Otherwise, the document becomes a self-serving statement that does not fully describe the issues involved.

CONSULTATION PROCESS (p. XI-6)

The response by Environmental Communications dated October 27, 1976 states, "The comments made in your letter have been transmitted to the applicant and they will be evaluated and answered in the Environmental Impact Statement." However, this is a rather general response and lacking in the spirit of the EIS Regulations. The consultation process should be a process whereby the public has an opportunity to comment before the EIS is prepared. This is to assure that their concerns are discussed and will be incorporated in the document prior to filing. Thus, when the EIS has been filed with the Environmental Quality Commission, it should be an adequate document. Responses as the one cited leave the main thrust of the review at the official filing of the EIS.

RECREATIONAL AREAS AND FACILITIES

According to the EIS, it seems that only 22 acres will be established for park purposes. However, on page X-19, the correspondence from the Department of Parks and Recreation (dated July 12, 1976) states, "We estimate that the proposed change to 3,700 units will

generate a projected population of approximately 11,000. According to our Department's standards of three acres of park per 1,000 persons, approximately 33 acres of park must be provided. "They further mention 17 acres of private park areas. Will 17 acres of private land be utilized for a private park in order to meet the Department of Park and Recreation standard? We recommend clarification."

SUMMARY OF UNRESOLVED ISSUES

In addition to the issues raised by the Department of General Planning, there are other issues that have been controversial and should be mentioned. The Soil Conservation Service states on page X-11, "We believe, however, that good agricultural lands should be reserved for agricultural uses." Has this issue been resolved with the Soil Conservation Service in light of the letter by O.A. Lorenz from the Department of Vegetable Crops at the University of California at Davis?

The traffic counts have been questioned many times by the Department of Transportation. Are the supplemental documents now filed with our Office the corrected traffic counts? If there is a change, then air quality is also affected and revision is necessary.

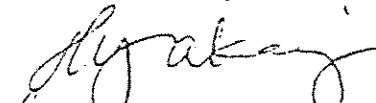
These two issues are important and should be discussed.

RECOMMENDATIONS

In order to save space and paper, we recommend that the correspondences on pages X-6 to XI-79 be reduced to fit 2 letters per page. Also, the correspondence should be arranged chronologically to give the reader a better comprehension of the progression of events and issues that occurred.

We trust that these comments have been helpful to you in your analysis to determine whether or not the EIS is an acceptable document. We thank you for the opportunity to review the EIS. We look forward to the revised statement.

Sincerely,


Richard E. Marland
Director

attachments

cc: Norman Dyer (w/attachments)
Gentry-Pacific
P.O. Box 295
Honolulu, Hawaii 96809

LIST OF RESPONDING AGENCIES AND ORGANIZATIONS

FEDERAL

Dept. of the Army	Nov. 8, 1976
Dept. of the Air Force	Dec. 1, 1976
West Oahu Soil & Water Conservation District	Dec. 8, 1976

STATE

Dept. of Defense	Nov. 15, 1976
Dept. of Agriculture	Nov. 18, 1976
Dept. of Land and Natural Resources	Nov. 30, 1976

CITY AND COUNTY OF HONOLULU

Dept. of General Planning	Dec. 3, 1976
Dept. of Housing and Community Development	Dec. 6, 1976

PRIVATE

Neighborhood Board No. 25	Dec. 8, 1976
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GEORGE R. ARIYOSHI
GOVERNOR



RICHARD E. MARLAND, PH.D.
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
December 8, 1976

George Moriguchi, Director
Department of Land Utilization
City and County of Honolulu
Honolulu, Hawaii 96813

SUBJECT: Environmental Impact Statement for Waipio-Gentry,
Waipio, Oahu

Dear Mr. Moriguchi,

We have received the following comments on the above subject:

Soil Conservation Service	Dec. 7, 1976
Dept. of Transportation	Dec. 6, 1976
Dept. of Transportation Services	Dec. 3, 1976

These were received at our Office on December 8, 1976. Please
append this correspondence with our letter on this matter.

Your cooperation in this matter is greatly appreciated.

Sincerely,


Richard E. Marland
Director

attachments

cc: Gentry-Waipio, Norman Dyer (w/attachments)

LIST OF RESPONDING AGENCIES AND ORGANIZATIONS

FEDERAL

Dept. of the Army	Nov. 8, 1976
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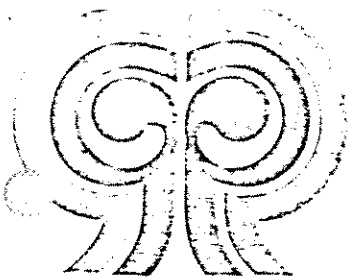
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CITY AND COUNTY OF HONOLULU

Dept. of General Planning	Dec. 3, 1976
Dept. of Housing and Community Development	Dec. 6, 1976

PRIVATE

Neighborhood Board No. 25	Dec. 8, 1976
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Gentry Pacific

P.O. Box 295
Honolulu, Hawaii 96809
phone 531-8491

December 16, 1976

Dr. Richard E. Marland, Director
Office of Environmental Quality Control
550 Halekauwila Street
Room 301
Honolulu, Hawaii 96813

Dear Mr. Marland:

We have received your letter of December 8, to the Department of Land Utilization regarding your office's review of the Environmental Impact Statement for Gentry-Waipio. In providing an "adequate" response to the comments that were submitted during the Draft E.I.S., our legal counsel has advised us to follow the "Environmental Impact Statement Regulations," guidelines, specifically, Subpart G., 1:62, which states:

"The response to comments shall include:

1. point by point discussion of the validity, significance, and relevance of comments; and
2. discussion as to how each comment was evaluated and considered in planning the proposed action.

The response should endeavor to resolve conflicts, inconsistencies, or concerns."

Based on these guidelines, your office's comments have been evaluated and discussed in view of their validity, significance and relevance. Additionally, when comments were found to be relevant and significant, these concerns have been addressed, and where necessary, incorporated in the Revised E.I.S.

Sewage Treatment (p. I-25): Your comments relative to information on interim sewage treatment are valid. The sewage treatment engineering consultants have provided a more detailed description of the interim sewage treatment measures. This description is attached and will also be incorporated into the Revised E.I.S.

Figure 10 (p. II-4): The soils described as MpD-Manana are located within the project site (refer to p. X-12). However, the scale for Figure 10 did not permit the mapping of MpD-Manana. Therefore, we are eliminating Figure 10 and in its place, make reference to p. X-12.

Dr. Richard E. Marland
Page Two
December 16, 1976

Surface Runoff (p. II-7): We feel that this comment is incorrect in implying that there is no discussion on surface runoff of the proposed project affecting the receiving waters (e.g. stream, Pearl Harbor). Pages A-38 through A-41 as well as the technical study of "Surface Water Runoff and Water Considerations for the Gentry-Waipio Project Near Pearl Harbor, Oahu, Hawaii" prepared by Michael J. Chun and Gordon L. Dugan provided elaboration on that data which was included in Section II.

Water Pollution (p. II-7): Our comments above on surface runoff also relate to this question. Additionally, when contacted, the water quality consultant indicated that:

1. Domestic waste is defined as those waters which enter the sewage system. Because interim and permanent treatment call for a minimum of secondary treatment, fecal coliform should not be released in any receiving bodies of water via surface runoff. Stringent governmental health regulations require approval of the sewage treatment measures both by the Department of Public Works and the State Department of Health.
2. The treated wood materials utilized to construct the houses are painted with several coats of paint and thus, our consultant's opinion is that leaching of the chemicals from these materials are minute and will not create adverse impact on the environment.

Air Quality (p. II-10): The air quality consultant has reviewed this comment and has indicated that consideration of traffic on the H-1 Freeway was not evaluated based on the distance of H-1 from the project site. The Department of Health was consulted prior to preparing the carbon monoxide study and their recommendations were followed (see Exhibit I attached to this letter which will show that we have consulted with the Department of Health and have followed their guidelines and received a statement which accepts the methodology of the carbon monoxide study).

Highways and Streets (p. II-16): Yes, bikeways have been considered for the proposed development. On p. II-16 of the E.I.S., last sentence of the first paragraph, the following is noted: "Thus, the major vehicular pattern is laid out along the perimeter of the residential neighborhood with pedestrian movement directed through the middle of pedestrian ways and bicycle paths." Bicycle paths are also described on p. I-16 of the E.I.S.

Since the construction of a new interchange or interconnecting ramp to provide access to the H-2 Freeway is still to be developed and the design not finalized at this time, no attempt was made to undertake a detailed analysis for this alternate street layout scheme. The complete traffic analysis, therefore, was made on the basis that access to the project will be via Kamehameha Highway only as set forth in Scheme A of the internal street layout. The justification of an interchange to the H-2 Freeway must be based on actual traffic needs which is dependent upon the actual urbanization of the subject lands.

Dr. Richard E. Marland
Page Three
December 16, 1976

We note here that the State Department of Transportation has reviewed and accepted the Traffic Impact Study with their comments (see enclosure).

Tracing the effects of the Gentry-Waipio development to the H-1 Freeway must be tempered in favor of being practical. In this instance, the final results will not influence the ultimate decision inasmuch as the traffic generated by the project is slightly less than the excess capacity of the H-2 Interstate Highway.

Probable Environmental Effects that Cannot be Avoided: We have reviewed and considered this comment relevant to our format and are expanding this section to provide determinations relating to the environmental guidelines of Chapter 344, HRS, and a brief summary of adverse effects and rationale for proceeding with the proposed action notwithstanding unavoidable effects.

Short-Term Uses vs. Long-Term Productivity (p. VI-1): We feel that this section is adequate. Discussion such as urban sprawl, lifestyle changes and stimulation of potential growth are answered in the E.I.S., on the following pages: IV-1, IV-2, IX-1, IX-2, XI-30, XI-31, XII-2, XII-5, and XII-6.

Testimonies and Correspondence: The comment implies that the E.I.S., is self-serving; we point out that we have incorporated a number of comments and correspondence and have made indications of oppositions to the proposed project on the following pages II-31, X-10 (states the opinion of the Soil Conservation Service relating to soil suitability), X-24 to X-33 (identifies the problems which were encountered prior to the acceptability of the traffic impact report); also, all comments and responses made during the consultation period were incorporated into the E.I.S., with beneficial or adverse comments to the project. The testimonies provided to the City Council (pp. X-56 to X-67) are incorporated into the E.I.S., as a result of having been sent to the developer and being available in his files. We also note that the lengthy letter of Robert Way which incorporates much of the comments against the project, are found on pp. XI-34 to XI-58.

Consultation Process (p. XI-6): We feel that our response to all letters provided during the consultation period were adequate. In the cases where notations were made that their comments would be answered in the E.I.S., such was done. These comments were used as part of the basis of preparing the E.I.S. Also, we feel that the document makes a fair and equitable disclosure of information.

The correspondence received prior to and during the consultation period were provided to the reviewers in order to show that the Gentry-Waipio project has undertaken several reviews by regulatory governmental agencies and thus, the reviewer is aware of these revisions and previous determinations.

Recreational Areas and Facilities: We have reviewed this comment and have incorporated into the Revised E.I.S., the following discussion.

Dr. Richard E. Marland
Page Four
December 16, 1976

The applicant fully intends to comply with the Park Dedication Ordinance #4621 and any revisions thereto. It should be noted that the amount of open space that is being proposed in the rezoning application and the overall plan for the project is approximately double of what the Park Dedication Ordinance currently requires.

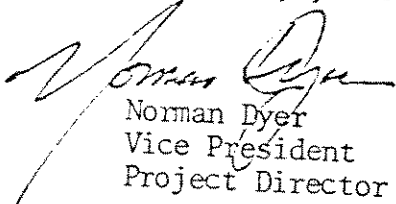
Summary of Unresolved Issues: As indicated in Section XII, Summary of Unresolved Issues, "...were incorporated into the comments from Robert Way, Director, Department of General Planning, City and County of Honolulu, dated September 20, 1976 (found on XI-34). We point out that agriculture as an alternative use of the project site is incorporated into Robert Way's comments (p. XII-8). Section V (pp. V-13 to V-23) reviews agriculture as an alternative and states in the first paragraph of that subsection that there have been several objections to the project raised because opponents feel that good agricultural lands would be utilized.

The supplemental documents with the acceptable traffic estimates (rather than counts) has been provided to your office. The Carbon Monoxide Study has been revised to reflect the corrected traffic counts and is incorporated as Attachment 3 to this letter. Also, the section on transportation in the E.I.S., reflects the most recent information relating to traffic.

Recommendations: Page X-6 to X-79 was produced during the printing of the E.I.S. Sufficient extra copies were printed and are available for the final E.I.S. Therefore, the reduction to fit two letters per page is inappropriate. We note that both sections X and XI provide a listing of comments from various agencies (pp. X-2 to X-4, XI-2 to XI-3) which are normally not found in other E.I.S. documents. Also, the E.I.S., provides a chronology of events on pp. I-31 and I-32 which indicate the "progression events."

We hope that we have answered your comments. We found several comments useful in providing clarification in our document.

Very truly yours,


Norman Dyer
Vice President
Project Director

ND:10

Dr. Richard E. Marland
Page Five
December 16, 1976

cc Department of Land Utilization
Environmental Quality Commission
Environmental Communications, Inc.

enclosures: Exhibit I (Letter to DOH re: Air Guidelines)
Exhibit II (Gentry-Waipio Sewage System and Treatment Facilities)
Exhibit III (Response to American Lung Association letter on
EIS; relating to Air Quality and Traffic)
Exhibit IV (Letter from D.O.T. September 15, 1976)

ENVIRONMENTAL
COMMUNICATIONS
INC.J. RODRIGUEZ
RESID

September 20, 1976

Dr. James S. Kumagai
Department of Health
P. O. Box 3378
Honolulu, Hawaii 96801

Dear Dr. Kumagai:

At this time we are in the process of determining the impact of the proposed Gentry-Waipio project on air quality. This information will then be incorporated into the environmental impact statement which we are also preparing for the project.

In the past, we have applied the "box method" to determine the project's impact on ambient air quality. Determination by your staff in Pollution Technical Review Branch indicates that the "box method" is not adequate to address the problem of ambient air quality effects of non-point sources. Therefore, rather than preparing an air quality impact study which may be unacceptable to the Department of Health, we would like to request that you advise us of an "acceptable" method which could be utilized to obtain accurate indication of air quality impact. (This method must take into consideration the non-specific nature of the available plans regarding the project.)

We have, at this point, reviewed several methodologies which are readily available. Discussion on the reasons why these methodologies cannot be utilized are included in Exhibit A.

Lastly, the project information which is available is provided in Exhibit B. We appreciate your review of this matter and look forward to hearing from you.

Please do not hesitate to contact us if we can provide other information and/or discuss with you or your staff this matter.

Very truly yours,



F. J. Rodriguez

Enclosures: Exhibit A
Exhibit B
Environmental Assessment/Determination

cc: Norman Dyer, A.I.A., and Associates

XIV-83

AIR POLLUTION DISPERSION MODELS REVIEWED

Box Models

Description: The box model is the least sophisticated and provides the least detail. This type of model is useful in making preliminary decisions, especially in the area of defining the tolerance of a given area. The mathematical calculations are simple and easily understood by anyone.

Reasons for not utilizing these models: Not acceptable to the State Department of Health.

Gaussian Plume Models

Description: The Gaussian plume model is of higher sophistication (relative to the box model) and provides very detailed information. This type of model is useful as an evaluative tool to consider alternative land use and transportation plans in terms of the impact on the air quality. This method requires the use of a high speed digital computer along with comprehensive emissions and meteorological data. It is expensive and time consuming. It is necessary to make assumptions, therefore, care must be taken in analyzing and evaluating the results.

Reasons for not utilizing this model: The applicability of the Gaussian plume model to a proposed residential project (indirect sources) is inappropriate. The data available is insufficient to provide the working parameters required in the analysis of this model.

Numerical Simulation Models

Description: This is the most sophisticated but still in a formative stage. It provides detailed two and three dimensional pictures of the spatial patterns of pollutant concentrations and, therefore, most applicable to determining air quality impact of individual sources. This type of model is useful in the design and placement of large individual sources of air pollution. This model requires the use of a high speed digital computer.

Reasons for not utilizing this model: The applicability of the Numerical simulation model to a proposed residential project (indirect sources) is inappropriate. The data available is insufficient to provide the working parameters required in the analysis of this model.

Also reviewed was the Environmental Protection Agency's publication:

"Guidelines for Air Quality Maintenance Planning and Analysis Volume 9: Evaluating Indirect Sources."

The various methodologies employed for determining indirect sources of pollution are not applicable to the proposed Gentry-Waipio project.

Increment	Construction Schedule	No. of Units	Cumulative Total	No. of Auto	1.6		0.7		8.0		A.M. Peak Hour Volume	Cumulative Total
					No. of Employed Persons	Cumulative Total	Work Trips	Cumulative Total	24 Hour Volume	Cumulative Total		
1	1977	300	300	540	480	480	336	336	2400	2400	202	202
2	1978	400	700	1260	640	1120	448	784	3200	5600	269	471
3	1979	500	1200	2160	800	1920	560	1344	4000	9600	336	807
4	1980	500	1700	3060	800	2720	560	1904	4000	13600	336	1143
5	1981	500	2200	3960	800	3520	560	2464	4000	17660	336	1479
6	1982	500	2700	4860	800	4320	560	3024	4000	21600	336	1815
7	1983	500	3200	5760	800	5120	560	3584	4000	25600	336	2151
8	1984	500	3700	6660	800	5920	560	4144	4000	29600	336	2487
Total			3700	6660		5920		4144		29600		2487

Table 8

TRIP GENERATION BY INCREMENTAL DEVELOPMENT 1977-1984

Source: Revised Traffic Impact Statement for "Gentry-Pacific, Waipio" Development, prepared by Henry Tuck Au, Consulting Engineer, August 1, 1976.

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. Box 3378
HONOLULU HAWAII 96801

GEORGE A. L. YUEN
DIRECTOR OF HEALTH

Audrey W. Mertz, M.D., M.P.H.
Deputy Director of Health

James S. Kumagai, Ph.D., P.E.
Deputy Director of Health

Henry N. Thompson, M.A.
Deputy Director of Health

September 30, 1976

In reply, please refer to
file _____

Mr. F. J. Rodriguez
Environmental Communications, Inc.
P.O. Box 536
Honolulu, HI 96809

Dear Mr. Rodriguez:

Receipt of your letter of September 20, 1976, concerning air quality impact analysis techniques proposed for the Gentry-Waipio project is acknowledged.

Some detailed research of alternative methods of analysis is required prior to our sending you a detailed reply. We hope to have a definitive answer to you on or before October 11, 1976.

Sincerely,

RALPH K. YUKUMOTO, CHIEF
Pollution Technical Review Branch

HJY/jcn 4-1



STATE OF HAWAII
DEPARTMENT OF HEALTH
P O Box 3378
HONOLULU HAWAII 96801

October 18, 1976

GEORGE A. L. YUEN
DIRECTOR OF HEALTH

Audrey W. Mertz, M.D., M.P.H.
Deputy Director of Health

James S. Kumagai, Ph.D., P.E.
Deputy Director of Health

Henry N. Thompson, M.A.
Deputy Director of Health

In reply, please refer to
File PTR

Mr. F. J. Rodriguez
Environmental Communications, Inc.
P.O. Box 536
Honolulu, HI 96809

Dear Mr. Rodriguez:

Subject: Suggestions for Addressing Air Quality Impact
of the Proposed Gentry-Waipio Project

As requested in your letter dated September 20, 1976, it is our conclusion that an "acceptable" method for determining air quality impact would be one which addresses the contribution of the particular project to ambient air quality concentration levels. We have reviewed the information contained in your correspondence and conclude that additional data will be required in order to estimate air quality levels.

Because there is no detailed information that can be used to address ambient air quality in the interior of the project area, we suggest that you structure your analysis in two phases. The first phase should incorporate an air quality analysis for estimating CO concentration levels at specific receptor points bordering the evaluation area. The second phase should employ the same type of analysis as the first phase except the analysis should be delayed until the traffic network within the project is defined.

Following are our suggestions for proceeding with the air quality impact evaluation:

Phase I

1. Define the evaluation area. We suggest that the evaluation area be limited to that land area bounded on the East and including H-2, bounded on the West and including Kam Highway, bounded on the North by the limits of the project, and bounded on the South by the limits of the Crestview subdivision. Our reasons for these suggestions are as follows:
 - (a) The two major traffic corridors, H-2 and Kam Highway, will contribute to CO concentrations affecting the project area.
 - (b) The project itself will contribute additional traffic which will also affect the project area and Crestview subdivision.
2. Obtain traffic data as required for those highway segments which make up the entire length of both H-2 and Kam Highway within the evaluation area.

3. Estimate CO concentration levels for specific receptor points within the project and at Crestview due to traffic on H-2 and Kam Highway. These estimates should be represented in two ways:
 - (a) Values computed based on traffic volume data which are due solely to vehicles not contributed by the project area.
 - (b) Values computed based on total traffic volume data which shall include that contributed by the project area.

The difference in (a) and (b) above will be in the net contribution due to the project area.

Phase II

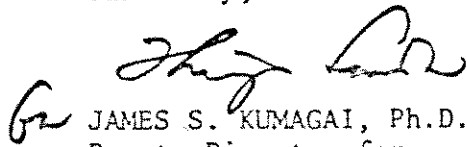
When the traffic network within the project area is defined, we suggest that an analysis of CO concentration due to traffic queing for all significant signalized and non-signalized intersections be performed.

An acceptable method for estimating CO concentration levels for Phases I and II is described in the following reference:

U.S. Environmental Protection Agency, "Guidelines for Air Quality Maintenance Planning and Analysis, Volume 9: Evaluating Indirect Sources," January 1975.

Since our suggestions do not encompass complete details regarding analytical procedures and potential problem areas, we recommend that you review the noted reference and, if you desire, discuss the matter with our staff.

Sincerely,


for JAMES S. KUMAGAI, Ph.D.
Deputy Director for
Environmental Health

HLT/jcn 1-1

December 8, 1976

- 38

MEMORANDUM

To: Mr. George S. Moriguchi, Director
Department of Land Utilization, City & County of Honolulu

From: Deputy Director for Environmental Health

Subject: GENTRY-WAIPIO, Waipio, Oahu
Environmental Impact Statement
November 1976

Thank you for allowing us to review and comment on the subject EIS. Please be informed that we have several concerns in regard to the proposed development.

We submit the following comments for your consideration. In addition, we have also attached a copy of our November 30, 1976 communication with Mr. Larry Matsuo, President, Park Engineering, Inc., in regard to the proposed Gentry-Waipio interim sewage treatment facility.

Water Runoff and Drainage

1. The drainage system design engineer indicates that an additional 300 cfs runoff to Panakaushi Gulch and eventually into Middle Loch will be created by the urbanization of the proposed project area. Consideration should be given during the design stages to detain, or, partly retain this additional runoff at the project site in order to control and minimize the runoff from this project to Middle Loch. Drain system outlets to Panakauahi Gulch should not cause any long-term erosion problems in said gulch. It is understood, however, that public health and safety are of utmost importance but a balance could be struck, and present environmental conditions could be preserved, if not enhanced, by good design.
2. The existing culverts under Kanehaha Highway are being considered for use in the project design stages. Design efforts should be directed to maintain, if not minimize, the existing flow towards the canefields and eventually to West Loch by retaining the bulk of additional flows generated in the project area and, at the same time, not compromising the public safety and use of Kanehaha Highway.

3. Peak runoff flow rate attenuation techniques should be incorporated in the final design (i.e., increase the time of concentration and decreasing the magnitude of the peak runoff; provide runoff percolation areas.)

Sewage Treatment During Interim Period (on-site secondary sewage treatment; effluent stored and used for irrigation of public golf course)

4. Precautions should be taken or addressed with respect to potential health hazards associated with the use of domestic sewage for golf course irrigation. Our recommendations include the following:
 - (a) fencing of the reservoir;
 - (b) effluent irrigation restricted to only when no one is playing golf on the course;
 - (c) chlorination of effluent to assure complete removal of pathogenic micro-organisms; and
 - (d) protection of potable water systems from cross-connection with the irrigation system.
5. The golf course reservoir should have adequate holding capacity to retain unused effluent during wet weather. At the same time, measures to prevent odors and algal blooms in the reservoir should be considered.

Carbon Monoxide Analysis

6. We agree with the methodology and conclusions as they apply to the carbon monoxide impact analysis.
7. Furthermore, it is our conclusion that this carbon monoxide analysis indicates a need for a smoother traffic egress from the project area unto Kamahameha Highway. Stop signs and/or traffic signals may cause State Ambient Air Quality Standards for carbon monoxide to be exceeded. We suggest that the City & County Traffic Signal Engineer investigate available alternatives to the use of stop signs or traffic signals for controlling egress from the project area unto Kamahameha Highway.

Since our comments are based on preliminary plans, we, therefore, reserve the right to impose future environmental restrictions on the project at the time final plans are submitted to our office for review.


JAMES S. RUMAGAT, Ph.D.

cc: Pollution Technical Review Branch
Mr. Fred Rodriguez ✓
Mr. Norman Dyer

December 16, 1976

Environmental Communications, Inc.
P. O. Box 536
Honolulu, Hawaii 96809

Attention: Mr. Fred Rodriguez

Gentlemen:

Subject: Gentry-Waipio Sewer System
and Treatment Facilities

In reference to the Office of Environmental Quality Control letter dated December 8, 1976:

The capacity of the on-site interim treatment plant will be 500,000 gpd which would be in operation only till the Honouliuli Wastewater Treatment Plant is completed. After the sewage has been diverted to Honouliuli, the interim facilities will be removed from the project.

The Gentry-Waipio project is within the tributary areas of the City and County Honouliuli Sewer System. Part of this system is under construction, however, the anticipated completion date is 1980. To provide sewer services for the Gentry-Waipio project, it will be necessary to install a sewer trunk line from the project site to the existing Waipahu Sewage Pump Station and to provide interim sewage treatment and disposal facilities.

I. Sewer Trunk Line

The City and County Department of Public Works has approved the pipe sizes and preliminary alignment of the trunk line from the Gentry-Waipio project site to the existing Waipahu Sewage Pump Station. The State Department of Transportation has also approved the preliminary alignment of the trunk line.

The trunk line from the southerly end of the project site is to be located within Kamehameha Highway, Waipahu Street, along the drainage canal, thence within Moloalo, Awalau and Awanei Streets to the existing Waipahu Sewage Pump Station.

II. Interim Sewage Treatment and Disposal Facilities

There are two alternative solutions for the interim sewage treatment and disposal facilities to handle the initial requirement of 0.50 MGD.

A. Modification to the Existing Waipahu Stabilization Ponds

The various methods to upgrade the existing facilities to handle the additional flow from the project considered were:

- 1) Primary sedimentation
- 2) Secondary treatment by activated sludge a portion of the incoming sewer
- 3) Post treatment by chemical coagulation accompanied by sludge dewatering
- 4) Post treatment with mechanical filtration

After coordinating our effort with the Division of Sewers and the Department of Health, the chemical coagulation method appears to be technically feasible.

B. Temporary "Factory Built" Secondary Treatment Plant with the Effluent Reclaimed for Golf Course Irrigation

From our discussions with the Department of Public Works and the Department of Parks and Recreation, locating the treatment facilities within the Gentry-Waipio project site appears to be the most feasible.

Effluent from the treatment plant will be reclaimed to irrigate the Ted Makalena Golf Course. The Department of Parks and Recreation have indicated that they are receptive in accepting the effluent.

Environmental Communications, Inc.
Gentry-Waipio
December 16, 1976
Page 3

From the treatment facilities, the trunk line will be utilized to transport the effluent to the Waipahu Sewage Pump Station site. Pumping units within the pump station site and force main would be required to transport the effluent to the existing pond at the golf course. The pond will be provided with lining to prevent intrusion of brackish water. Also, it was indicated that the pumps for the golf course irrigation system is not functioning properly and improvement or repair must be made.

Presently, the "Factory Built" treatment facilities within the project site with the effluent reclaimed for golf course irrigation alternate appears to be the better solution. We are coordinating this effort further with the Departments of Health, Public Works, and Parks and Recreation.

Sincerely yours,

PARK ENGINEERING, INC.

Edwin Maruyama
Edwin Maruyama
Project Manager

EM:sa

cc: Norman Dyer

December 17, 1976



Mr. James W. Morrow, Director
Environmental Health
American Lung Association of Hawaii
245 North Kukui Street
Honolulu, Hawaii 96817

Re: Comments on the Environmental Impact Statement for the Proposed
Gentry-Waipio Project, Waipio, Oahu

Dear Mr. Morrow:

We have reviewed your comments on the air quality and traffic portions of the Environmental Impact Statement and requested our air quality consultant, Mr. Barry Root, and our traffic consultant, Mr. Henry T. Au, to assist in preparing the following responses:

EIS, Page II-10 (1): The total peak hour traffic predicted by the traffic consultant is 2,960 vph in both directions. The air pollution estimate was based on pages 7 and 8 of the Revised Traffic Impact Statement which show only residential traffic leaving subdivision.

There are no plans to widen Kamehameha Highway by the State at this time. Widening is subject to being justified and the availability of construction funds. If the project is constructed and if no access to H-2 Freeway is provided, then it seems logical to assume that portion of Kamehameha Highway from the project to Farrington Highway will be increased to 4 lanes.

EIS, Page II-10 (2): While assumption of stability category F could result in as much as a two-fold increase in CO estimates, this would most likely not be the case for receptor sites just 10 meters from the roadway. It is also important to note that the EPA screening technique recommended by the State Department of Health makes no provision for utilization of stability category F. As stated in the CO impact analysis, the assumption of stability category D might not be conservative enough. For that reason, very conservative assumptions of traffic levels and emission values were used in the estimation procedure.

EIS, Page II-11 (1): Since the speed limit on Kamehameha Highway beside the proposed project is likely to be at least 35 mph, there seems no good reason to assume that traffic entering the highway from the project will not

Mr. James W. Morrow
Page Two
December 17, 1976

eventually reach that speed. Table 4, Section 6.3 of EPA Volume 9 refers to urban expressways under free flow conditions. Table 3, Section 6.3 refers to major streets - also under free flow conditions. In any case, Page 17 of the same reference recommends assuming a downstream speed of 15 mph for city streets and 30 mph for major streets. In light of this, 35 mph for a suburban highway does not seem unreasonable.

EIS, Page II-11 (2): Road capacities listed under Assumption 9 on Page II-11 of the E.I.S. are for level of service E as specified in EPA Volume 9. The footnotes at the bottom of the same page state the capacities for a much higher level of service and have nothing to do with the air pollution estimation technique. In fact, the capacities used are very conservative given that 1975 peak hour traffic on Kamehameha Highway was 3,151 vph in both directions. Since about two-thirds of this traffic was in the lane headed toward Pearl City, this lane was carrying 2,100 vph and providing for traffic movement at level of service E. Thus, a capacity of 1,600 vph for a 4 lane version of the highway is quite conservative.

While the above responses should adequately defend the methods and assumptions used in the air pollution portion of the E.I.S., your first point does raise a valid question: What peak hour carbon monoxide values might occur if Kamehameha Highway remains two lanes, industrial traffic is included, and downstream traffic speeds are limited to 30 mph on the highway and 15 mph on project access roads? The answer to that question is provided in Table 1, which considers only traffic Scheme A (no access to the H-2 Freeway), and only those sites on the Kamehameha Highway of the project. See Figure 1 for site locations.

These values indicate that if Kamehameha Highway is not widened to four lanes, then State one-hour carbon monoxide standards are likely to be exceeded for peak hour traffic conditions for all the receptor sites along the highway. Federal standards, however, are not likely to be exceeded for any of these receptor sites.

Aside from mitigating measures suggested by the traffic consultant, the implementation of a dense row of shrubs or low trees along the highway could help to reduce actual concentrations of pollutants generated by automobiles. It should be noted that the setback of any homes from the highway will be at least 70 feet (21 meters) as planned by the developer. It is also important to note that these estimated CO values do not take into account the effect of installing a set of synchronized traffic signals at the Kamehameha Highway accesses. The air pollution analysis currently assumes that any traffic signals in the area will be operating independently, and that no special turn lanes or green arrows will be provided. If installed, these too, would be mitigating measures.

EIS, Page II-19 (1): The statement, "the overall peak hour volume in one direction will total only 2,960", is in error and should be for both directions.

Mr. James W. Morrow
Page Three
December 17, 1976

EIS, Page II-19 (2): The Highway Capacity Manual was prepared in 1965 and is to be used as a guide as a rational and practical method for determining highway capacities. Since 1965, traffic volume counts have shown that the capacity values set forth are under-estimated and that many highways are capable of accommodating considerably higher volumes than the figures given in the Manual. The following quotations from the 1965 Manual are noteworthy:

"The information given in this Manual has been selected to represent typical or average conditions reported throughout the United States at the time of its preparation. The user must appreciate the possibility that individual locations or areas may differ from the average, and avail himself of additional information for specific problems. The Manual does not, therefore, provide rigid standards for capacity measurements, but instead provides a guide in lieu of more detailed information."
(Page 3)

"Highway capacity has been the subject of continuing study over a long period of time, but by no means is the research completed. This summary of present information points out the need for extending the quantity of data and breadth of analysis beyond existing knowledge. Much has been done, but much more study is necessary to accurately define and measure the factors involved in determining the capacity of highways."
(Page 3)

"These maximum observed volumes are given primarily to acquaint the reader with the peak traffic that has been carried on some of the more heavily traveled routes. They are also intended to indicate the wide range of capacities of highways that are seemingly alike in types, but actually have significant differences in their physical, as well as traffic characteristics. The reasons for much of the variation in capacity will become more apparent as the subject is developed in the succeeding material. However, consideration variation must still remain unexplained, awaiting further research." (Page 25)

"It must be remembered, however, that these values were determined from studies of many highways under a variety of conditions. In all cases, it would be impossible to state that the volume measured was the absolute maximum that could be carried, inasmuch as maximum volumes observed at different times at one point will show a range of values. Rather, each capacity value, given in Table 4.1 should be considered as the average maximum volume, or a maximum volume that has a reasonable expectation of occurring frequently on the particular type of highway under ideal conditions." (Page 76)

From the above quotations, it becomes evident that science is integrated into the environmental process and scientific and technological judgement must be made in an environmental impact evaluation. The public, as well as the decision maker, therefore, is not expected to understand these technical

Mr. James W. Morrow
Page Four
December 17, 1976

details, such as level of service and land capacities.

As an example, as early as 1961, based on similar classification and type of roadway, Kamehameha Highway recorded one of the highest hourly volumes on three-lane, two-way highways in the United States. The hourly volume in terms of vehicles per hour in both directions was 1,286. With an average daily traffic for both directions of 10,608, Kamehameha Highway at that time, was considered to be operating at or near capacity. In 1972, the average daily traffic increased to 26,102 with a peak hour volume of 2,488 vehicles in both directions. Kamehameha Highway was also considered operating beyond capacity. In 1975, the average daily traffic increased to 36,558 for both directions and the peak hour volume in both directions was a high of 3,139.

If the capacity values of the Manual were used as the basis for the maximum capacity (1,400 vph) of Kamehameha Highway, traffic on Kamehameha Highway will be at a standstill, unable to move. However, this is not happening, and it would not be unreasonable to expect that the peak hour volume for both directions could increase to nearly 4,000 vehicles assuming that the H-2 Freeway is not constructed.

The capacity value of 1,000 to 1,200 vehicles per lane per hour under interrupted flow conditions for level of service C used in the E.I.S. is not only more than reasonable, but it is also under-rated.

EIS, Page II-19 (3): As explained in detail above, the highway's capacity is under-rated and not over-rated. All comments relating to capacity and its effect on the number of dwelling units, therefore, are not applicable.

A complete interchange for egress and ingress to the H-2 Freeway is to be provided at Mililani as a part of the H-2 Freeway. With this interchange and the H-2 Freeway diverting traffic from Mililani, Schofield, Wahiawa and beyond, there is reason to believe that the peak hour volume in one direction will be less than 650, but that by 1980, the peak hour volume will reach 650. Consequently, it appears that Kamehameha Highway was assigned a constant base of 650 for the peak hour volume in one direction.

EIS, Page IV-1: The traffic generated by the project, at service level C, may be exceeded, however, the highway will still provide an acceptable level of service at level of service D.

The fact that there are no plans to widen Kamehameha Highway does not mean that Kamehameha Highway will not be widened. Long standing custom and common-law have made provision of roads, streets and highways a public function. Thus governmental bodies have a common-law court imposed duty to provide for highway facilities that will not only adequately meet existing and future traffic needs, but also that they be maintained in a manner conducive to safety, durability and economy of maintenance.

Of great importance to the public is the contention of the courts of the continuing obligation of governmental bodies to restudy, to redesign and to make those roadways already constructed better and safer when and where needed.

Mr. James W. Morrow
Page Five
December 17, 1976

However, before widening and other improvements can be approved, justification for these improvements must be based on actual traffic needs which is dependent upon the actual urbanization of the subject lands. Since actual urbanization is impossible at this time, justification must await the completion of the proposed project.


EIS, Page VII-1: Measures or factors that may in the future, mitigate the adverse consequences of traffic include the following:

1. The widening of Kamehameha Highway to a four lane divided highway.
2. The provision of an access to the H-2 Freeway with an interchange or interconnecting ramp at the grade separation structure on Mililani Cemetary Access Road.
3. Improvement of the mass transportation service.

In planning this project, the traffic impact study was one of the first studies to be developed. Through discussions with the Department of Transportation and the Department of Transportation Services, the traffic impact study has been analyzed and revised several times. We intend to continue to work with these two governmental agencies on traffic matters in order to provide for adequate vehicular movement. The carbon monoxide study indicates that there will be impact on air quality during peak hour periods. For this reason, as well as improving aesthetics, we are providing for a minimum setback of 70 feet from the highway to the homes and also possibly planting a greenway buffer minimizing highway vehicular emissions.

Thank you for your comments and we hope that we have adequately answered your concerns.

Very truly yours,


Norman Dyer
Vice President
Project Director

ND:lo

cc Department of Land Utilization
Environmental Quality Commission
Environmental Communications, Inc.

enclosure

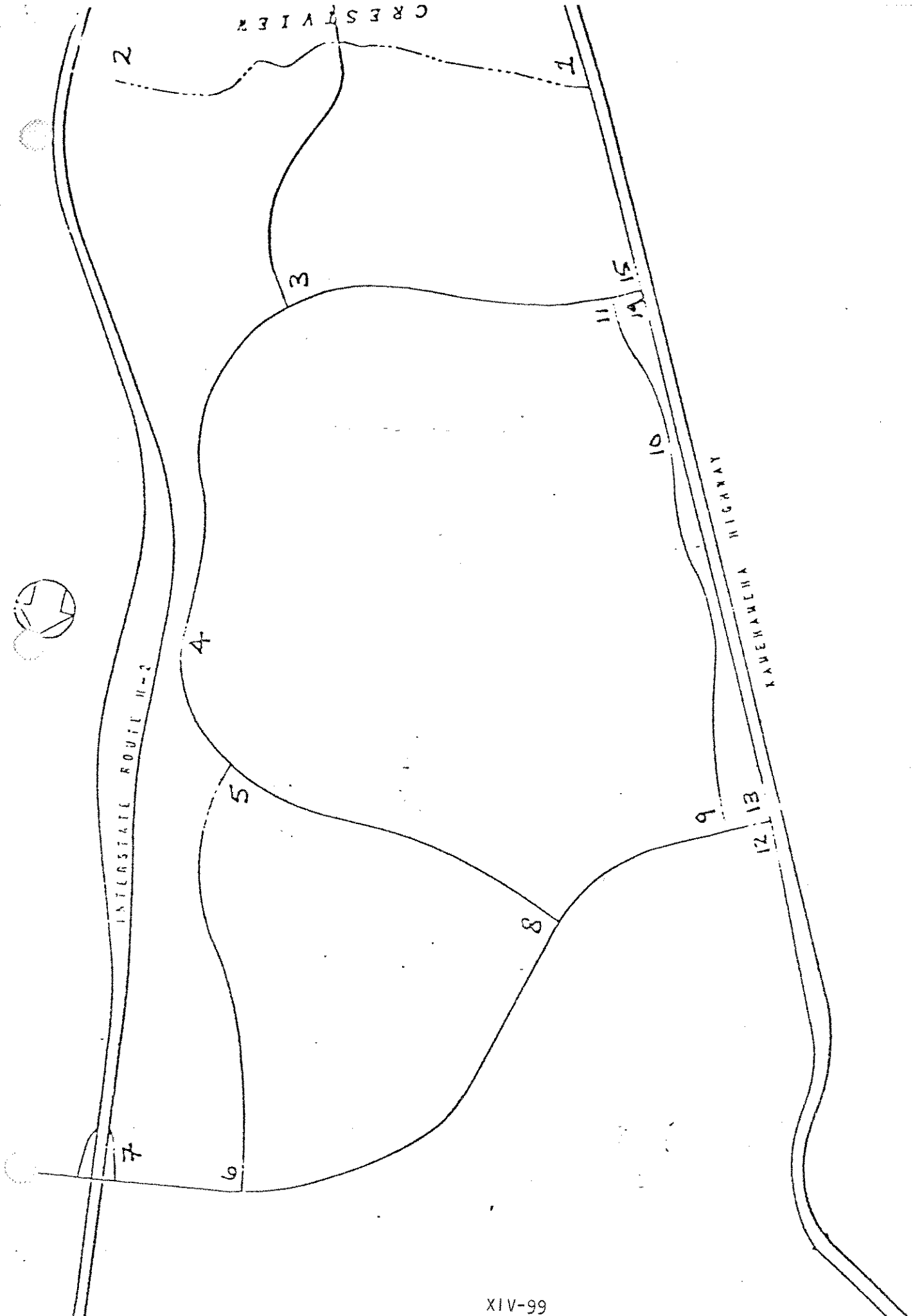


Figure I
Receptor Sites

TABLE 1

Estimated 1986 Peak One Hour Carbon Monoxide Concentrations (mg/m³) within or near the proposed Gentry-Waipio Project for two lane traffic on Kamehameha Highway.

SITE	WITHOUT DEVELOPMENT	WITH DEVELOPMENT (TRAFFIC SCHEME A)		STATE STANDARD	FEDERAL STANDARD
		NO SIGNALS	SIGNALS ¹		
1	6.1	16.3	16.3	10	40
9	3.1	12.4	14.3	10	40
10	4.1	8.9	8.9	10	40
11	3.1	16.5	17.3	10	40
12	6.1	22.3	25.7	10	40
13	6.1	19.6	22.4	10	40
14	6.1	25.4	27.0	10	40
15	6.1	23.5	28.9	10	40

¹ G/cy = 0.5



DEPUTY DIRECTORS
WALLACE AOKI
RYOKICHI HICASHIONNA
DOUGLAS S. SAKAMOTO
CHARLES O. SWANSON

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

IN REPLY REFER TO:

September 15, 1976

STP 8.3846

Mr. Norman Dyer
Vice President
Gentry Pacific
P.O. Box 295
Honolulu, Hawaii 96809

Dear Mr. Dyer:

Subject: Traffic Impact Statement
Re: Gentry-Waipio Project

This confirms our statement to you on August 10, 1976, that our traffic impact statement gives a reasonable and fair assessment of the traffic and its impact on our major highway facilities, and is acceptable to the Department of Transportation.

As agreed, your subsequent submission on the traffic analysis and impact is to include the following:

1. The need to modify the Kamehameha Highway in the area of the proposed intersections be identified; and
2. The traffic consultant incorporate information and impact of other transit means such as buses would have on traffic generation.

Sincerely,

E. ALVEY WRIGHT
Director

December 8, 1976

- 35

MEMORANDUM

To: Mr. George S. Moriguchi, Director
Department of Land Utilization, City & County of Honolulu

From: Deputy Director for Environmental Health

Subject: GENTRY-WAIPIO, Waipio, Oahu
Environmental Impact Statement
November 1976

Thank you for allowing us to review and comment on the subject EIS. Please be informed that we have several concerns in regard to the proposed development.

We submit the following comments for your consideration. In addition, we have also attached a copy of our November 30, 1976 communication with Mr. Larry Matsuo, President, Park Engineering, Inc., in regard to the proposed Gentry-Waipio interim sewage treatment facility.

Water Runoff and Drainage

1. The drainage system design engineer indicates that an additional 300 cfs runoff to Panakauahi Gulch and eventually into Middle Loch will be created by the urbanization of the proposed project area. Consideration should be given during the design stages to detain, or, partly retain this additional runoff at the project site in order to control and minimize the runoff from this project to Middle Loch. Drain system outlets to Panakauahi Gulch should not cause any long-term erosion problems in said gulch. It is understood, however, that public health and safety are of utmost importance but a balance could be struck, and present environmental conditions could be preserved, if not enhanced, by good design.
2. The existing culverts under Kanehameha Highway are being considered for use in the project design stages. Design efforts should be directed to maintain, if not minimize, the existing flow towards the canefields and eventually to West Loch by retaining the bulk of additional flows generated in the project area and, at the same time, not compromising the public safety and use of Kanehameha Highway.

December 8, 1976

3. Peak runoff flow rate attenuation techniques should be incorporated in the final design (i.e., increase the time of concentration and decreasing the magnitude of the peak runoff; provide runoff percolation areas.)

Sewage Treatment During Interim Period (on-site secondary sewage treatment; effluent stored and used for irrigation of public golf course)

4. Precautions should be taken or addressed with respect to potential health hazards associated with the use of domestic sewage for golf course irrigation. Our recommendations include the following:
 - (a) fencing of the reservoir;
 - (b) effluent irrigation restricted to only when no one is playing golf on the course;
 - (c) chlorination of effluent to assure complete removal of pathogenic micro-organisms; and
 - (d) protection of potable water systems from cross-connection with the irrigation system.
5. The golf course reservoir should have adequate holding capacity to retain unused effluent during wet weather. At the same time, measures to prevent odors and algal blooms in the reservoir should be considered.

Carbon Monoxide Analysis

6. We agree with the methodology and conclusions as they apply to the carbon monoxide impact analysis.
7. Furthermore, it is our conclusion that this carbon monoxide analysis indicates a need for a smoother traffic egress from the project area unto Kamehameha Highway. Stop signs and/or traffic signals may cause State Ambient Air Quality Standards for carbon monoxide to be exceeded. We suggest that the City & County Traffic Signal Engineer investigate available alternatives to the use of stop signs or traffic signals for controlling egress from the project area unto Kamehameha Highway.

Since our comments are based on preliminary plans, we, therefore, reserve the right to impose future environmental restrictions on the project at the time final plans are submitted to our office for review.


JAMES S. KUMAGAI, Ph.D.

cc: Pollution Technical Review Branch
Mr. Fred Rodriguez ✓
Mr. Norman Dyer



P.O. Box 295
Honolulu, Hawaii 96809
phone 531-8491

December 17, 1976

Dr. James S. Kumagai
Deputy Director
Department of Health
1250 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Kumagai:

Thank you for your Department's comments on the proposed Gentry-Waipio Environmental Impact Statement as stated in your letter dated December 8, 1976. Our engineering consultants have been advised of your specific requirements and areas of concern and will address them during the final design stages.

Water runoff and drainage impact have been evaluated by the engineering consultant, William Hee & Associates with the following response:

1. The additional 300 cfs runoff caused by the urbanized developmnet of the parcel is miniscule as compared to the total quantity of storm water discharge prior to development--20,000 cfs more or less-- However, during final design, additional studies and efforts will be made to retain the added runoff to protect the present environmental conditions affecting Middle Loch.

Erosion control measures subject to the approval of the City and County of Honolulu will be used during the development to minimize erosion and sedimentation. Studies will be made of the overall drainage scheme to dissipate the waters entering the Panakauahi Gulch to further minimize the nuisances that might be created by the discharge of storm waters.

2. At this time there is no intent to improve the culverts crossing Kamehameha Highway. It is intended that the existing capacities of storm water discharge will be maintained after development, should it be found that the culverts be needed.

3. During the final design stages of the various drainage works, every effort will be made to try to attenuate the flow rate as suggested by the Deputy Director for Environmental Health, State of Hawaii.

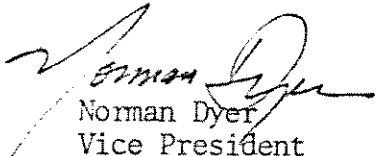
Dr. James Kumagai
Page Two
December 17, 1976

All suggested precautions outlined in your letter (Items 4 and 5) will be forwarded to Park Engineering, Inc., to incorporate into their final design plans for the interim sewage treatment plant and transmission to the Makalena Golf Course. The sewage will receive a minimum of secondary treatment and necessary precautions will be provided to the Sewers Division, Department of Public Works, City and County of Honolulu.

The recommendation that the City and County traffic engineer be advised to investigate the possibility of alternatives to the stop lights/signals (item 7) for controlling egress onto Kamehameha Highway will be made by Mr. Henry T. Au, the traffic engineer retained for this area. We will also be discussing this item with the State Highways Division since Kamehameha is under their jurisdiction.

We appreciate your comments and have instructed our technical consultants to work closely with your staff to achieve a satisfactory resolution of these items of concern.

Sincerely,


Norman Dyer
Vice President
Project Director

ND:lo

cc Department of Land Utilization
Environmental Quality Commission
Environmental Communications, Inc.



University of Hawaii at Manoa

Environmental Center
Crawford 317 • 2550 Campus Road
Honolulu, Hawaii 96822
Telephone (808) 948-7361

Office of the Director

RE:0214

December 8, 1976

MEMORANDUM

TO: Department of Land Utilization

FROM: Doak C. Cox

RE: Review of Environmental Impact Statement
for the Proposed Gentry-Waipio Project

The Environmental Center review of the above cited EIS has been prepared with the assistance of Frank Scott (Agricultural and Resource Economics), Costakis Papacostas (Civil Engineering), Sheldon Varney (Educational Administration), and Rashid Ahmed and Mae Kato Pattison (Environmental Center).

Further research is recommended in the area of alternative agricultural use of the proposed project site. In the discussion of the agricultural alternatives to the proposed land use, the conclusions with respect to the economic potentials of pineapple are questionable. Whereas the economics of growing pineapple in Hawaii for processing became less feasible during recent years because of foreign competition, this situation has suddenly reversed and Dole is putting lands back into pineapple. For this reason we recommend that the assessment of the pineapple situation be updated. An assessment should also be included of the feasibility of producing other fruit crops such as avocados, guavas and bananas. (Guavas and bananas would appear to be the most feasible.) Consideration should be given to the feasibility of developing an agricultural park which would permit the production of a variety of crops. This would seem to allow for a more feasible assessment of the use of the land for agriculture than the existing consideration of each crop individually.

Consideration should also be given to the feasibility of livestock production along with forage and feed grain production on the project. It is questionable whether current producers can supply the forage and feed grain market for daily cattle at prices which are feasible to the industry as is stated in the prepared EIS. The possibility of an agricultural park divided into small farms producing a combination of livestock, feed grains, fruits and vegetables should be examined. The farms might be expected to supplement outside employment and to provide homes in some instances and provide retirement units in others. There are numerous possibilities which should be considered in addition to retaining the land in agriculture strictly for commercial purposes.

The portions of the prepared EIS dealing with transportation impacts (section II-F) and the Revised Traffic Impact Statement (August, 1976) were found to be inadequate in assessing the potential traffic impact of the proposed development. Adequate evidence was not found to support claims, i.e., "scheme B. . . offers the best design that will reduce traffic congestion, provide greater flexibility, capacity and speed the movement of traffic" (p. II-16). Although measures of congestion (such as Level of Service) exist, we find no attempt made to arrive at proper estimates, nor any estimation of expected speeds.

The discussion of capacity concentrates on the Kamehameha and H-2 highways and is based on capacity figures which are applicable to uninterrupted conditions. However, it is the interruptions of traffic at the points of entry that have the potential of causing problems. According to the Highway Capacity Manual (1965, p. 160) "the basic components of any highway, each with its own peculiar operational features and capacity potential are: 1) the highway proper, characterized by uninterrupted flow. . . ; 2) the intersection at grade, characterized by interrupted flow (with or without signal controls); and 3) the interchange, characterized by diverging or merging maneuvers." Also, "one of the most important elements limiting, and often interrupting, the flow of traffic . . . is the intersection at grade" (Highway Capacity Manual, p. 111).

The Revised Traffic Impact Statement recognizes that "special consideration be given to points of entry" (T-10), and that "some improvement may be necessary at the connections to Kamehameha Highway" (T-18). However, alternative entry designs are mentioned in passing without any attempt at quantification and comparative evaluation.

The analysis of the impact of mass transportation service was also found to be inadequate. It simply assumes full occupancy and translates the resulting figure into a reduction of car usage.

The brief section in the prepared EIS (p. I-27) pertaining to public school facilities does not indicate that the educational impact of this subdivision has been analyzed and evaluated. An estimate of the number of school aged children should be included as well as their projected number by grade level and by scheduled subdivision occupation phases. Lacking this data, several questions remain unanswered: 1) What is the anticipated impact of students from the proposed project on Waipahu Intermediate and Waipahu High Schools? 2) Will bus service be available to transport the students to and from school? 3) What related traffic problems may be anticipated during peak school hours? 4) Is a public library accessible to these school children? Note that letters on page I-27 to be found on pages XI-17 and XI-14 are missing.

The adequacy of the proposed interim elementary school facilities in meeting Department of Education Specifications is not discussed. We suggest that questions as to the location, schedule of readiness and the adequacy of space and equipment necessary for a quality elementary school curriculum program be addressed. In light of the inadequate and incomplete assessment of educational impact in the prepared EIS, we recommend that a professional assessment of the educational impact of the proposed project be made and that adequate plans to meet the impact be made and committed to by the developer and/or the Department of Education before the subdivision is approved.

December 8, 1976

The economic impact of the project, particularly in terms of creating jobs, was not found to be adequately addressed. Only brief reference is made to the temporary jobs that will be created during the construction phase of the project. Will there be any permanent jobs created by the development of the proposed project? How does the decision of urban use of the land compare with the agricultural use of the land in terms of providing jobs? Elaboration should be made on the proposed light industrial and distribution center especially as to the kinds of jobs it will provide and who will benefit from those jobs.

How effective will the proposed housing development be in meeting the most critical need for housing by economic group? What consideration has been given by the developer to include some low-income units in the proposed project?

Whether the adjoining communities support the proposed development is not clear. Although it is stated that the Waipahu Businessmen's Association and 450 Waipahu/Pearl City area residents have favored the proposed development, how representative are these groups of the larger adjoining communities of Crestview-Seaview, Mililani, Pearl City and Waipahu? It is also indicated that the development of Gentry-Waipio and consequently the addition of approximately 11,000 people to the area will relieve the "isolated" feelings of the Crestview-Seaview residents. Is this an assumption on the part of the developer or the opinion expressed by the Crestview-Seaview residents?

Thank you for the opportunity to review this EIS. We will appreciate your consideration of our comments.


Doak C. Cox, Director

cc: ✓ Norman Dyer, Gentry Pacific
OEQC
Contributors



P.O. Box 295
Honolulu, Hawaii 96809
phone 531-8491

December 15, 1976

Doak C. Cox, Director
Environmental Center
University of Hawaii - Manoa
2550 Campus Road
Crawford 317
Honolulu, Hawaii 96822

Dear Mr. Cox:

Thank you for the comments made by your office on the proposed Gentry-Waipio Environmental Impact Statement as stated in your letter of December 8, 1976. The comments have been reviewed by the various project consultants and their responses are provided for your information.

We believe that in the discussion on the alternative agricultural use of the proposed project site, this issue has been thoroughly analyzed and was seriously considered by the State Land Use Commission to change the land use designation from Agriculture to Urban in 1974, and the City Council's action to amend the General Plan from Agriculture to various Urban uses in 1976.

We do not question that there are numerous agricultural alternatives to consider such as the economic feasibility of pineapple if water were available, but the discussion in view of the previous major decisions already made at the State and City levels make the possibilities remote at best.

The State Department of Transportation in a letter dated September 15, 1976 (enclosed) pronounced that the subject Traffic Impact Statement fully described the project's impact on the State highways that border the site. However, our traffic consultant has submitted specific responses to your comments as follows:

COMMENT:

The portions of the prepared EIS dealing with transportation impacts (section II-F) and the Revised Traffic Impact Statement (August 1976) were found to be inadequate in assessing the potential traffic impact of the proposed development. Adequate evidence was not found to support claims, i.e., "scheme B...offers the best design that will reduce traffic congestion, provide greater flexibility, capacity and speed the movement of traffic" (p. II-16). Although measures of congestion (such as Level of Service) exist, we find no attempt made to arrive at proper estimates, nor any estimation of expected speeds.

Mr. Doak C. Cox
Page Two
December 15, 1976

RESPONSE:

Two street layout schemes were proposed and considered. Scheme B is the alternate scheme and differs from Scheme A in that there is access to the H-2 Freeway with the construction of a new interchange or interconnecting ramps. However, before an interchange can be approved for the Interstate System, several criteria must be met. One of these include justification of an interchange based on actual traffic needs which is dependent upon the actual urbanization of the subject lands. Since actual urbanization is impossible at this time, no attempt was made to undertake a detailed analysis of Scheme B. The complete traffic analysis, therefore, was made for Scheme A.

The major factor used in identifying the level of service is the travel speed. This is because the travel speed provides a good indication of overall performance of the highway. Thus, Level of Service C, the Level of Service or operating condition to be used for the design of the streets and highways of the project is appropriately described in the Highway Capacity Manual 1965, page 81 as follows: "Level of Service C is still in the zone of stable flow, but speeds and maneuverability are more closely controlled by the higher volumes. Most of the drivers are restricted in their freedom to select their own speed, change lane, or pass. A relatively satisfactory operating speed is still obtained, with service volumes perhaps suitable for urban design practice."

The measure of congestion and expected speeds, therefore, is set forth in the Level of Service and there is no necessity to arrive at proper estimates or any estimation of expected speeds.

COMMENT:

The discussion of capacity concentrates on the Kamehameha and H-2 highways and is based on capacity figures which are applicable to uninterrupted conditions. However, it is the interruptions of traffic at the points of entry that have the potential of causing problems. According to the Highway Capacity Manual (1965, p. 160) "the basic components of any highway, each with its own peculiar operational features and capacity potential are: 1) the highway proper, characterized by uninterrupted flow...; 2) the intersection at grade, characterized by interrupted flow (with or without signal controls); and 3) the interchange, characterized by diverging or merging maneuvers." Also, "one of the most important elements limiting, and often interrupting, the flow of traffic...is the intersection at grade" (Highway Capacity Manual, p. 111).

RESPONSE:

The quotations from the Highway Capacity Manual 1965, page 160, were taken out of context, since these specifically refer to weaving sections and is not applicable to capacity figures on Kamehameha Highway and the H-2 Freeway. The capacity figures used in the analysis were not based on uninterrupted conditions for otherwise the capacity figures would be considerably higher. The capacities for uninterrupted flow conditions as set forth in the Highway Capacity Manual 1965, page 76, are as follows:

Mr. Doak C. Cox
Page Three
December 15, 1976

"The capacity of a multilane highway under ideal conditions is considered to be 2,000 passenger vehicles per lane per hour."

"The capacity of a two-lane roadway under ideal conditions is, therefore, 2,000 passenger vehicles per hour, total, regardless of distribution by direction."

"The capacity under ideal conditions for a three-lane, two-way roadway approaches 4,000 passenger vehicles per hour, regardless of distribution by direction."

Kamehameha Highway is more than a two-lane highway, since it has a center lane for passing and for left turns. Taking into account interruptions to traffic, the capacity of Kamehameha Highway, therefore, should range between 1,000 to 1,200 vehicles per hour in one direction to provide for level of Service C. The discussion of capacity for the internal roadway System is set forth on page T-12 of the Revised Traffic Impact Statement. For a major street with a right-of-way width of 80 feet with no parking and at grade intersection, the capacity is approximately 1,300 in one direction and 1,950 for both directions.

COMMENT:

The Revised Traffic Impact Statement recognizes that "special consideration be given to points of entry" (T-10), and that "some improvement may be necessary at the connections to Kamehameha Highway" (T-18). However, alternative entry designs are mentioned in passing without any attempt at quantification and comparative evaluation.

RESPONSE:

With 80 feet entry roads to the project, there should not be any necessity for improvement at the connections to Kamehameha Highway. The statement "that some improvement may be necessary" was made to indicate to the State Department of Transportation, who has jurisdiction over Kamehameha Highway, that if they consider that same improvements are necessary or if upon completion of the project, it becomes necessary to provide for improvements at the connections, the project developers would be willing to undertake these improvements at their own expense. It is the judgement of the consultant that the improvements will not be necessary.

COMMENT:

The analysis of the impact of mass transportation service was also found to be inadequate. It simply assumes full occupancy and translates the resulting figure into a reduction of car usage.

Mr. Doak C. Cox
Page Four
December 15, 1976

RESPONSE:

The traffic analysis used higher than normal traffic generation figures to assure that a sufficient margin of safety was built into the study. Therefore, 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 24 hour volumes and peak hour volumes reflect this assumption.

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. If consideration had been given to the impact of mass transportation, the 24 hour volumes and peak hour volumes would have been reduced considerably.

Peak hour volumes govern the design of highways and during these peak hours, mass transportation operate at more than full occupancy with standees accounting for approximately 35 percent of the capacity of the bus. At other hours, the traffic volumes on the highway will have less of a traffic impact, including mass transportation.

In reference to the educational facility requirements from this project, we regret that the letters listed on page I-27 are actually on X-14 and 17, not pages XI 14 and 17. We will make this technical correction in the Revised E.I.S. We refer to the correspondence with the Department of Education and attach copies for your information. Numerous meetings and discussions were held with the Department of Education during the many months of planning. The purpose of these meetings was to discuss the educational requirements for space and facilities as they were anticipated by this project. It is our understanding that the temporary and permanent educational facilities will comply with the Educational Specifications established by the State Department of Education. We will be happy to meet with you to discuss this subject in more detail at your convenience.

The economic impact of the proposed project is discussed in Section II (Pages 31, 32, 33). The extent of specific jobs that will accrue as the result of the proposed Industrial Park is limited by the designated land uses permitted under Industrial-1 zoning of the CZC (Comprehensive Zoning Code) of the City and County of Honolulu. Also, the ability to attract those industries who have permitted uses will determine the kinds of jobs available. Regarding the housing needs fulfillment, the developer will be, as indicated in Section V (pages 1 thru 12), maintaining a competitive posture to the fulfillment of housing needs to a wide cross section of the public. In addition, discussions with the Hawaii Housing Authority and the Federal Department of Housing and Urban Development are currently ongoing. The Federal agency is in the process of preparing their own E.I.S. to determine the acceptability of the project in terms of providing FHA insurance for mortgages that could be made available to potential purchasers plus qualifying the project for Federally subsidized

Mr. Doak C. Cox
Page Five
December 15, 1976

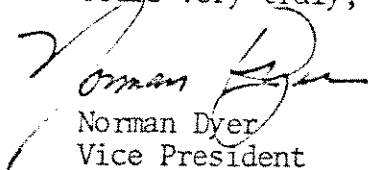
housing programs such as FHA 235 (Revised) and 221 D-3.

The letters supporting the project were included as they were received by the applicant and were used at the hearings held by the City Council in support of amending the General Plan. We note that on page II-31, it is stated in the first sentence that Crestview and Seaview Community Association support the Gentry-Waipio project. This is reflected also in Section X from their various testimonies relating to the project. Mililani Town Association opposes the project's implementation due to the fact that traffic is, in their opinion, negative (their opposition to this project was stated on page II-31).

Lastly, the "isolated" feeling was expressed by the residents of Crestview and Seaview as provided in their testimonies on pages X-59-60.

We appreciate the comments made by your review body and hope that we have addressed ourselves adequately to the points raised.

Yours very truly,



Norman Dyer
Vice President
Project Director

ND:lo

cc Department of Land Utilization
Environmental Quality Commission
Environmental Communications, Inc.

enclosures

GEORGE R. ARIYOSHI
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

E. Alvey Wright
E. ALVEY WRIGHT
DIRECTOR

DEPUTY DIRECTORS
WALLACE AOKI
RYOKICHI HIGASHIONNA
DOUGLAS S. SAKAMOTO
CHARLES O. SWANSON

IN REPLY REFER TO:

September 15, 1976

STP 8.3846

Mr. Norman Dyer
Vice President
Gentry Pacific
P.O. Box 295
Honolulu, Hawaii 96809

Dear Mr. Dyer:

Subject: Traffic Impact Statement
Re: Gentry-Waipio Project

This confirms our statement to you on August 10, 1976, that your traffic impact statement gives a reasonable and fair assessment of the traffic and its impact on our major highway facilities, and is acceptable to the Department of Transportation.

As agreed, your subsequent submission on the traffic analysis and impact is to include the following:

1. The need to modify the Kamehameha Highway in the area of the proposed intersections be identified; and
2. The traffic consultant incorporate information and impact of other transit means such as buses would have on traffic generation.

Sincerely,

E. Alvey Wright
E. ALVEY WRIGHT
Director



STATE OF HAWAII

DEPARTMENT OF EDUCATION

P. O. BOX 2380

HONOLULU, HAWAII 96804

May 12, 1976

OFFICE OF BUSINESS SERVICES

Honorable George Akahane, Chairman
City Council
City and County of Honolulu
Honolulu, Hawaii 96813

Dear Chairman Akahane:

Subject: Proposed Gentry-Waipio School Facilities

This is a follow-up of a letter dated April 22, 1976 from the Department of Accounting and General Services to the City Council. Comments pertained to the adequacy of the elementary school site proposed as part of the General Plan amendment.

Representatives of the Departments of Accounting and General Services, Education, and Parks and Recreation met with Mr. Norman Dyer on May 4, 1976 to discuss the location and requirements of the school. It was agreed that:

1. An extension of the roads would connect as shown on Exhibit A. This would provide frontage to both the elementary school site and the District Park, and would have a 60' right-of-way. The extension will improve access to the school and will help to insure that the school is centrally located to the projected enrollment.
2. The well(s) required for the proposed water supply system would not be located on the proposed school site.
3. The final location of the elementary school site will be subject to a detailed site selection study to be conducted by the Department of Accounting and General Services. The study will be initiated when approval of the General Plan/Detailed Land Use Amendment has been granted.

Honorable George Akahane

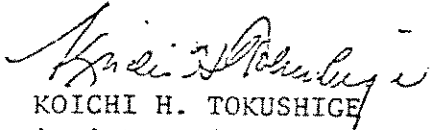
Page 2

May 12, 1976

The developer has also offered to dedicate land for the school site, subject to pro rata reimbursement of major on and off site improvement costs which will benefit the school site.

The developer's general plan proposal, insofar as it pertains to school facilities, is acceptable to the Department of Education.

Sincerely,

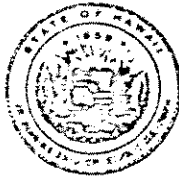


KOICHI H. TOKUSHIGE
Assistant Superintendent
Office of Business Services

KHT:JEE:yk

Enclosure

cc: Leeward District



STATE OF HAWAII

DEPARTMENT OF EDUCATION

P. O. BOX 2380

HONOLULU, HAWAII 96804

OFFICE OF BUSINESS SERVICES

April 23, 1976

Norman Dyer A.I.A. & Associates
130 Merchant Street, Suite 1804
Financial Plaza of the Pacific
Honolulu, Hawaii 96813

Gentlemen:

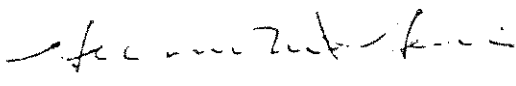
Subject: Gentry Waipio General Plan Amendment

Thank you for sending us the Gentry-Waipio General Plan Amendment.

We note that the total units planned have been reduced from 5300 to 4300 units.

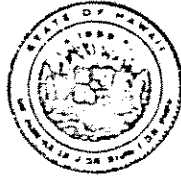
Accordingly, our latest projection for the proposed Crestview Elementary reflects the downward revision to a range of 950 to 1000 students in the year 1995 for facilities design purposes.

Sincerely,


HIRONOBU HINO, Director
Facilities & Auxiliary Services Branch
HR:EM:yk

cc: Leeward Oahu District

APR 23 1976



STATE OF HAWAII

DEPARTMENT OF EDUCATION

P. O. BOX 1380
HONOLULU, HAWAII 96804

OFFICE OF BUSINESS SERVICES

April 22, 1975

Norman Dyer A.I.A. & Associates
130 Merchant Street, Suite 1804
Honolulu, Hawaii 96813

Gentlemen:

Subject: School Site Requirements for Proposed Gentry-Waipio Development

This is in reply to your letter of transmittal of April 18, 1975, requesting our comments regarding school requirements for the subject development proposal.

Enrollment Projections

Based on the proposal for 500 SF, 1300 semi-attached units, 1700 low-rise condominiums, and 1800 median-rise apartments, we tentatively estimate the following enrollment from the project area:

<u>School</u>	<u>Grades</u>	<u>Approx. Enrollment</u>
New School Required	K-6	900-1000
Waipahu Intermediate	7-8	250- 275
Waipahu High	9-12	400- 450

New Elementary School (Crestview Elementary)

A new school site, centrally located to serve the proposed development and the existing Seaview and Crestview subdivisions, will be required. The exact location will require a site selection study by the Department of Accounting and General Services. Your proposal to designate a site immediately makai of the future regional park is acceptable; however, the site must be considered tentative until a site study is completed.

April 22, 1975

The proposal to temporarily lease approximately 7.5 acres immediately mauka of the existing neighborhood park for a temporary school is also acceptable.

We are prepared to negotiate a lease agreement with Gentry-Pacific for use of the 7.5-acre site and use of house "shells" for temporary classrooms. We anticipate that temporary facilities may be required for several years, pending construction of permanent facilities for Crestview Elementary.

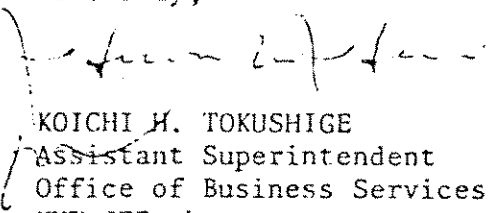
Please be advised that under the Department of Educations' policy, we request that the land required for the new elementary school be dedicated. A copy of the policy is attached.

We request that a written commitment to assist the Department of Education with land and temporary school facilities costs be submitted prior to submission of the subject development proposed to the City Council. Please contact our Facilities Branch, Advance Planning Section, regarding anticipated assistance.

Grade 7-12 Students

We anticipate that the projected enrollment can be accommodated with existing and planned facilities at Waipahu Intermediate and Waipahu High Schools.

Sincerely,


KOICHI H. TOKUSHIGE
Assistant Superintendent
Office of Business Services
KHT:JEE:yk
Attachment

cc: Leeward Oahu District
D.A.G.S.



WEST OAHU SOIL & WATER CONSERVATION DISTRICT



P.O. Box 610 Wahiawa, Hawaii 96786 - Telephone: 622-4185

December 8, 1976

Dr. Richard E. Marland, Director
Office of Environmental Quality Control
550 Halekauwila Street, Room 301
Honolulu, HI 96813

Dear Dr. Marland:

Subject: EIS - Gentry-Waipio Project, Waipio, Oahu

We as members of the board of the West Oahu Soil and Water Conservation District have reviewed the EIS and have the following comments:

This plan is in conflict with many of the objectives of the new city plan soon to be adopted especially as follows:

1. Population objective B policy 2
2. Economic activity objective C policy 1, policy 3, and policy 6 and 7.
3. Natural Environment: Objective B policy 2
4. Housing objective B
6. Physical Development and Urban Design: Objective A, policy 1 objective B and objective C.

Specific Concerns:

1. Page iv. The draft report of the New General Plan (City and County of Honolulu) does not consider Ewa as a primary urban center but a secondary one. Furthermore, the Gentry-Waipio area is more properly located in the Central Oahu district. This area is considered a fringe urban area in the draft plan.
2. Page III-4. While it may be true that the parcel may be separated from other sugarcane areas, this parcel is nevertheless in close proximity to the Waipahu sugar mill.

3. Page V-20. The continuing success of the fresh fruit market has changed the economics of raising pineapple. Many of the announced cutbacks have not occurred.
4. Page V-22. Table 25 shows that most vegetable crops are well-suited for this area. This, plus the close proximity to the Honolulu market, makes it an ideal agricultural area. The Central Oahu Planning Study, Technical Supplement 2, "The Future of Hawaiian Agriculture," January 1973, mentions the need for additional farmland.
5. Page V-24. Dr. Lorenz considered only head lettuce and celery; these are temperate-zone crops that will not grow in most areas in Hawaii. Did he consider tomatoes, cucumbers, etc.?

Our major concern is the location of the proposed project. This area is located on what is considered to be potential prime farmland. If irrigation water is available, 490 acres or 96 percent of the 510 acres would be considered prime farm land under USDA criteria. At the present time, even without irrigation water, these lands are still considered as important farmland because of their potential to become prime farmland. This area, Central Oahu, has the largest contiguous acreage of prime farmland on the island.

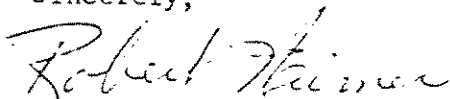
Since the area is still zoned Agriculture 1, we suggest a land exchange alternative be considered. This alternative being to exchange the 510 acres for nonagricultural or less desirable agricultural land. Some areas in the Ewa plain fit this category.

As for the availability of irrigation water, a study should be made on the feasibility of using Waiahole ditch water or ground water for this area.

We want to again emphasize our concern of the loss of potential prime farmland. We recommend that our proposed alternative of land exchange be carefully analyzed before a decision is made to commit these acres for urban use.

Thank you for the opportunity to comment on this EIS.

Sincerely,



Robert Wiemer
Chairman



P.O. Box 295
Honolulu, Hawaii 96809
phone 531-8491

December 16, 1976

Mr. Robert Wiemer, Chairman
West Oahu Soil and Water Conservation
District
P.O. Box 610
Wahiawa, HI 96786

Dear Mr. Wiemer:

Thank you for your comments on the Gentry-Waipio Environmental Impact Statement as stated in your letter dated December 8, 1976. Our response has been broken down into three general categories:

- A. The project's compliance and relation with the New General Plan currently being prepared by the City Council.
- B. The agricultural productivity of the property.
- C. The possibility of land exchange.

A. Compliance with the New General Plan (Draft): Regarding five items listed in your letter, we believe they should more properly be introduced as, "May be in conflict with many of the objectives of the New General Plan." As you are aware, documents of this type can be interpreted somewhat differently, plus the current draft may still undergo further changes. We must express some doubt as to the rigid compliance requirement with the planning document. In any event, I would like to respond to a couple of the more important issues.

COMMENT:

Preserve sufficient agricultural land in Ewa, Central Oahu and along the North Shore to insure the continuation of sugar and pineapple as viable industries.

RESPONSE:

As stated many times in the past, the property has little or no impact on the continuation of those crops as it has been phased out of both sugar and pineapple production because of economic reasons. Recently, a subsidiary of Castle & Cooke, Mililani Town, Inc., substantiated the phasing out of active pineapple production for approximately 400 acres between the H-2 Freeway and their existing development.

Mr. Robert Wiemer
Page Two
December 16, 1976

COMMENT:

Protect Oahu's scenic views especially those seen from highly developed and heavily travelled areas.

RESPONSE:

We agree that a well maintained plantation would be considered by most as one of the most attractive visual use of any property. This was part of our decision to include a landscape setback along Kamelameha Highway to maintain a planned open space buffer between the Highway and the development. The H-2 Freeway alignment is primarily depressed adjacent to the subject project and the views towards the planted portions of the Panakauahi Gulch and the Koolaus will be preserved.

COMMENT:

To reduce speculation in land and housing such as encouraging the government to coordinate its urban area designations within the developmental policies of the City and County.

RESPONSE:

We fully agree

COMMENT:

Plan for the construction of new public facilities and utilities in the various projects according to the following order of priority:

- A. Primary Urban Center
- B. Ewa
- C. Urban/Fringe/Rural Areas

RESPONSE:

I think we collectively agree that essentially the primary urban center should receive government assistance in capital expenditures in terms of Urban requirements. However, the secondary emphasis placed on the urbanization of the Ewa Plains, which includes some substantial acreage currently under agricultural productivity, we do not understand the basis of your support for such a policy.

It is now our understanding that because the Gentry-Waipio property is placed in an Urban Fringe designation (similar to Mililani, Kaneohe and Kailua), development can proceed if implementation can be accommodated utilizing the existing infra-structure, or if capital expenditures that must be provided, be

Mr. Robert Wiemer
Page Three
December 16, 1976.

the responsibility of private resources. Evaluation should be made on this basis.

B. The agricultural alternatives itemized in your letter are, as identified, more current than those initially developed by Dr. Lorenz. However, Dr. Lorenz testified at the Planning Commission Public Hearing in February of 1976 and the City Council Public Hearing in May 1976, which more currently substantiates his previous evaluation on the lack of economic productivity of diversified agricultural products. At a subsequent Planning and Zoning Committee meeting (City Council), a representative from the State Department of Agriculture generally agreed with Dr. Lorenz's testimony and reports.

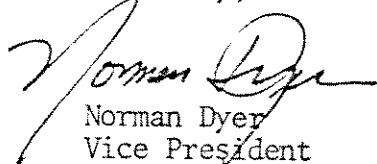
We should also add that in a report dated October, 1974 submitted to the Department of General Planning by Mililani Town, Inc., a subsidiary of Castle & Cooke, it discusses pineapple economic productivity in light of Central Oahu's current and future production and acreage requirements (page 188, 189). Both Del Monte and Dole indicate a 4,000 acre reduction (14,000 to 10,000) by the year 2000.

We believe you should also consider a recent and apparently very unsuccessful attempt to farm (potatoes and corn) on the property mauka of Mililani Memorial Road. Evidently, even with a sincere effort by the tenant, he was not able to pay a modest lease rent for use of the property even with the availability of the Waihole Ditch water.

C. As to your suggestion on the possible land exchange, we must decline that suggestion on the basis that we know of no other lands as well located with the physical characteristics to support a planned, multi-use community that can provide a complexity of various housing types, public and community facilities and employment center.

We thank you for your comments and appreciate the spirit in which they were given. We hope we have answered your comments adequately.

Sincerely,


Norman Dyer
Vice President
Project Director

ND:lo

cc Department of Land Utilization
Environmental Quality Commission
Environmental Communications, Inc.



WEST OAHU SOIL & WATER CONSERVATION DISTRICT



P. O. Box 610 Wahiawa, Hawaii 96786 - Telephone: 622-4185

December 8, 1976

Department of Land Utilization
CITY AND COUNTY OF HONOLULU
Honolulu, Hawaii 96813

Gentlemen:

The comments to follow concern the Gentry Waipio Environmental Impact Statement forwarded with the Environmental Quality Commission's memo dated November 5, 1976.

The West Oahu Soil and Water Conservation District is concerned with the reasonable development and growth of all the lands embraced in the district from Waiawa Gulch to Kawela Bay along the summit of the Koolau mountains westward including the balance of the island of Oahu. We were impressed with the subject EIS in that many problems discussed were not fully resolved and in some cases statements appeared incorrect. Because of our broad concerns, we are not restricting ourselves to comments solely on soil and water conservation matters but have reviewed the entire EIS and attached material in an effort to determine if the full story has been told and its environmental impact properly assessed. In the interest of brevity, we propose to review this by page number with comments related to some or all of the statements made thereon.

Page I - 7.

"Based on 1975 costs, the Gentry Waipio Development is expected to provide about 25% of the total housing units priced from \$40,000-\$50,000."

Comment: A statement is made elsewhere that Gentry Waipio sales will be fee simple. It has been our experience that fee simple development of any kind cannot be sold at the prices indicated. There is generally a significant increase between the price used in the "introductory" statements and the price finally charged to the purchaser.

Page I - 25.

"Negotiations are proceeding between the applicant to achieve concurrence with the Department of Parks and Recreation and the Department of Public Works for the treatment and disposal of sewage effluent from approximately 1,600 units comprising the Phase I development. The applicant would pay for all onsite improvements as well as the transmission lines and for the pump

station. Any storage required will be lined at the applicant's expense to mitigate potential impact on water quality in Pearl Harbor. The anticipated volume of treated effluent is 500,000 g.p.d."

Comment: This statement and others cited later suggest that the matter of sewage treatment and disposal have not been resolved, although they are a most important part of the environmental impact consideration.

Page II - 16.

"Primary vehicular excess will be to Kamehameha Highway with a secondary connection to the H-2 Freeway if permitted by the State Department of Transportation."

Comment: It appears that the matter of traffic handling has not been resolved and this is a critical matter in this area as every resident north of the Waipio area is acutely aware. The H-2 will do much to resolve the traffic density now being experienced by those living north of Waipio but not all people will use that road.

"When constructed according to the findings in recommendations of the State Department of Transportation, Kamehameha Highway will ultimately be four lanes and the H-2 freeway six lanes, high-capacity divided highways."

Comment: It appears that the fourth lane for Kamehameha Highway is a long way from construction and that later references suggest that the traffic problem has not yet been resolved by the Department of Transportation.

Page II - 19.

"Using average values, the capacity of multi-lane highway is approximately 1,275 vehicles per lane per hour in one direction."

"Thus, it would require the completion of between 693 to 1,091 dwelling units before the capacity of Kamehameha Highway is exceeded."

Comment: With the construction schedule anticipated by Gentry Waipio, it would be approximately two years before Kamehameha Highway capacity would be exceeded with their own traffic. This appears to be the poorest sort of planning.

Page II - 20.

"An internal bus system fronted by Gentry Waipio Community Association may be implemented depending upon the need for such services."

Comment: This appears to be a typical developer suggested promise which, when the time comes, is found to be too expensive to install. The matter of transportation seems to be inadequately handled.

Page II - 31.

"The Mililani Community Association had (1974) raised objections to this project based primarily on traffic congestion."

Comment: Later the statement was made that no adverse comments were made on initial presentations of the Gentry Waipio plan. "It seems that it was realized by some at an early date that the traffic plan had not or could not be worked out."

Page II - 32 & 33.

"Table 17, Waipio Economics Employment Compensation."

Comment: These data are applicable to any area in which comparable housing or development is provided. If the taxes are not generated by this project being stopped, they will be generated elsewhere by comparable construction.

Page IV - 1.

"The highest and best use would be for Residential/Urban use."

Comment: This appears to be the essence of the entire presentation of the EIS. The developer has purchased land and in spite of the fact it was ideal for agricultural use now, because he owns it, it is suitable only for Residential/Urban use.

Page IV - 2.

"The direction or urbanization will continue to be in the Ewa and Wahiawa direction"

Comment: It was our understanding that the City's planned direction of growth was in the Ewa direction. We had not heard until this time that it was in the Wahiawa direction. Clearly the developer plans to change the city's growth direction.

Page V - 11.

"Community Response. However, no response from the Mililani Community Association was received during the consultation period prior to filing this EIS."

Comment: It was stated earlier that a response was received from the Mililani Community Association indicating an objection to the proposed development based on the traffic congestion (see Page II - 31 above).

Page V - 14, Table 22.

Comment: The data on this table are misrepresented either through ignorance or careful planning. It is our understanding that the Soil Conservation Service is fully commenting on their assessment of the way the data have been presented. With reference to statements contained in the EIS that land is being taken out of pineapple cultivation, 500 acres are being added to cultivation on the island of Lanai because the pineapple industry is enjoying particularly good conditions.

Page V - 20.

"There is no question that pineapple can be grown on the subject property; however, pineapple is becoming less and less economically feasible."

Comment: This statement is simply contrary to the facts. This EIS is dated November 1976 and this is not the current situation although it may have been at one time. Marketing conditions do change.

"The Gentry Waipio property to use of this land."

Comment: This statement which has to do with the elevation for which pineapple can be grown is not correct. Not only is and has pineapple been grown successfully below the 600-foot elevation line but in many areas on the island of Maui it is grown successfully almost down to sea level.

Page V - 21.

"General Agriculture."

Comment: The data presented here and on Page V - 22 do not apply to this land. Although it may be suitable for inclusion in an agricultural park, clearly its best use is for pineapple. It has

been and can be used for sugar cane but the water requirements are much higher for that crop. The water planned for development by Waipio Gentry could be just as easily developed and utilized for pineapple and would assure excellent production.

Page V - 25.

"The cost of the land would be prohibitive and/or economically unfeasible for activities not consistent with urban uses of this land."

Comment: The current estimated value of the land and taxes being paid on it reflect its purchase for obvious development purposes. Nowhere do such values apply to land clearly being held or used for agriculture. With development of water at this location, growing pineapple will be economically sound. Wells are being installed at this time for sugar cane where water requirements are much higher and which produce less income than pineapple.

Page IX - 1.

"Intensive urban development of Ewa in particular is seen as one means of alleviating growth pressures on other parts of the island."

Comment: This statement, quoted from a newspaper article, does apply aptly to development in the Ewa direction. Objective C, Policy 2, of the October 6 draft of the proposed new General Plan states, "Encourage the gradual development of Ewa to relieve development pressures in the urban fringe in rural areas." It also makes a number of other statements which, if carefully studied, are found to be in conflict with the Council's own rezoning of this land from Agriculture to Urban. The inconsistency of the Council of this action appears to be strange so much so that a letter of protest was written to the Council which they chose not to answer.

Page X - 16.

"Department of Education letter dated April 23, 1976. Accordingly, our latest projection for the proposed Crestview Elementary School reflects the downward revision to a range of 950 to 1,000 students in the year 1995 for facilities design purposes."

Comment: Is this to suggest that the construction of the school is to be delayed? If it is not to be delayed, is it budgeted for some future date? There is no indication on the correspondence that this is so beyond providing dwelling "shells" for classrooms.

Page X - 24.

"Department of Transportation. Staff comments on your latest response (June 21, 1976) and the revised traffic impact statement indicate we still are faced with many unresolved issues."

Comment: For concerned citizens this appears to be a most undesirable situation. The developer plans to move ahead and the State says there are many unresolved issues. It appears that the impact, environmental or otherwise, is far greater than the developer would suggest it is.

Page X - 41.

Department of Public Works. "Aeration of the ponds is especially important because of the possible odor problems which may occur with the increased pollutant loadings."

Comment: Our experience has been that essentially every sewage treatment plant constructed here has unpleasant odor problems associated with it. Currently the people in the Kaneohe area are complaining of the sewage treatment plant near the entrance to the Kaneohe Marine Air Station. The City by its own admission does not yet have this fully corrected.

"Therefore, we cannot concur with this alternative."

Comment: It seems that the sewage treatment problem has not really been solved, yet the developer plans to move ahead.

Page X - 42.

"We suggest that you continue with your evaluation of Case 4 and submit the information listed in paragraph 1 above for our review."

Comment: Question still to be answered concerning sewage disposal.

Page XI - 4.

Letter from the Department of Agriculture.

Comment: This entire letter, thoughtfully prepared, asks many questions which we feel have not yet been adequately answered in the EIS or by other correspondence.

Page XI - 12.

Letter from Environmental Communications, Inc. "For your further use and review, we will also be providing your department with a copy of the Water Quality Impact Report and Air Study which are presently being prepared."

Comment: This letter dated November 4 was immediately preceding the issuance of the EIS. It is difficult for private citizens or for a public department to comment at this time on data not yet presented.

Page XI - 29.

Letter from the Department of Transportation. "This is to advise you that the Highways Division should be further consulted in preparation of the EIS to assure that the impact of the proposed development on adjacent highway network is fully covered."

Comment: As suggested earlier, the matter of traffic handling has not been resolved, probably is not budgeted, and may be many years off.

Page XI - 35.

Letter from the Office of the Mayor, City and County of Honolulu.

Comment: This thoughtfully prepared letter asks many questions which were not found to be answered in the EIS. A careful reading of this letter suggests that there has been a hasty decision by both the Council and the Land Use Commission. We would agree, and have consistently indicated, that the Land Use Commission's action in redesignating this land from Agriculture to Urban was hasty and not motivated by reasons made aware to the public.

Page XI - 62.

Letter from the Water Resources Research Center, University of Hawaii.

Comment: This letter asks a number of questions concerning use of this land that have not been addressed in the EIS and which are pertinent to a discussion of the use of the land. Without answers to these questions, judgment must be withheld.

Page A-9.

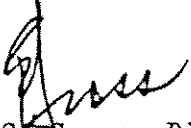
Letter from the Department of Land Utilization, City and County of Honolulu.

Comment: The entire enclosure to this letter deals with pertinent matters concerning use of this land and its development. The environmental characteristics cited on Page A-13 correctly assess the land in a straightforward way not presented earlier in the EIS.

The purpose of presenting the data in this fashion and covering the wide range of subjects is to suggest that a not altogether sincere effort has been made to get all of the facts out in an objective way. There have been many developments that have taken place as a result of purchasing agricultural land, setting it aside for a period of time during which it can be said to be idle and non-productive and therefore its highest and best use would be urban. We are aware that in the Waialua area at this time there are 146 acres where the developer is endeavoring to use this very tactic. We do not believe that continued development using our best agricultural lands should be allowed to go unchecked. If a speculator makes an unwise purchase it is not up to the City or State to bail him out of an unwise land purchase.

We recommend that this proposed rezoning be not approved.

Yours very truly,



F. C. Gross, Director
WEST OAHU SOIL & WATER CONSERVATION DISTRICT

cc: Norman Dyer, Gentry Pacific
P. O. Box 205
Honolulu, Hawaii 96809



P.O. Box 295
Honolulu, Hawaii 96809
phone 531-8491

December 17, 1976

Mr. F. C. Gross, Director
West Oahu Soil & Water
Conservation District
P.O. Box 610
Wahiawa, Hawaii 96786

Dear Mr. Gross:

We have received your letter of December 8, 1976 regarding comments made on the Environmental Impact Statement for the Gentry-Waipio project. In answer to your second paragraph on page 1, we feel that the E.I.S. was based on the most current information available and the statements made within this document are correct to the best of our knowledge. Additionally may we add that the environmental impact is felt to be properly assessed not only from the standpoint of the developer's review of the project, but also the subconsultants listed on pages i and ii were involved in preparing objective studies which were incorporated into the document. These technical consultants, along with the engineering consultants, were requested to do an objective and complete E.I.S. which met the intent and scope of the "Environmental Impact Statement Regulations." We are following the established guidelines of the "Environmental Impact Statement Regulations," specifically Subpart G., 1:62, Response Period.

Page I-7: We feel that the statement quoted is correct. It clearly states, "Based on 1975 costs..." (emphasis added). We are aware that in many cases, the housing costs may be underestimated by developers from the introductory statements versus the final selling prices. This is primarily due to a lengthy period through which these projects are processed (as much as two to three years). Within such a time period, costs such as materials, labor and other land improvements also rise and therefore, the price of homes increase. This is why our statement is prefaced by the 1975 cost of housing units.

Page I-25: Prior to any construction of the project, the interim sewage treatment measures must be satisfactory to both the Department of Public Works, Sewers Division and the State Department of Health. The statement cited is correct in that presently, we are in final negotiations regarding interim sewage treatment measures. We concur with you that this aspect is an important part of the environmental impact consideration and have incorporated into the Revised E.I.S., copies of the most recent letters received from the State Department of Health and the Department of Public Works, City and County of Honolulu (see enclosed letters - Attachment 1).

Mr. F. C. Gross
Page Two
December 17, 1976

Page II-16: The traffic consultant has made estimates of the traffic which will utilize H-2 Freeway versus Kamehameha Highway. He has used conservative estimates which show that Kamehameha Highway will still be utilized and has analyzed traffic impact of the project to account for the traffic which will continue along Kamehameha Highway.

The scheme for an access to the H-2 is only an alternate scheme. However, before an access to the H-2 Freeway can be approved by State and Federal Authorities, several criteria must be met. One of these include justification of an interchange based on actual traffic needs which is dependent upon the actual urbanization of the subject lands. No attempt was made to undertake a detailed analysis of this alternate traffic scheme until urbanization occurs. The complete traffic analysis was made for the street layout scheme with access only from Kamehameha Highway.

Your second comment under this item has also been addressed by the State Department of Transportation. We have corrected the statement in the Revised E.I.S., to read: "There are no plans presently existing to widen Kamehameha Highway to four lanes. In the long-term, however, the developer foresees that a need to widen Kamehameha Highway will exist.

Page II-19: The capacity which is indicated in the traffic impact statement prepared by Henry T. Au is the "concept" of capacity and level of services to be provided is based upon the Highway's Capacity Manual. This manual only establishes the capacity and level of service under a desirable level of service condition. At this time, we would like to point out that in 1973, the peak hour traffic was stop-and-go and vehicular count was above 3,000 cars per hour.

Page II-20: We find that the statement cited in the E.I.S., is accurate and that the statement clearly establishes that this is still a consideration and its implementation will be based on the need for such services. We also would like to point out that if the Gentry-Waipio Community Association decides to form an internal bus system, the members of the association will each pay for such a bus system. We do not feel that this is a "promise" which we are committed to at this time. We feel that the transportation aspects addressed in the E.I.S., are sufficient to provide information relating to the impact of the project. In order to elaborate, however, on the matter of public transportation, we have provided this additional discussion (see addendum).

Page II-31: Impact of the urbanization of the Gentry-Waipio project was thoroughly discussed during the 1974 State Land Use Commission proceedings. No comments were ever received from the Mililani Town Association until a Planning Commission Public Hearing held in February 1976. The E.I.S., is corrected accordingly. Additionally, the E.I.S., was reviewed and nowhere in the narrative is a statement made to the effect that no adverse comments were made on initial presentations on the Gentry-Waipio plan.

Page II-32 & 33: It is our opinion that your statement, "If the taxes are not generated by this project being stopped, they will be generated elsewhere by comparable construction" is incorrect. In this regard, we note that the present unemployment situation existing in the construction

Mr. F. C. Gross
Page Three
December 17, 1976

and construction related fields have become critical in recent months. Also, projects of this size and magnitude on Oahu are not being presently processed by governmental agencies. Therefore, we cannot agree that stopping this project will be compensated through construction elsewhere. Letters from the various contractor's unions and associations provided on pages X-61 through X-64 are an indication of the construction problems.

Page IV-1: "The highest and best use: is defined as the highest and best economic use in accordance with the definitions established at the State's Urban land use designation and the General Plan Amendment hearings. The E.I.S., reviews the agricultural alternative for the project site and based upon the findings of the agricultural consultant, it was found that agricultural use was not economically feasible at the time the land was purchased from Castle & Cooke. A recent unsuccessful attempt to farm (corn and potatoes) the land above Mililani Memorial Road substantiates this point.

Page IV-2: As provided in the appendices, Pages A-48 to A-53, there is a historical basis which indicate that urban expansion will follow existing urban corridors in areas adjacent to Waipahu. We do indicate on pages II-30 and II-31 that a new community is a significant social impact. We also point out that there is no adopted New General Plan and thus, the City's planned direction of growth is not confirmed. However, the latest draft of the New General Plan places the project within the Urban-Fringe (primarily considered Waipahu) as in Mililani, Kaneohe and Kailua.

Page V-11: The statement is correct. "However, no response from the Mililani Community Association was received during the consultation period prior to filing this E.I.S." (Emphasis added). Objections of the Mililani Community Association were raised during the Planning Commission and City Council's public hearing.

Page V-14, Table 22: The letter of the Soil Conservation Service is enclosed as Attachment 2 and we are not aware of their objections to Table 22 on page V-14. Also, we note that at the time of the purchase of land and the subsequent agricultural assessment, the pineapple industry was not "enjoying particularly good conditions."

Page V-20: As indicated above, at the time of the purchase of the project site, the pineapple industry was not felt to be economically feasible. Also, the current market situations may make pineapple cultivation more feasible. However, there is no economical situation for irrigation services. A General Plan Amendment application dated October, 1975 was submitted to the Department of General Planning by Mililani Town, Inc., (a Castle & Cooke subsidiary), which discusses the pineapple economic productivity in light of Central Oahu's current and future production (page 188, 189) and acreage requirements. The projection by both Del Monte and Dole indicate a 4,000 acre reduction (14,000 to 10,000) by the year 2000.

The statement on elevation was provided by the agricultural consultants and relate to Oahu's comparable condition rather than Maui's condition.

Mr. F. C. Gross
Page Four
December 17, 1976

Page V-21: The agricultural consultants discussed general agriculture specific to the subject property as another alternative under agriculture in order to provide a more complete comparison of agricultural use. Also, the water development system planned for Gentry-Waipio is an expenditure by the developer and is economically justifiable under urban development. If the land should be utilized for pineapple cultivation, the cost of new water development is considerably more than any income that could be generated by this type of agricultural use.

Page V-25: The present estimated value of land and taxes being paid on the project site reflect the efforts of the owners to obtain an Urban land use designation and General Plan Amendment for the project site. As stated above, however, pineapple cultivation would not be economically sound to support just the cost of a new water system.

Page IX-1: The project site was incorrectly identified as being in the Ewa Plains area. However, for most of the statistical housing analysis, we utilized the Ewa Census District (Aiea to Barbers Point to Mililani) because of availability of resource material. It is actually located within the Waipahu, Pearl City, Mililani Triangle and considered Urban-Fringe under the proposed New General Plan. Therefore, the quotation and other statements referring to the site as being in the Ewa population area will be so amended.

Page X-16: We are not aware of any delays in providing the elementary school facilities for which land will be set aside. The budget required for the school is initiated by the Department of Education and their budgeting request is submitted by the Department of Accounting and General Services. The construction of temporary and permanent classrooms will be in accordance with the educational specifications established by the Department of Education. At this time, we cannot foresee that the dwelling "shells" will be used as a permanent educational facility.

Page X-24: The most recent correspondence from the Department of Transportation, which supersedes this cited correspondence is located on page II-21. As stated, in the letter of September 15, 1976, the Traffic Impact Statement is acceptable to the Department of Transportation. For clarification purposes, another copy of this letter will be provided in Section X which will show the Department of Transportation's most recent position (December 6, 1976).

Page X-41: The Department of Public Work's letter of June 14, 1976 which is cited describes a previous alternative which was considered by the consulting engineer. However, the present interim sewage treatment proposal is discussed on page I-25. As stated, it is proposed that there be an onsite

Mr. F. C. Gross
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December 17, 1976

Page X-42: See response provided above on page X-41.

Page XI-4: It is our opinion that the Environmental Impact Statement does address the questions brought up in the State Department of Agriculture's letter dated October 6, 1976. For your further clarification, we are providing a brief discussion on the points raised by the Department of Agriculture:

1. The current assessed value of the project site was based upon the annual State tax assessment. The State Department of Taxation's assessment was felt to be a more official source of information and was used rather than the "Real Estate Atlas Geographical Ownership."
2. Because pineapple cultivation was eliminated prior to the sale of the property to the current owners, the impact on the elimination of pineapple production was not felt to be the responsibility of the present owners.
3. Relating to potential impact of the proposed development on the surrounding agricultural operations; this is felt to be addressed on page XI-6.
4. The drainage engineering consultant is preparing a detailed drainage plan for the area. Also, an air quality analysis and water quality analysis are included in the E.I.S., and supplemental technical material as well were available during the review of the E.I.S.
5. We have discussed the agricultural alternatives and as stated above, the economic situation for pineapple cultivation has improved, we refer you to V-14 of this letter. However, the land use designations have also changed. The net result of this is that agriculture is not longer economically feasible.
6. We note that the E.I.S., Preparation Notice was filed by the Department of Land Utilization. The criteria for significance in determining if an E.I.S., was required and is already affirmative, thus no additional criteria was warranted.

Page XI-12: On November 9, 1976, we provided a copy of both the Air Carbon Monoxide Study and Water Consideration Study to the Department of Health (see Attachment 4). We note that it is not a requirement to provide technical data to each reviewer. We voluntarily provided the information to the Department of Health because we recognize that they have the technical capability and the regulatory responsibility to address these concerns. We make note in the E.I.S., in various sections and on page ii of the Preface that these technical and support documents were available to reviewers. We feel that we provided both private citizens and governmental agencies the opportunity to review and to provide comments on both the E.I.S., and the technical and support documents prepared for this project.

Mr. F. C. Gross
Page Six
December 17, 1976

Page IX-29: Our response would be the same as that prepared for your comments relating to Item X-24.

Page XI-25: Mr. Way's comments (incorporated into the letter from the Office of the Mayor) were carefully reviewed. Our response to these points are answered and incorporated into the E.I.S. on pages XII-1 through XII-8. Also the Land Use Commission Findings of Fact are public record.

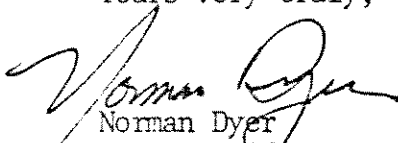
Pages XI-62: We feel that all of the comments provided by the Water Resources Research Center have been covered in the E.I.S. Specifically, items 1 through 4 were answered on pages V-13 through V-23. The last paragraph of Mr. Young's letter was addressed in our response on page XI-64.

Page A-9: We also found that the Environmental Impact Statement Preparation Notice was brief and straightforward.

In closing, we feel that your last paragraph unfortunately suggests that there was no sincere effort to provide for a full disclosure. We cannot understand this position in view of the time and effort which were expended to obtain a competent technical consulting staff. During the time that the consultants worked on the project, no pressure or modifications to their studies were interjected by the developer. Additionally, where potential problems were noted, attempts were made to alter the project's configuration and size to reduce the significant adverse problems. Because of this, the project has been significantly reduced in size and magnitude from the original proposal submitted to the State Land Use Commission. Additionally, throughout the Land Use Commission's proceedings and the General Plan Amendment, many arguments were brought up and we feel that we provided adequate responses which led to the land use designation change to Urban.

We feel we have addressed each of your points adequately and will incorporate your letter and our response into the Revised Environmental Impact Statement.

Yours very truly,


Norman Dyer
Vice President
Project Director

cc Department of Land Utilization
Environmental Quality Commission
Environmental Communications, Inc.

Mr. F. C. Gross
Page Seven
December 17, 1976

enclosures: Attachment 1, letters from DOH and Dept. of Public Works
Attachment 2, letter from Soil Conservation Service
Attachment 3, letter from DOH to Park Engineering
Attachment 4, transmittal of Air and Water Studies to DOH

Addendum: Traffic Consultant's (Henry T. Au) Comments

COMMENT:

It appears that the matter of traffic handling has not been resolved and this is a critical matter in this area as every resident north of the Waipio area is acutely aware. The H-2 will do much to resolve the traffic density now being experienced by those living north of Waipio but not all people will use that road.

RESPONSE:

Since a secondary connection to the H-2 Freeway is impossible at this time, the street layout was made on the basis that access to the project will be via Kamehameha Highway only as set forth in Scheme A of the internal street layout. The justification for a secondary connection must be based on actual traffic needs which is dependent upon the actual urbanization of the subject lands.

A complete interchange for egress and ingress to the H-2 Freeway is to be provided at Mililani as a part of the H-2 Freeway. With this interchange and the H-2 Freeway diverting traffic from Mililani, Schofield, Wahiawa, and beyond, Kamehameha Highway no longer will become the main traffic artery to Mililani and beyond.

COMMENT:

It appears that the fourth lane for Kamehameha Highway is a long way from construction and that later references suggest that the traffic problem has not yet been resolved by the Department of Transportation.

RESPONSE:

The project developers are aware of the fact that the State cannot commit themselves to the widening of Kamehameha Highway. Measures to be taken should Kamehameha Highway not be widened or improved to a four lane highway, are set forth on pages II-19 and II-20 of the E.I.S.

COMMENT:

With the construction schedule anticipated by Gentry-Waipio, it would be approximately two years before Kamehameha Highway capacity would be exceeded with their own traffic. This appears to be the poorest sort of planning.

RESPONSE:

The capacity of Kamehameha Highway that will be exceeded upon the completion of between 693 to 1,091 dwelling units is the capacity for level of service C, and not for the maximum capacity of Kamehameha Highway at level of Service E. If the 1975 actual peak hour volume of Kamehameha Highway is used, the capacity would be 3,151 at level of service E.

PAGE TWO

COMMENT:

This appears to be a typical developer suggested promise, which, when the time comes, is found to be too expensive to install. The matter of transportation seems to be inadequately handled.

RESPONSE:

The internal bus system was considered only as a possible mitigating factor which may mitigate the adverse consequences of traffic within the project. No reliance was made on this internal bus system 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 24 hour volumes and peak hour volumes reflect this assumption.

COMMENT:

Later the statement was made that no adverse comments were made on initial presentations of the Gentry Waipio plan. "It seems that it was realized by some at an early date that the traffic plan had not or could not be worked out."

RESPONSE:

The Traffic Impact Statement was prepared as early as September 1973 and it is true that no adverse comments were made on the initial presentations of the Gentry-Waipio plan.

December 8, 1976

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MEMORANDUM

To: Mr. George S. Moriguchi, Director
Department of Land Utilization, City & County of Honolulu

From: Deputy Director for Environmental Health

Subject: GENTRY-WAIPIO, Waipio, Oahu
Environmental Impact Statement
November 1976

Thank you for allowing us to review and comment on the subject EIS. Please be informed that we have several concerns in regard to the proposed development.

We submit the following comments for your consideration. In addition, we have also attached a copy of our November 30, 1976 communication with Mr. Larry Matsuo, President, Park Engineering, Inc., in regard to the proposed Gentry-Waipio interim sewage treatment facility.

Water Runoff and Drainage

1. The drainage system design engineer indicates that an additional 300 cfs runoff to Panakauahi Gulch and eventually into Middle Loch will be created by the urbanization of the proposed project area. Consideration should be given during the design stages to detain, or, partly retain this additional runoff at the project site in order to control and minimize the runoff from this project to Middle Loch. Drain system outlets to Panakauahi Gulch should not cause any long-term erosion problems in said gulch. It is understood, however, that public health and safety are of utmost importance but a balance could be struck, and present environmental conditions could be preserved, if not enhanced, by good design.
2. The existing culverts under Kamehameha Highway are being considered for use in the project design stages. Design efforts should be directed to maintain, if not minimize, the existing flow towards the canefields and eventually to West Loch by retaining the bulk of additional flows generated in the project area and, at the same time, not compromising the public safety and use of Kamehameha Highway.

3. Peak runoff flow rate attenuation techniques should be incorporated in the final design (i.e., increase the time of concentration and decreasing the magnitude of the peak runoff; provide runoff percolation areas.)


Sewage Treatment During Interim Period (on-site secondary sewage treatment; effluent stored and used for irrigation of public golf course)

4. Precautions should be taken or addressed with respect to potential health hazards associated with the use of domestic sewage for golf course irrigation. Our recommendations include the following:
 - (a) fencing of the reservoir;
 - (b) effluent irrigation restricted to only when no one is playing golf on the course;
 - (c) chlorination of effluent to assure complete removal of pathogenic micro-organisms; and
 - (d) protection of potable water systems from cross-connection with the irrigation system.
5. The golf course reservoir should have adequate holding capacity to retain unused effluent during wet weather. At the same time, measures to prevent odors and algal blooms in the reservoir should be considered.

Carbon Monoxide Analysis

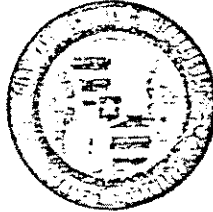
6. We agree with the methodology and conclusions as they apply to the carbon monoxide impact analysis.
7. Furthermore, it is our conclusion that this carbon monoxide analysis indicates a need for a smoother traffic egress from the project area unto Kamehameha Highway. Stop signs and/or traffic signals may cause State Ambient Air Quality Standards for carbon monoxide to be exceeded. We suggest that the City & County Traffic Signal Engineer investigate available alternatives to the use of stop signs or traffic signals for controlling egress from the project area unto Kamehameha Highway.

Since our comments are based on preliminary plans, we, therefore, reserve the right to impose future environmental restrictions on the project at the time final plans are submitted to our office for review.



JAMES S. KUMAGAI, Ph.D.

cc: Pollution Technical Review Branch
Mr. Fred Rodriguez ✓
Mr. Norman Dyer

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU650 SOUTH KING STREET
HONOLULU, HAWAII 96813FRANK F. FASI
MAYORKAZU HAYASHIDA
DIRECTOR AND CHIEF ENGINEER

ENV 76-419

November 18, 1976

MEMORANDUM

TO: MR. GEORGE S. MORIGUCHI, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM: KAZU HAYASHIDA, DIRECTOR AND CHIEF ENGINEER

SUBJECT: ENVIRONMENTAL IMPACT STATEMENT FOR
GENTRY-WAIPIO, WAIPIO, OAHU

We have reviewed the subject statement and have the following comments.

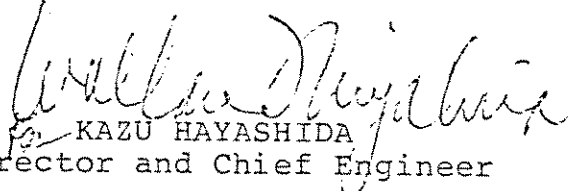
1. The proposed interim wastewater treatment and disposal systems which will serve approximately 1,600 units have been approved in principal. The location for the on-site interim treatment plant should be identified. Also, the short term environmental effects of the proposed facility should be discussed. The applicant-developer will be responsible for the operation and maintenance of the interim system.
2. The treated effluent from the interim plant is planned to be utilized for sod irrigation at the Ted Makalena Municipal Golf Course at Waipio Peninsula. Although sod irrigation by wastewater effluent has been proven to be feasible in many areas, soil type and conditions must be compatible. If the soils in the golf course are tight and impermeable, the application of effluent could result in the buildup of salts and boron which could affect the health and growth of the sod and other vegetation on the golf course.
3. According to our information, the golf course's daily irrigation requirement is 400,000 gallons per day (gpd). The anticipated volume of effluent for the first phase development is 500,000 gpd. The excess 100,000 gallons will have to be accounted for.

Mr. George Moriguchi

- 2 -

November 18, 1976

4. Another concern of ours is the disposal of treated effluent during periods of rainstorm when sod irrigation is discontinued. The alternative methods of effluent disposal or bypass and their environmental effects during periods of rainstorm should be discussed.
5. It is our understanding that none of the surface runoff from the proposed development enters the Waikele Stream watershed. Runoff collected by Kamehameha Highway which acts as a berm as stated is eventually discharged into Waiawa Stream near the cane haul road underpass. If only 2,250 cfs from 475 acres enters the Waiawa watershed, what is the final disposition of the runoff from the remaining 35 acres (510-475 acres)?
6. If Waiahole-Waikane is developed (page V-10), it would be served by a proposed treatment work in Kahaluu. No outfall disposal system would be needed, since the effluent would be discharged via the new Mokapu ocean outfall sewer.
7. The method of effluent disposal from the interim treatment works during periods of rainstorm has not been resolved (page XII-1).


KAZU HAYASHIDA
Director and Chief Engineer

cc: 7 Mr. Norman Dyer, Gentry Pacific
Div. of Engineering
Div. of Sewers

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

440 Alexander Young Bldg., Honolulu, HI 96813

December 7, 1976

Dr. Richard E. Marland, Director
Office of Environmental Quality Control
550 Halekauwila St., Room 301
Honolulu, HI 96813

Dear Dr. Marland:

Subject: EIS - Gentry-Waipio Project, Waipio, Oahu

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

Our major concern is the location of the proposed project. This area is located on what is considered to be potential prime farmland. If irrigation water is available, 490 acres or 96 percent of the 510 acres would be considered prime farmland under USDA criteria. At the present time, even without irrigation water, these lands are still considered as important farmland because of their potential to become prime farmland. This area, Central Oahu, has the largest contiguous acreage of prime farmland on the island.

Since the area is still zoned Agriculture 1, we suggest a land exchange alternative be considered. This alternative being to exchange the 510 acres for nonagricultural or less desirable agricultural land. Some areas in the Ewa plain fit this category.

As for the availability of irrigation water, a study should be made on the feasibility of using Waiahole ditch water or ground water for this area.

Another concern is: What effect will this urban zoning have on agriculture in Central Oahu?

Specific Comments:

1. Page iv. The draft report of the New General Plan (City and County of Honolulu) does not consider Ewa as a primary urban center but a secondary one. Furthermore, the Gentry-Waipio area is more properly located in the Central Oahu district. This area is considered a fringe urban area in the draft plan.

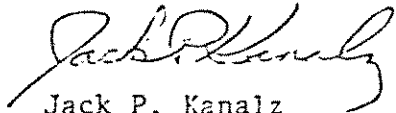


2. Page III-4. While it may be true that the parcel may be separated from other sugarcane areas, this parcel is nevertheless in close proximity to the Waipahu sugar mill.
3. Page V-20. The continuing success of the fresh fruit market has changed the economics of raising pineapple. Many of the announced cutbacks have not occurred.
4. Page V-22. Table 25 shows that most vegetable crops are well-suited for this area. This, plus the close proximity to the Honolulu market, makes it an ideal agricultural area. The Central Oahu Planning Study, Technical Supplement 2, "The Future of Hawaiian Agriculture," January 1973, mentions the need for additional farmland.
5. Page V-24. Dr. Lorenz considered only head lettuce and celery; these are temperate-zone crops that will not grow in most areas in Hawaii. Did he consider tomatoes, cucumbers, etc.?

We want to reiterate our concern of the loss of potential prime farmland. We recommend that our proposed alternative of land exchange be carefully analyzed before a decision is made to commit these acres for urban use.

Thank you for the opportunity to comment on this document.

Sincerely,


Jack P. Kanalz
State Conservationist

cc: Dept. of Land Utilization, C&C of Honolulu
Norman Dyer, Gentry-Pacific, P.O. Box 295, Honolulu, HI

November 30, 1976

Mr. Larry Matsuo, President
Park Engineering, Inc.
190 S. King Street, Suite 2085
Honolulu, HI 96813

Dear Mr. Matsuo:

Subject: Gentry-Waipio Interim Sewage Treatment Facility

Reference is made to your letter of November 3, 1976 regarding your latest proposal of the subject facility.

The concept of secondary treatment and effluent irrigation of golf courses is acceptable, however, the following comments must be addressed prior to our conceptual approval of the subject plan:

1. Clarification is needed as to what extent the effluent pump station at Waipahu is related to the existing pump station. Currently, the existing pump station is undergoing modifications. The effects of the new pump station on the aforementioned modification must be known.
2. Emergency effluent disposal method must be considered. An overflow from the ponds during wet weather may be in conflict with NPDES regulations.

It is apparent that the City and County of Honolulu must be involved in the following areas:

1. The pump station and effluent force mains must be approved by the City and County of Honolulu. City and County of Honolulu standards must be followed.
2. Easements and Rights-of-Ways must be granted by the City and all appropriate landowners.
3. Legal agreements between the owner's/developer's and the City are needed to maintain effluent quality since the effluent will be applied to a municipal golf course used by the public.

Therefore, it is our contention that the viability of your proposal is contingent upon the acceptance of the City and County of Honolulu to operate and maintain the proposed facility.

Mr. Larry Matsuo
Page 2
November 30, 1976

Should you have any questions, please feel free to contact the Pollution
Technical Review Branch at telephone 548-6410.

Sincerely,



SHINJI SONEDA, CHIEF
Environmental Protection and
Health Services Division

HNY/mt

ENVIRONMENTAL COMMUNICATIONS, INC.

P. O. Box 536
HONOLULU, HAWAII 96809

TO Dr. James S. Kumagai
Deputy Director, Environmental Health
Department of Health
P. O. Box 3378
Honolulu, Hawaii 96801

DATE November 9, 1976
SUBJECT Proposed Gentry-Waipio
Project

We are providing for your staff's review, in conjunction with the Gentry-Waipio Environmental Impact Statement, the following reports:

1. Surface Water Runoff and Water Considerations for the Gentry-Waipio Project Near Pearl Harbor, Oahu, Hawaii, prepared by Michael J. Chun, Ph.D. and Gordon L. Dugan, Ph.D., Environmental Consultants, October 3, 1974.
2. Draft report Carbon Monoxide Impact Analysis for the Gentry-Waipio Project, Waipio, Oahu, Hawaii, prepared by Barry Root, M.A., M.D.H., Air Pollution Consultant, November 1, 1976.

We feel that these technical documents may be useful in your review of the project's impact on air and water quality.



Enclosures

cc: Environmental Quality Commission
Department of Land Utilization

AM-ALD-1772 The Drawing Board, Inc. Box 925, Dallas, Texas

AMERICAN  LUNG ASSOCIATION of Hawaii

December 8, 1976

Department of Land Utilization
City & County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Gentlemen:

Subject: Environmental Impact Statement for the Proposed
Gentry-Waipio Project, Waipio, Oahu

We have reviewed the subject EIS and supporting technical reports pertaining to traffic and air quality impact. There are quite a number of discrepancies and inconsistencies in the EIS and these technical reports. Most of these contributed to an underestimation of air quality impact despite the use of a basically conservative screening method. However, of greatest significance at this point, other comments notwithstanding, is the fact that the entire air quality analysis as reported in the EIS is invalid because some of the principal parameters on which it was based were changed subsequent to its preparation. Namely, the calculated capacities of various roadways including Kam Highway were reduced as mentioned in a footnote on page II-11 of the EIS.

Considering the magnitude of this project and the significance of traffic and air quality impacts, we trust that all the discrepancies noted in our attached detailed comments will be corrected before this EIS is accepted.

Sincerely,

James W. Morrow, Director
Environmental Health

JWM:ct
Enc.

cc: Mr. Norman Dyer
Dr. Richard E. Marland



AMERICAN LUNG ASSOCIATION OF HAWAII

ENVIRONMENTAL IMPACT STATEMENT REVIEW

... an air quality assurance program

Project: Gentry-Waipio Project, Waipio, Oahu

Date: December 8, 1976

1. EIS, Page II-10: It is stated that "morning peak hour traffic levels are based on 1992 forecasts" from the traffic consultant; however, these forecasts are based only on one direction of flow (See Plates 7 and 8 of the Revised Traffic Impact Statement¹ and Figures 3 and 4 of the Carbon Monoxide Impact Analysis²). Use of these forecasts results in a significant underestimation of air quality impact since the traffic shown on those plates and figures totals much less than the A.M. peak of 2,960 vph projected by the traffic consultant in his report.¹ In addition, these projections do not include peak hour traffic generated by the industrial area (see p. T-25 of the traffic report¹) thus further underestimating the air quality impact. The air quality analysis² also assumed the widening of Kam Highway to 4 lanes which is questionable since the State DOT says "...there are no definite plans to widen Kam Highway in the foreseeable future..." (EIS, p. X-33). This assumption of widening would also result in an underestimation of air quality impact.
2. EIS, Page II-10: As noted by the air quality consultant, the EPA method employed assumes an atmospheric stability category of D which is not necessarily indicative of worst case conditions at the project site because of its rural character. Assumption of F stability would be more appropriate, and this could result in as much as a two-fold increase in CO estimates.
3. EIS, Page II-11: Assumption 8 stated an "eventual cruise speed of 35 mph for vehicles..." Based on Table 4, Section 6.3 of the EPA reference cited by the consultant, the use of a 35 mph speed implies a V/C ratio less than 0.6 which does not seem appropriate for the A.M. peak-hour analysis. Use of the 35 mph speed results in a lower estimate of impact.
4. EIS, Page II-11: Assumption 9 lists the road capacities, but footnote 2 indicates that the capacities of Kam Highway and the internal roadways were subsequently reduced. The effect of this revision is to render invalid all the estimates of CO concentrations reported in the EIS as well as the consultant's air quality impact analysis because the EPA screening procedure is based largely on the volume/capacity (V/C) ratio.

STATE OFFICE
245 N. Kukui St.
Honolulu, Hawaii 96817
Telephone 537-5966

HAWAII COUNTY
Post Office Box 925
Hilo, Hawaii 96720
Telephone 935-1206

KAUAI COUNTY
Post Office Box 991
Lihue, Hawaii 96766
Telephone 245-4142

MAUI COUNTY
Cameron Center
Wailuku, Hawaii 96793
Telephone 244-5110

5. EIS, Page II-19: The first paragraph states that "...the overall peak hour volume in one direction will total only 2,960." The fourth paragraph states "The A.M. peak hour volume generated by the 'Gentry-Pacific, Waipio' development will total only 2,960 trips for both directions." These quotes can also be found on page T-12 and T-17 of the Traffic Impact Statement.¹ Is the projection for one or both directions?
6. EIS, Page II-19: The fifth paragraph states "Assuming that Kamehameha Highway ...will remain a basic two-lane highway..., the capacity ...should range between 1,000 to 1,200 vehicles per lane per hour ... for level of Service C." The Highway Capacity Manual indicates that under ideal conditions a 2-lane highway with a level of service C has a maximum service volume of 1400 vph, total, both directions. The Manual also indicates that under ideal conditions a 3-lane highway (which Kam Highway is not) can accommodate a service volume of 2,000 vph, total for both directions, at service level C. This is still less than the capacity of a 2-lane highway as reported in the EIS. Thus, it appears the EIS overestimates the capacity of Kam Highway at service level C thereby underestimating the project's impact on air quality.
7. EIS, Page II-19: The determination in the fifth paragraph of the number of dwelling units which would cause Kam Highway's capacity to be exceeded is inaccurate for two reasons. First, as noted above, the highway's capacity has been over-rated. Secondly, it is apparently assumed that the 650 vph in one direction will remain constant over the 1977-1984 period. This seems unrealistic, and it is conceivable that the completion of less units in a shorter time would result once again in traffic volume exceeding Kam Highway's capacity.
8. EIS, Page IV-1: It is stated that "correspondence with various public and semi-public agencies indicates that no adverse demands will be made on the use of the existing resources and facilities." This statement is not correct. Both the State Department of Transportation and the Mayor of the City & County of Honolulu have expressed concern about the severe impact the project will have on Kamehameha Highway. The project traffic consultant also concluded that the traffic generated by the project will result in the highway's capacity (at service level C) being exceeded.
9. EIS, Page VII-1: Despite the fact that the EIS identifies both traffic and air quality impacts as significant, no specific measures have been proposed to mitigate those impacts.

REFERENCES

1. Au, Henry Tuck. Revised Traffic Impact Statement for "Gentry-Pacific, Waipio" Development (June, 1976), revised June 21, 1976 and August, 1976.
2. Root, Barry. Carbon Monoxide Impact Analysis for the Gentry-Waipio Project, Waipio, Oahu, Hawaii (November 1, 1976), revised November 16, 1976.
3. Highway Research Board. Special Report 87, Highway Capacity Manual - 1965.



P.O. Box 295
Honolulu, Hawaii 96809
phone 531-8491

December 17, 1976

Mr. James W. Morrow, Director
Environmental Health
American Lung Association of Hawaii
245 North Kukui Street
Honolulu, Hawaii 96817

Re: Comments on the Environmental Impact Statement for the Proposed
Gentry-Waipio Project, Waipio, Oahu

Dear Mr. Morrow:

We have reviewed your comments on the air quality and traffic portions of the Environmental Impact Statement and requested our air quality consultant, Mr. Barry Root, and our traffic consultant, Mr. Henry T. Au, to assist in preparing the following responses:

EIS, Page II-10 (1): The total peak hour traffic predicted by the traffic consultant is 2,960 vph in both directions. The air pollution estimate was based on pages 7 and 8 of the Revised Traffic Impact Statement which show only residential traffic leaving subdivision.

There are no plans to widen Kamehameha Highway by the State at this time. Widening is subject to being justified and the availability of construction funds. If the project is constructed and if no access to H-2 Freeway is provided, then it seems logical to assume that portion of Kamehameha Highway from the project to Farrington Highway will be increased to 4 lanes.

EIS, Page II-10 (2): While assumption of stability category F could result in as much as a two-fold increase in CO estimates, this would most likely not be the case for receptor sites just 10 meters from the roadway. It is also important to note that the EPA screening technique recommended by the State Department of Health makes no provision for utilization of stability category F. As stated in the CO impact analysis, the assumption of stability category D might not be conservative enough. For that reason, very conservative assumptions of traffic levels and emission values were used in the estimation procedure.

EIS, Page II-11 (1): Since the speed limit on Kamehameha Highway beside the proposed project is likely to be at least 35 mph, there seems no good reason to assume that traffic entering the highway from the project will not

Mr. James W. Morrow
Page Two
December 17, 1976

eventually reach that speed. Table 4, Section 6.3 of EPA Volume 9 refers to urban expressways under free flow conditions. Table 3, Section 6.3 refers to major streets - also under free flow conditions. In any case, Page 17 of the same reference recommends assuming a downstream speed of 15 mph for city streets and 30 mph for major streets. In light of this, 35 mph for a suburban highway does not seem unreasonable.

EIS, Page II-11 (2): Road capacities listed under Assumption 9 on Page II-11 of the E.I.S. are for level of service E as specified in EPA Volume 9. The footnotes at the bottom of the same page state the capacities for a much higher level of service and have nothing to do with the air pollution estimation technique. In fact, the capacities used are very conservative given that 1975 peak hour traffic on Kamehameha Highway was 3,151 vph in both directions. Since about two-thirds of this traffic was in the lane headed toward Pearl City, this lane was carrying 2,100 vph and providing for traffic movement at level of service E. Thus, a capacity of 1,600 vph for a 4 lane version of the highway is quite conservative.

While the above responses should adequately defend the methods and assumptions used in the air pollution portion of the E.I.S., your first point does raise a valid question: What peak hour carbon monoxide values might occur if Kamehameha Highway remains two lanes, industrial traffic is included, and downstream traffic speeds are limited to 30 mph on the highway and 15 mph on project access roads? The answer to that question is provided in Table 1, which considers only traffic Scheme A (no access to the H-2 Freeway), and only those sites on the Kamehameha Highway of the project. See Figure 1 for site locations.

These values indicate that if Kamehameha Highway is not widened to four lanes, then State one-hour carbon monoxide standards are likely to be exceeded for peak hour traffic conditions for all the receptor sites along the highway. Federal standards, however, are not likely to be exceeded for any of these receptor sites.

Aside from mitigating measures suggested by the traffic consultant, the implementation of a dense row of shrubs or low trees along the highway could help to reduce actual concentrations of pollutants generated by automobiles. It should be noted that the setback of any homes from the highway will be at least 70 feet (21 meters) as planned by the developer. It is also important to note that these estimated CO values do not take into account the effect of installing a set of synchronized traffic signals at the Kamehameha Highway accesses. The air pollution analysis currently assumes that any traffic signals in the area will be operating independently, and that no special turn lanes or green arrows will be provided. If installed, these too, would be mitigating measures.

EIS, Page II-19 (1): The statement, "the overall peak hour volume in one direction will total only 2,960", is in error and should be for both directions.

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EIS, Page II-19 (2): The Highway Capacity Manual was prepared in 1965 and is to be used as a guide as a rational and practical method for determining highway capacities. Since 1965, traffic volume counts have shown that the capacity values set forth are under-estimated and that many highways are capable of accommodating considerably higher volumes than the figures given in the Manual. The following quotations from the 1965 Manual are noteworthy:

"The information given in this Manual has been selected to represent typical or average conditions reported throughout the United States at the time of its preparation. The user must appreciate the possibility that individual locations or areas may differ from the average, and avail himself of additional information for specific problems. The Manual does not, therefore, provide rigid standards for capacity measurements, but instead provides a guide in lieu of more detailed information." (Page 3)

"Highway capacity has been the subject of continuing study over a long period of time, but by no means is the research completed. This summary of present information points out the need for extending the quantity of data and breadth of analysis beyond existing knowledge. Much has been done, but much more study is necessary to accurately define and measure the factors involved in determining the capacity of highways." (Page 3)

"These maximum observed volumes are given primarily to acquaint the reader with the peak traffic that has been carried on some of the more heavily traveled routes. They are also intended to indicate the wide range of capacities of highways that are seemingly alike in types, but actually have significant differences in their physical, as well as traffic characteristics. The reasons for much of the variation in capacity will become more apparent as the subject is developed in the succeeding material. However, consideration variation must still remain unexplained, awaiting further research." (Page 25)

"It must be remembered, however, that these values were determined from studies of many highways under a variety of conditions. In all cases, it would be impossible to state that the volume measured was the absolute maximum that could be carried, inasmuch as maximum volumes observed at different times at one point will show a range of values. Rather, each capacity value, given in Table 4.1 should be considered as the average maximum volume, or a maximum volume that has a reasonable expectation of occurring frequently on the particular type of highway under ideal conditions." (Page 76)

From the above quotations, it becomes evident that science is integrated into the environmental process and scientific and technological judgement must be made in an environmental impact evaluation. The public, as well as the decision maker, therefore, is not expected to understand these technical

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details, such as level of service and land capacities.

As an example, as early as 1961, based on similar classification and type of roadway, Kamehameha Highway recorded one of the highest hourly volumes on three-lane, two-way highways in the United States. The hourly volume in terms of vehicles per hour in both directions was 1,286. With an average daily traffic for both directions of 10,608, Kamehameha Highway at that time, was considered to be operating at or near capacity. In 1972, the average daily traffic increased to 26,102 with a peak hour volume of 2,488 vehicles in both directions. Kamehameha Highway was also considered operating beyond capacity. In 1975, the average daily traffic increased to 36,558 for both directions and the peak hour volume in both directions was a high of 3,139.

If the capacity values of the Manual were used as the basis for the maximum capacity (1,400 vph) of Kamehameha Highway, traffic on Kamehameha Highway will be at a standstill, unable to move. However, this is not happening, and it would not be unreasonable to expect that the peak hour volume for both directions could increase to nearly 4,000 vehicles assuming that the H-2 Freeway is not constructed.

The capacity value of 1,000 to 1,200 vehicles per lane per hour under interrupted flow conditions for level of service C used in the E.I.S. is not only more than reasonable, but it is also under-rated.

EIS, Page II-19 (3): As explained in detail above, the highway's capacity is under-rated and not over-rated. All comments relating to capacity and its effect on the number of dwelling units, therefore, are not applicable.

A complete interchange for egress and ingress to the H-2 Freeway is to be provided at Mililani as a part of the H-2 Freeway. With this interchange and the H-2 Freeway diverting traffic from Mililani, Schofield, Wahiawa and beyond, there is reason to believe that the peak hour volume in one direction will be less than 650, but that by 1980, the peak hour volume will reach 650. Consequently, it appears that Kamehameha Highway was assigned a constant base of 650 for the peak hour volume in one direction.

EIS, Page IV-1: The traffic generated by the project, at service level C, may be exceeded, however, the highway will still provide an acceptable level of service at level of service D.

The fact that there are no plans to widen Kamehameha Highway does not mean that Kamehameha Highway will not be widened. Long standing custom and common-law have made provision of roads, streets and highways a public function. Thus governmental bodies have a common-law court imposed duty to provide for highway facilities that will not only adequately meet existing and future traffic needs, but also that they be maintained in a manner conducive to safety, durability and economy of maintenance.

Of great importance to the public is the contention of the courts of the continuing obligation of governmental bodies to restudy, to redesign and to make those roadways already constructed better and safer when and where needed.

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However, before widening and other improvements can be approved, justification for these improvements must be based on actual traffic needs which is dependent upon the actual urbanization of the subject lands. Since actual urbanization is impossible at this time, justification must await the completion of the proposed project.

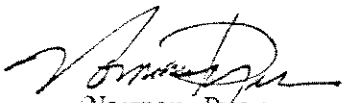
EIS, Page VII-1: Measures or factors that may in the future, mitigate the adverse consequences of traffic include the following:

1. The widening of Kamehameha Highway to a four lane divided highway.
2. The provision of an access to the H-2 Freeway with an interchange or interconnecting ramp at the grade separation structure on Mililani Cemetary Access Road.
3. Improvement of the mass transportation service.

In planning this project, the traffic impact study was one of the first studies to be developed. Through discussions with the Department of Transportation and the Department of Transportation Services, the traffic impact study has been analyzed and revised several times. We intend to continue to work with these two governmental agencies on traffic matters in order to provide for adequate vehicular movement. The carbon monoxide study indicates that there will be impact on air quality during peak hour periods. For this reason, as well as improving aesthetics, we are providing for a minimum setback of 70 feet from the highway to the homes and also possibly planting a greenway buffer minimizing highway vehicular emissions.

Thank you for your comments and we hope that we have adequately answered your concerns.

Very truly yours,


Norman Dyer
Vice President
Project Director

ND:lo

cc Department of Land Utilization
Environmental Quality Commission
Environmental Communications, Inc.

enclosure

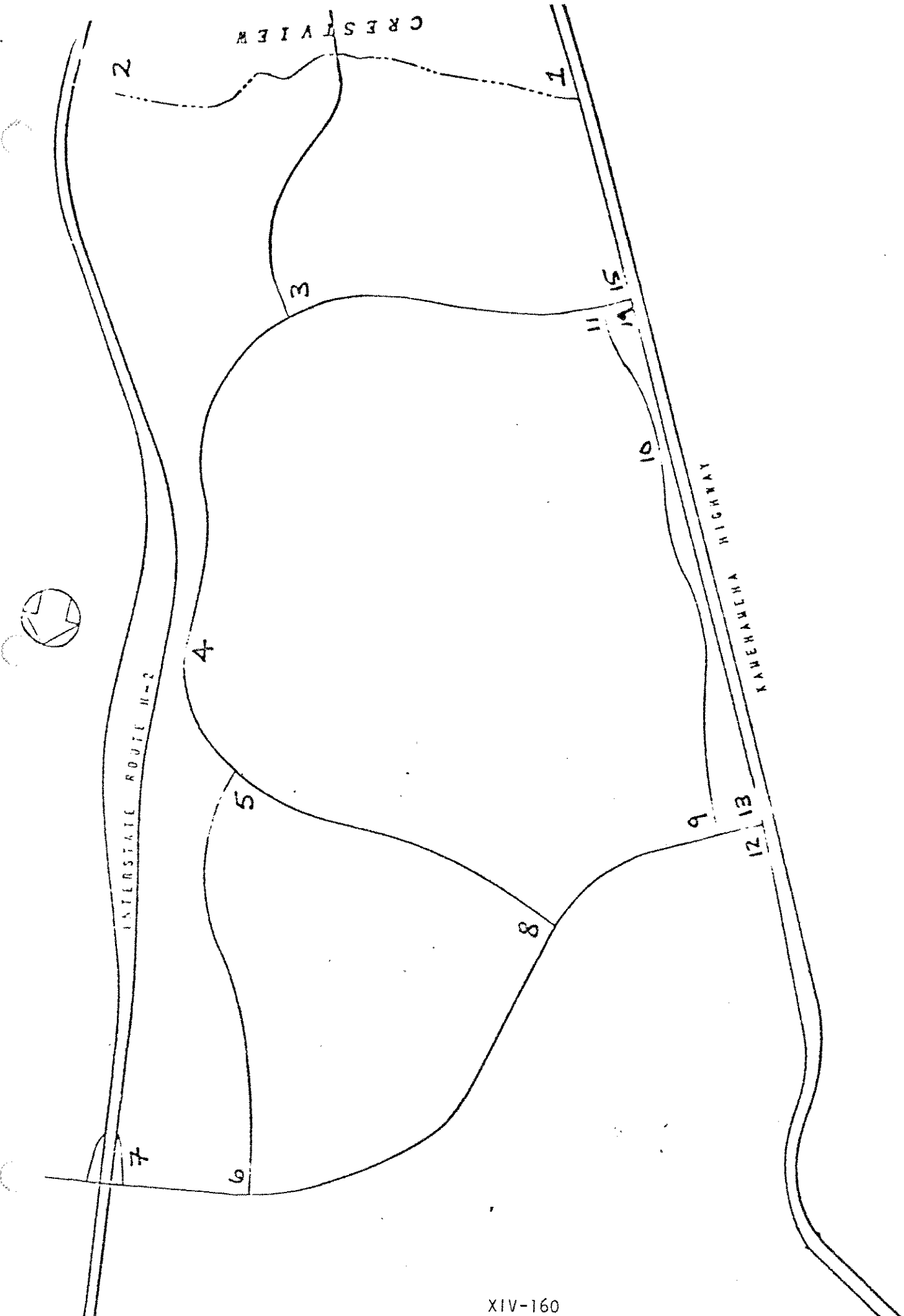


Figure I
Receptor Sites

TABLE 1

Estimated 1986 Peak One Hour Carbon Monoxide Concentrations (mg/m³) within or near the proposed Gentry-Waipio Project for two lane traffic on Kamehameha Highway.

SITE	WITHOUT DEVELOPMENT	WITH DEVELOPMENT (TRAFFIC SCHEME A)		STATE STANDARD	FEDERAL STANDARD
		NO SIGNALS	SIGNALS ¹		
1	6.1	16.3	16.3	10	40
9	3.1	12.4	14.3	10	40
10	4.1	8.9	8.9	10	40
11	3.1	16.5	17.3	10	40
12	6.1	22.3	25.7	10	40
13	6.1	19.6	22.4	10	40
14	6.1	25.4	27.0	10	40
15	6.1	23.5	28.9	10	40

¹ G/cy = 0.5



Mililani Town Association

95-400 Ikaloa Street
Mililani Town, Hawaii 96789

December 8, 1976

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

Attention: Helene Takemoto
Environmental Analyst

Dear Ms. Takemoto:

Re: Gentry-Waipio Project

Thank you for soliciting our comments on the Environmental Impact Statement for the proposed Gentry-Waipio project.

Since the project's inception, the central issue concerning the residents of Mililani has been the probable adverse effect on traffic posed by the development. There is certainly not a resident of this town who has not been locked in the traffic snarl that daily jams the highways leading into Mililani. The bumper-to-bumper situation is, at present, only tolerable because of the pending relief that will be offered by the completion of H-2. Thus, it is only natural that Mililani residents would question any proposals that might tend to jeopardize that long-awaited relief.

The concern of the community has been expressed on many occasions. It has taken the form of testimony before the City Council during the public hearing on the issue, a special October 6th meeting with the mayor that expressed opposition based on the traffic issue and numerous letters and conversations with state and county officials. Most recently, several residents of Mililani formed an ad hoc group that solicited contributions from the community and hired an attorney to examine legal questions raised by the Gentry proposal.

Generally, the opposition to the Gentry proposal continues because several critical questions remain unresolved. A study of the Environmental Impact Statement brings these questions to light:

1. What consideration has been given to the Kam Highway traffic that will be generated by the proposed 120-acre light industrial park?

The traffic calculations in the EIS seemed to only take into account the number of homes and residents in the Gentry project. The EIS, however, mentions that "the industrial park will be utilized for service and distribution-oriented business", (p. 1-22). By their own nature, "distribution-oriented businesses" would put trucks on the highway. Of course, it is difficult to determine what type of trucks there might be, but certainly semi-trailers would tend to slow traffic. Particularly since the road is narrow and has a substantial grade.

2. What consideration has been made for the increased traffic generated by the continued growth of neighboring communities?

Even with the completion of H-2, Kam Highway will remain a major traffic artery into Mililani, a community that continues to grow by an average of 500 homes per year. It seems unreasonable for the EIS to suggest that the Kam Highway traffic will have a constant base of 650 for "peak hour volume of vehicles in one direction". In a July 2, 1976 letter by E. Alvey Wright, the director also points out, "The peak hour traffic of 650 vehicles on Kam Highway in one direction by 1977 and remaining unchanged until 1984 does not seem realistic".

3. What consideration has been given to the traffic generated by the construction of 500 units per year?
4. Two statements that deal with the question of improving traffic conditions on Kam Highway appear to be in conflict. In his letter of June 3, 1976, Mr. E. Alvey Wright mentions that, "there are no definite plans to widen Kam Highway in the foreseeable future..." But the EIS (p. 11-16) talks about its probable improvement when it says, "When constructed according to the findings and recommendations of the State Department of Transportation, Kamehameha Highway will ultimately be four lanes..."

There seems to be some question about plans to widen the highway. Even with the completion of H-2, Kamehameha Highway will continue to be a major access to Mililani. We feel that our concern for the effects of the Gentry project on the future of Kam Highway is justified, and we trust that you will give serious consideration to the questions we have raised before you arrive at a conclusion.

Sincerely yours,

MILILANI TOWN ASSOCIATION

Paul Peters for
David Rolf
Vice-President

DR:ry



December 20, 1976

P.O. Box 295
Honolulu, Hawaii 96809
phone 531-8491

Mr. David Rolf
Vice President
Mililani Town Association
95-400 Ikaloa
Mililani Town, HI 96789

Dear Mr. Rolf:

The comments of Mililani Town Association on the draft Environmental Impact Statement for the proposed Gentry-Waipio project have been evaluated by Mr. Henry T. Au, our traffic engineer.

In addition to Mr. Au's detailed responses on a point-by-point basis, it is our basic premise that Mililani Town and Gentry-Waipio can co-exist on a shared mutual benefit basis, the traffic arterial provided for both communities.

Mitigating measures to effectively resolve traffic considerations that affect both communities are being developed by concerned appropriate regulatory government agencies. A copy of a letter from the State Department of Transportation (September 15, 1976, page II-21 in the E.I.S.) is attached for your files. We state these points in the interests of amicably meeting your group as our project is implemented.

COMMENT:

1. What consideration has been given to the Kam Highway traffic that will be generated by the proposed 120-acre light industrial park?

RESPONSE:

The traffic generated by the industrial land lanes and its impact on the highways are set forth on page T-23 and T-24 of the Revised Traffic Impact Statement. Since their directional flow is primarily opposite that of the residential land use, there is not the competition for highway space and therefore, less traffic congestion.

COMMENT:

The traffic calculations in the EIS seemed to only take into account the number of homes and residents in the Gentry project.

Mr. David Rolf
Page Two
December 20, 1976

The EIS, however, mentions that "the industrial park will be utilized for service and distribution-oriented businesses," (p. I-22). By their own nature, distribution-oriented businesses" would put trucks on the highway. Of course, it is difficult to determine what type of trucks there might be, but certainly semi-trailers would tend to slow traffic. Particularly since the road is narrow and has a substantial grade.

RESPONSE:

As stated on page T-19 of the Revised Traffic Impact Statement, the dwelling units is the primary origin of all traffic movements and that about 80 percent of all urban area trips are made either from or to home. The number of trips generated by the project can be estimated with reasonable accuracy taking into account the number of homes and residents in the Gentry project.

To estimate the composite of trip purposes which actually do make up the traffic, the peak hour volume was increased by 10% of the 24 hour volume as the traffic generated by the project.

The distribution-oriented businesses would be small businesses and would not be of the type to utilize semi-trailers. Semi-trailers constitute only a small percentage of the trucks on the streets and highways of Honolulu.

2. What consideration has been made for the increased traffic generated by the continued growth of neighboring communities?

Even with the completion of H-2, Kam Highway will remain a major traffic artery into Mililani, a community that continues to grow by an average of 500 homes per year. It seems unreasonable for the EIS to suggest that the Kam Highway traffic will have a constant base of 650 for "Peak hour volume of vehicles in one direction." In a July 2, 1976 letter by E. Alvey Wright, the director also points out, "The peak hour traffic of 650 vehicles on Kam Highway in one direction by 1977 and remaining unchanged until 1984 does not seem realistic.

RESPONSE:

A complete interchange for egress and ingress to the H-2 is provided at Mililani as a part of the H-2 Freeway with this interchange providing for new and improved accessibility into Mililani, Kamehameha Highway will no longer become the main traffic artery into Mililani.

With this interchange and the H-2 Freeway diverting traffic from Mililani, Schofield, Wahiawa and beyond, there is reason to believe that the peak hour traffic in one direction will be less than 650. Consequently, Kamehameha Highway has been assigned a base of 650 for the peak hour volume in one direction in relation to the anticipated implementation and traffic generated by Gentry-Waipio for traffic impact analysis.

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December 20, 1976

COMMENT:

3. What consideration has been given to the traffic generated by the construction of 500 units per year?

RESPONSE:

The traffic generated by the incremental development of 500 units per year is set forth in Tables 8 and 8-A of the Revised Traffic Impact Statement, pages T-21 and T-21A.

COMMENT:

4. Two statements that deal with the question of improving traffic conditions on Kam Highway appear to be in conflict. In his letter dated June 3, 1976, Mr. E. Alvey Wright mentions that, "there are no definite plans to widen Kam Highway in the foreseeable future..." But the EIS (p. II-16) talks about its probable improvement when it says, "When constructed according to the findings and recommendations of the State Department of Transportation, Kamehameha Highway will ultimately be four lanes..."

There seems to be some question about plans to widen the highway. Even with the completion of H-2, Kamehameha Highway will continue to be a major access to Mililani. We feel that our concern for the effects of the Gentry project on the future of Kam Highway is justified, and we trust that you will give serious consideration to the questions we have raised before you arrive at a conclusion.

RESPONSE:

As explained above, Kamehameha Highway no longer will become the main traffic artery to Mililani after the interchange at Mililani is completed. Measures to be taken should Kamehameha Highway not be widened or improved to a four lane highway are set forth on pages II-19 and II-20 of the EIS.

The fact that there are no plans to widen Kamehameha Highway does not mean that Kamehameha Highway will not be widened (see DOT letter dated December 6, 1976). Long standing custom and common-law have made provision of roads, streets and highways a public function. Thus governmental bodies have a common law court imposed duty to provide for highway facilities that will not only adequately meet existing and future traffic needs but also that they be maintained in a manner conducive to safety, durability and economy of maintenance.

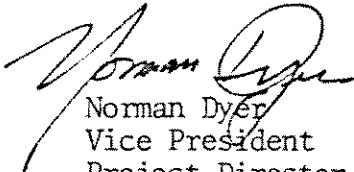
Of great importance to the public is the contention of the courts of the continuing obligation of governmental bodies to restudy, to redesign and to make those roadways already constructed better and safer when and where needed. However, before widening and other improvements can be approved,

Mr. David Rolf
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December 20, 1976

justification for these improvements must be based on actual traffic needs which is dependent upon the urbanization of the subject lands.

We hope we have adequately responded to your comments.

Very truly yours,


Norman Dyer
Vice President
Project Director

ND:lo

cc Department of Land Utilization
Environmental Quality Commission
Environmental Communications, Inc.

enclosures

GEORGE R. ARIYOSHI
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

file
E. ALVEY WRIGHT
DIRECTOR

DEPUTY DIRECTORS
WALLACE AOKI
RYOKICHI HIGASHIONNA
DOUGLAS S. SAKAMOTO
CHARLES O. SWANSON

IN REPLY REFER TO:

September 15, 1976

STP 8.3846

Mr. Norman Dyer
Vice President
Gentry Pacific
P.O. Box 295
Honolulu, Hawaii 96809

Dear Mr. Dyer:

Subject: Traffic Impact Statement
Re: Gentry-Waipio Project

This confirms our statement to you on August 10, 1976, that your traffic impact statement gives a reasonable and fair assessment of the traffic and its impact on our major highway facilities, and is acceptable to the Department of Transportation.

As agreed, your subsequent submission on the traffic analysis and impact is to include the following:

1. The need to modify the Kamehameha Highway in the area of the proposed intersections be identified; and
2. The traffic consultant incorporate information and impact of other transit means such as buses would have on traffic generation.

Sincerely,

E. Alvey Wright
E. ALVEY WRIGHT
Director

COMMENTS ON DRAFT
ENVIRONMENTAL IMPACT STATEMENT
GENTRY-WAPIO

Prepared for Submission
to the Office of Environmental Quality Control

by

Neighborhood Board No. 25
(Mililani-Melemanu-Waipio)

December 8, 1976

Respondent: John C. Holmstrom
94-105 Hokualii Ct.
Mililani Town, HI 96789

The draft environmental impact statement for the proposed Gentry-Waipio development is presently inadequate in its assessment of likely traffic impacts because: 1) it is misleading in terms of some of the information which is provided; and 2) it is lacking in some types of analysis. These questions are not foreign to the developer; they were raised in testimony presented by Neighborhood Board No. 25 and the Mililani Town Association before the City Council on May 12, 1976 (in consideration of Bills No. 4 and 5, relating to General Plan Ordinances Nos. 2443 and 2473). Moreover, some of the points considered below reflect a lack of acceptance by the developer of technical characteristics of the transportation system which have been determined by the State of Hawaii Department of Transportation. These matters require thorough resolution and the draft environmental impact statement requires substantial revision prior to its acceptance as an adequate statement of likely impacts of the proposed development.

Traffic Impacts

A. Project description. [Note: There is a discrepancy between two maps in the draft EIS--that found on page I-19 and that found on page I-24. What portions are in this rezoning request?]

The Draft EIS does not sufficiently describe the proposed project with regard to transportation improvements which will take place.

1. H-2 access. The developer continues to make an assertion regarding potential access from the project site to the H-2 freeway as if gaining such access were likely. On page I-22 there is the

statement, "an interchange with the H-2 Freeway at the Mililani Memorial Road overpass is proposed." The assumption utilized in the carbon monoxide impact analysis (page II-11) includes, "all traffic leaving the proposed project via the H-2 Freeway headed toward Pearl City during morning rush hour." On page II-16 is found the statement, "Primary vehicular access will be to Kamehameha Highway with a secondary connection to the H-2 Freeway if permitted by the State Department of Transportation."

However, there is no evidence that either the State or the Federal Highway Administration has plans to provide access to H-2 other than at Mililani Town. There is no evidence that the developer has even formally proposed such access to State or Federal authorities. Furthermore, there is no indication of any possibility of gaining such access. Many stringent hurdles must be passed prior to gaining such access, some of which are stated in a letter from the State Department of Transportation to the Developer, dated July 1, 1975, (page X-26). In fact, it is exceedingly unlikely that access to H-2 from the project site could be obtained from the Federal Highway Administration. The Draft EIS is flawed, as is its accompanying "Traffic Impact Statement," in continuing to allude to H-2 access as if it were likely. The EIS should assume only access to Kamehameha Highway, unless specific documentation to the contrary can be obtained from the Federal Highway Administration and from the State.

2. Kamehameha Highway Improvements. Section I of the Draft EIS provides no description of the improvements to Kamehameha Highway that

that would be required as a consequence of the proposed project. Page II-16 of the Draft EIS states that "When constructed according to the findings and recommendations of the State Department of Transportation, Kamehameha Highway will ultimately be four lanes...." However, there are no current plans for the State to improve Kam Highway in the vicinity of the proposed project. Old plans for widening the highway have been shelved because of the forthcoming capacity provided by the parallel H-2. There is a description of the internal street system in the Draft EIS, but not of the critical intersections of that system with Kam Highway. An adequate description would include at least: 1) a description of necessary highway widening (additional lanes); 2) the geometrics of intersections; and 3) signalization specifications. Not only are these points not covered in the Project Description section of the Draft EIS, they are covered in the Traffic Impact Statement only in terms which are too general to be evaluated. For example, "...some form of improvement may become necessary at the connections to Kamehameha Highway. This may consist of a flared intersection to provide an added lane for two lanes of left turning movements, after which the traffic may again merge into one through lane. The approaches to the intersection may also be flared to accommodate right turning movements to and from the development." (p. II-20) This statement does not seem to meet the requirement set by the State Department of Transportation in its letter of September 5, 1976 (p. II-21), requiring the developer to include in his analysis "1. The need to modify the Kamehameha Highway in the area in the proposed intersections...."

On page I-1, the developer states that, "Supportive facilities for the community, such as infrastructures, internal and access roadways, utilities, recreational and community meeting areas, will be provided as part of the Gentry-Waipio plan." However, he fails to address his obligation to improve Kam Highway to the extent impacts from his project would require.

B. Probable impacts. The comments which follow are based on the "Transportation" section of part II of the Draft EIS and on the "Revised Traffic Impact Statement," dated August, 1976, a component of the Draft EIS by reference.

1. General comments. Both documents employ imprecise language which serves no informative purpose. For example, "If the increase is taken at the midpoint (12 of 75 + 100 ÷ 2) or 43.5 per cent...." (p. II-20) Or in the following unsubstantiated assertion: "Through the balanced mixture of residential, commercial, and industrial land uses, optimum use of the over-all highway system will result and minimum overlaps of traffic concentration will reduce the possibility of unusually high traffic peaks." (p. II-16)

2. Lane capacities. The Traffic Impact Statement is confusing and disjointed with regard to congestion projections. In the Summary (p. T-1 of the full report) is the statement that "the capacity of a multi-lane highway is approximately 1,275 vehicles per lane per hour in one direction." In the same paragraph there is allusion to Kam Highway, and in the following paragraph there is a conclusion regarding the adequacy of Kam Highway upon widening. Yet on p. X-24 of the Draft EIS the State DOT makes it very clear that a figure of 1,000 vehicles per hour--not

1,275--is acceptable. This is but one example of lack of clarity or inconsistency in the report.

The logic of some passages in the Traffic Impact Statement cannot be followed; for example, the last two paragraphs on page T-17. Also, on page T-18, first paragraph, the point is made that the capacity of Kam Highway will not be exceeded until 693 dwelling units (under DOT's acceptable assumption) are built in the proposed development; but the zoning application is for more than 1,600 dwelling units. What, then, is the conclusion of that paragraph?

The estimates provided assume conditions of uninterrupted flow of traffic on Kam Highway. But with added interactions the traffic flows will be interrupted. Therefore lane capacities should be further reduced unless intersection specifications (not provided in the Draft EIS convincingly show otherwise).

After carefully reading and re-reading the document it is impossible to summarize what it says the impact will be in terms of congestion on Kam Highway. The text discusses capacities and loads in various places but does not provide the ultimate interpretation in terms of how ^{it} will ~~is~~ affect commuters. Will the level of service be improved or will it deteriorate? By how much? Such a statement should be made clearly and the assumptions leading to it should be laid out so they can be understood. In brief, the statement should indicate what the impact will be on commuters. This problem with the EIS is compounded by traffic that would be generated by the proposed industrial site.

3. Effects of industrial development. The highway capacity analysis that is reported in the Traffic Impact Statement is limited to the consideration of traffic generated by residences in the proposed development. However, the industrial development proposed on part of the project site will add to the high level of congestion generated by residential development. One statement in the Traffic Impact Statement, in particular, is misleading:

The peak traffic periods from the industrial land uses of the "Gentry-Pacific, Waipio" development will occur between 6:00 A.M. to 7:00 A.M. and 3:30 P.M. to 4:30 P.M. when commuting traffic on the highways are just beginning to peak. Their directional flow, however, is opposite to that of the residential land use, so that there is not the competition for highway space and, therefore, less traffic congestion. Thus, the industrial uses with its [sic] opposite and complimentary [sic] traffic generation characteristics will also result in an equalization and spacing of the traffic load. (p. T-24)

It is not shown why industrial traffic from the site will occur so early. Further, how can it be that flow from the site will be "opposite to that of the residential land use"? Presumably most of the flow would be toward Honolulu, both for industrially- and residentially-generated traffic. This would result in a worsening of congestion on Kam Highway, not an "equalization and spacing of the traffic load."

Summary

The traffic component of the Draft EIS and the Traffic Impact Statement on which it is based should be rewritten so that they can be understood, so that they clearly spell out the congestion impacts, and so that they resolve the questions raised above.



P.O. Box 295
Honolulu, Hawaii 96809
phone 531-8491

December 20, 1976

Neighborhood Board No. 25
(Mililani-Melemanu-Waipio)
Mr. John C. Holmstrom, Respondent
94-105 Hokualii Ct.
Mililani Town, HI 96789

Dear Mr. Holmstrom:

The detailed comments on the Draft Environmental Impact Statement for the proposed Gentry-Waipio project submitted by Neighborhood Board No. 25 have been evaluated by Mr. Henry T. Au, our traffic engineer.

The adversary position by members of Neighborhood Board No. 25 to our project appears self-serving which we view as unfortunate. We have no alternative other than to respond to the best of the collective abilities on a professional and technical basis to accurately cover all items raised by your group. Mr. Au's comments follow on a point-by-point basis and represents his best qualified response. Mitigating measures to effectively resolve traffic considerations that affect both the area makai of Kipapa Gulch, and the area represented by Board No. 25 are being developed by concerned appropriate regulatory governmental agencies.

COMMENT:

1. H-2 access. The developer continues to make an assertion regarding potential access from the project site to the H-2 freeway as if gaining such access were likely. On page I-22 there is the statement, "an interchange with the H-2 Freeway at the Mililani Memorial Road overpass is proposed." The assumption utilized in the carbon monoxide impact analysis (page II-11) includes, "all traffic leaving the proposed project via the H-2 Freeway headed toward Pearl City during morning rush hour." On page II-16 is found the statement, "Primary vehicular access will be to Kamehameha Highway with a secondary connection to the H-2 Freeway if permitted by the State Department of Transportation."

However, there is no evidence that either the State or the Federal Highway administration has plans to provide access to the H-2 other than at Mililani Town. There is no evidence that the developer has even formally proposed such access to State or Federal authorities. Furthermore, there is no indication of any possibility of gaining such access. Many stringent hurdles must be passed prior to gaining such access, some of which are stated in a letter from the State Department of Transportation to the Developer, dated July 1, 1975 (page X-26). In fact, it is exceedingly unlikely that access to H-2 from the project site could be obtained from the Federal Highway

Mr. John C. Holmstrom
Page Two
December 20, 1976

Administration. The Draft E.I.S., is flawed, as is its accompanying "Traffic Impact Statement," in continuing to allude to H-2 access as if it were likely. The E.I.S., should assume only access to Kamehameha Highway, unless specific documentation to the contrary can be obtained from the Federal Highway Administration and from the State.

RESPONSE:

The scheme for an access to the H-2 is only an alternate scheme. However, before an access to the H-2 Freeway can be approved by State and Federal authorities, several criteria must be met. One of these include justification of an interchange based on actual traffic needs which is dependent upon the actual urbanization of the subject lands. No attempt was made to undertake a detailed analysis of this alternate traffic scheme until urbanization occurs. The complete traffic analysis was made for the street layout scheme with access only from Kamehameha Highway.

COMMENT:

2. Kamehameha Highway Improvements. Section I of the Draft EIS provides no description of the improvements to Kamehameha Highway that would be required as a consequence of the proposed project. Page II-16 of the Draft EIS states that "When constructed according to the findings and recommendations of the State Department of Transportation, Kamehameha Highway will ultimately be four lanes..." However, there are no current plans for the State to improve Kam Highway in the vicinity of the proposed project. Old plans for widening the highway have been shelved because of the forthcoming capacity provided by the parallel H-2. There is a description of the internal street system in the draft EIS, but not of the critical intersections of that system with Kam Highway. An adequate description would include at least: 1) a description of necessary highway widening (additional lanes); 2) the geometrics of intersections; and 3) signalization specifications. Not only are these points not covered in the Project Description section of the Draft EIS, they are covered in the Traffic Impact Statement only in terms which are too general to be evaluated. For example, "...some form of improvement may become necessary at the connections to Kamehameha Highway. This may consist of a flared intersection to provide an added lane for two lanes of left turning movements, after which the traffic may again merge into one through lane. The approaches to the intersection may also be flared to accommodate right turning movements to and from the development." (P. II-20) This statement does not seem to meet the requirement set by the State Department of Transportation in its letter of September 5, 1976 (p. II-21), requiring the developer to include in his analysis "1. The need to modify the Kamehameha Highway in the area in the proposed intersections..."

On page I-1, the developer states that, "Supportive facilities for the community such as infrastructures, internal and access roadways, utilities, recreational and community meeting areas, will be provided as part of the Gentry-Waipio plan." However, he fails to address his obligation to improve

Mr. John C. Holmstrom
Page Three
December 20, 1976

Kam Highway to the extent impacts from his project would require.

RESPONSE:

The project developers are aware that there are no current plans by the State to improve Kamehameha Highway in the vicinity of the proposed project. Measures to be taken should Kamehameha Highway not be widened or improved to a four lane highway, are set forth on Pages II-19 and II-20 of the E.I.S.

With 80 feet entry roads to the project, there should be little necessity for improvement at the connections to Kamehameha Highway. The statement that "some form of improvement may become necessary..." was made to indicate to the State Department of Transportation who has jurisdiction over Kamehameha Highway, that if they consider that some improvements are necessary at the connections, the project developers would be willing to undertake these improvements at their own expense. It is the judgement of the consultant that the improvements will not be necessary.

The fact that there are no plans to widen Kamehameha Highway does not mean that Kamehameha Highway will not be widened. Long standing custom and common-law have made provision of roads, streets and highways a public function. Thus, governmental bodies have a common-law court imposed duty to provide for highway facilities that will not only adequately meet existing and future traffic needs, but also that they be maintained in a manner conducive to safety, durability and economy of maintenance.

Of great importance to the public is the contention of the courts of the continuing obligation of governmental bodies to restudy, to redesign and to make those roadways already constructed better and safer when and where needed. However, before widening and other improvements can be approved, justification for these improvements must be based on actual traffic needs which is dependent upon the actual urbanization of the subject lands. Since actual urbanization is impossible at this time, justification must await the completion of the proposed project.

COMMENT:

1. General Comments. Both documents employ imprecise language which serves no informative purpose. For example, "If the increase is taken at the midpoint $(12 \text{ to } 75 + 100 \div 2)$ or 43.5 percent..." (p. II-20) or in the following unsubstantiated assertion: "Through the balanced mixture of residential, commercial, and industrial land uses, optimum use of the over-all highway system will result and minimum overlaps of traffic concentration will reduce the possibility of unusually high traffic peaks." (p. II-16)

Mr. John C. Holmstrom
Page Four
December 20, 1976

RESPONSE:

The design capacity of a "three-lane" highway is approximately 75 to 100 per cent greater than a two-lane highway, then it would be appropriate to use a design capacity between 75 to 100% which is therefore, $1/2 (75 + 100)$ or 87.5%. To be even more conservative, it would be reasonable to use a value halfway of the 87.5% or 43.75% since Kamehameha Highway is more than a two-lane highway, but not a true three-lane highway. Evidently, there is a typographical error in the report. The figure (12 of $75 + 100 \div 2$) as corrected should be $(1/2 \text{ of } 75 + 100 \div 2)$ or $1/2 \frac{(75 + 100)}{2}$.

It has been established and a known fact to City planners and traffic planners that the balanced mixture of residential, commercial and industrial land uses will result in optimum use of the overall highway system. The peak traffic generated by the various land uses occur at different hours and also in travel direction, thus, resulting in an equalization and spacing of the traffic load.

COMMENT:

2. Lane capacities. The Traffic Impact Statement is confusing and disjointed with regard to congestion projections. In the Summary (p. T-1 of the full report) is the statement that "the capacity of a multi-lane highway is approximately 1,275 vehicles per lane per hour in one direction." In the same paragraph there is allusion to Kam Highway, and in the following paragraph there is a conclusion regarding the adequacy of Kam Highway upon widening. Yet on p. X-24 of the Draft EIS the State DOT makes it very clear that a figure of 1,000 vehicles per hour--not 1,275-- is acceptable. This is but one example of lack of clarity or inconsistency in the report.

The logic of some passages in the Traffic Impact Statement cannot be followed; for example, the last two paragraphs on page T-17. Also, on page T-18, first paragraph, the point is made the the capacity of Kamehameha Highway will not be exceeded until 693 dwelling units (under DOT's acceptable assumption) are built in the proposed development: but the zoning application is far more than 1,600 dwelling units. What, then is the conclusion of that paragraph?

The estimates provided assume conditions of uninterrupted flow of traffic of Kam Highway. But with added interactions the traffic flows will be interrupted. Therefore lane capacities should be further reduced unless intersection specifications (not provided in the Draft EIS convincingly show otherwise).

After carefully reading and re-reading the document it is impossible to summarize what it says the impact will be in terms of congestion on Kam Highway. The text discusses capacities and loads in various places but does not provide the ultimate interpretation in terms of how it will affect commuters. Will the level of service be improved or will it deteriorate?

Mr. John C. Holmstrom
Page Five
December 20, 1976

By how much? Such a statement should be made clearly and the assumptions leading to it should be laid out so that they can be understood. In brief, the statement should indicate what the impact will be on commuters. This problem with the EIS is compounded by traffic that would be generated by the proposed industrial site.

RESPONSE:

The traffic analysis was based on two different situations for Kamehameha Highway: 1) that Kamehameha Highway will be improved to a 4-lane highway, and 2) that no improvements are made to existing Kamehameha Highway.

Under situation 1, Kamehameha Highway becomes a multi-lane highway and the capacity figure of 1,275 vehicles per lane per hour is applicable. Under situation 2 with no improvements to Kamehameha Highway, the capacity assumed ranges from 1,000 vehicles per hour in one direction for level of Service C.

"The capacity of the existing highway will not be exceeded until 693 dwelling units are built in the proposed development" refers to capacity of Kamehameha Highway under situation 2 and for level of service C only. It does not apply to the maximum capacity of Kamehameha Highway at level of service E. If the 1975 actual peak hour volume of Kamehameha Highway is used, the capacity would be 3,151 at level of service E.

The measure of congestion and expected speeds on the highways are set forth in the level of service. The level of service or operating condition to be used in the design of the streets and highways of the project is level of service C. As described in the Highway Capacity Manual 1965, "Level of Service C is still in the zone of stable flow, but speeds and maneuverability are more closely controlled by the higher volumes. Most of the drivers are restricted in their freedom to select their own speed, change lane or pass. A relatively satisfactory operating speed is still obtained, with service volumes perhaps suitable for urban design practice.

The capacity figure of 1,000 to 1,200 vehicles per hour per lane is for interrupted flow conditions for level of service C. This capacity figure is not only more than reasonable, it is also under-rated. For comparison, in 1975, the average daily traffic on Kamehameha Highway increased to 36,558 for both directions and the peak hour volume in both directions was a high of 3,139.

COMMENT:

3. Effects of industrial development. The highway capacity analysis that is reported in the Traffic Impact Statement is limited to the consideration of traffic generated by residences in the proposed development. However, the industrial development proposed on part of the project site will add to the high level of congestion generated by residential development. One statement in the Traffic Impact Statement, in particular, is misleading:

Mr. John C. Holmstrom
Page Six
December 20, 1976

The peak traffic periods from the industrial land uses of the "Gentry-Pacific, Waipio" development will occur between 6:00 A.M. to 7:00 A.M. and 3:30 P.M. to 4:30 P.M. when commuting traffic on the highways are just beginning to peak. Their directional flow, however, is opposite to that of the residential land use, so that there is not the competition for highway space and, therefore, less traffic congestion. Thus, the industrial uses with its (sic) opposite and complimentary (sic) traffic generation characteristics will also result in an equalization and spacing of the traffic load. (p. T-24)

It is not shown why industrial traffic from the site will occur so early. Further, how can it be that flow from the site will be "opposite to that of the residential land use." Presumably most of the flow would be toward Honolulu, both for industrially- and residentially- generated traffic. This would result in a worsening of congestion on Kam Highway, not an "equalization and spacing of the traffic load."

RESPONSE:

The traffic generated by industrial land uses and its impact on the highways are set forth on page T-23 and T-24 of the Revised Traffic Impact Statement. Since industrial districts are places of employment, it is the traffic to the site and not from the site that occurs during peak A.M. usage. Industrial and construction workers are normally on the job by 7:00 A.M. and were it not for this staggered work shift, congestion on the highway system would be increased.

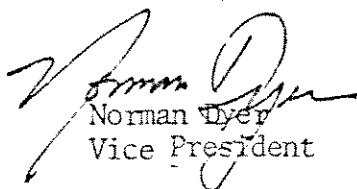
With traffic generated to the site, the travel direction would be opposite to that of the residential land use, so that there is not the competition for highway space and, therefore, less traffic congestion.

To estimate the composite of trip purposes which actually do make up the traffic, including the traffic generated by the industrial development, the peak hour volume generated by the residential development was increased to 10% of the 24 hour volume as the traffic generated by the project. The peak hour volume as projected, is 2,960 vehicles for both directions of traffic flow.

In conclusion, we are attaching a copy of the State Department of Transportation letter, the responsible regulatory agency on highway matters, dated September 15, 1976 for your information and files.

We believe that we have adequately responded to your comments to our Draft Environmental Impact Statement.

Sincerely,


Norman Dyer
Vice President

Mr. John C. Holmstrom
Page Seven
December 20, 1976

cc Department of Land Utilization
Environmental Quality Commission
Environmental Communications, Inc.

enclosures



E. ALVEY WRIGHT
DIRECTOR

DEPUTY DIRECTORS
WALLACE AOKI
RYOKICHI HIGASHIONNA
DOUGLAS S. SAKAMOTO
CHARLES O. SWANSON

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
859 PUNCHBOWL STREET
HONOLULU, HAWAII 96813

IN REPLY REFER TO:

September 15, 1976

STP 8.3846

Mr. Norman Dyer
Vice President
Gentry Pacific
P.O. Box 295
Honolulu, Hawaii 96809

Dear Mr. Dyer:

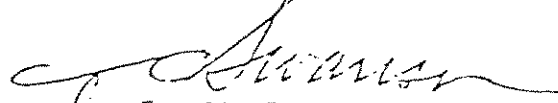
Subject: Traffic Impact Statement
Re: Gentry-Waipio Project

This confirms our statement to you on August 10, 1976, that our traffic impact statement gives a reasonable and fair assessment of the traffic and its impact on our major highway facilities, and is acceptable to the Department of Transportation.

As agreed, your subsequent submission on the traffic analysis and impact is to include the following:

1. The need to modify the Kamehameha Highway in the area of the proposed intersections be identified; and
2. The traffic consultant incorporate information and impact of other transit means such as buses would have on traffic generation.

Sincerely,


E. ALVEY WRIGHT
Director

HEADQUARTERS
FOURTEENTH NAVAL DISTRICT

BOX 110
FPO SAN FRANCISCO 96610

RECEIVED

IN REPLY REFER TO:
48:09FA:sh
Ser 2909

10 DEC 1976

Environmental Quality Commission
550 Halekauwila St., Rm. 301
Honolulu, HI 96813

Gentlemen:

Environmental Impact Statement (EIS)
for the proposed GENTRY-WAPIO, Waipio, Oahu
November 1976

The subject EIS, which was forwarded by your transmittal of 5 November 1976, has been reviewed and the following comments are submitted:

- a. The conclusion of the Surface Water Report (Appendix E) prepared by Drs. Chun and Dugan is that if stringent controls are followed, any quality change should be minimal. Relative to water runoff (pages 11-6/7) and erosion (pages 11-8/9/10) arguments further hinge upon the integrity of the developer in following drainage plans and of the city in enforcing the standards of its "Soil Erosion Standards and Guidelines".
- b. Both the developer and the City and County of Honolulu are urged to give priority in funding, personnel and monitoring of erosion and water runoff to prevent any violations of the standards described in this EIS.
- c. The EIS does not adequately address the impact of increased storm water flow on erosion of land lying below the project site through which the storm water must pass. This potential problem should be addressed due to its possible impact on sedimentation of Pearl Harbor.

Thank you for the opportunity to review this EIS and to submit these final comments.

Sincerely,

R. P. NYSTEDT
CAPTAIN, CEC, USN
DISTRICT CIVIL ENGINEER
BY DIRECTION OF THE COMMANDANT

Copy to:
Department of Land Utilization
City & County of Honolulu
Honolulu, HI 96813

Mr. Norman Dyer ←
Gentry Pacific
P. O. Box 205
Honolulu, HI 96809



P.O. Box 295
Honolulu, Hawaii 96809
phone 531-8491

December 20, 1976

Captain R. P. Nystedt
District Civil Engineer
Headquarters Fourteenth Naval District
Box 118
FPO San Francisco 96610

Dear Captain Nystedt:

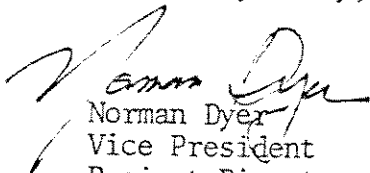
Thank you for your comments on the proposed Gentry-Waipio Environmental Impact Statement. The comments raised questions regarding our project's contribution to the surface runoff load that leads to Pearl Harbor. As we indicated on pages II-6 through II-10, the anticipated contribution attributable to our project are estimated to be an additional 300 cfs of surface runoff flow. This has been determined by using the criteria set by the "Storm Drainage Standards," City and County of Honolulu.

We share your concern over the potential impact of sedimentation increase taking place in Pearl Harbor. The contractor working the site and the City and County inspectors reviewing the work, insure to all practical limits, against any violations of the standards stated above and the prevention of suspended solids entering Pearl Harbor.

Finally, the inadequacy of our impact analysis of the erosion of lands below our project is not considered significant due to the extremely small percentage of an additional 300 cfs flow which represents of the total 20,000 cfs of storm water generated into the 17,000 acres of tributary lands surrounding the Waiawa Stream.

We appreciate your concern and hope that we have adequately responded to your comments.

Yours very truly,


Norman Dyer
Vice President
Project Director

cc Department of Land Utilization
Environmental Quality Control
Environmental Communications, Inc.

APPENDICES

GENTRY-WAPIO
ENVIRONMENTAL IMPACT STATEMENT
NOVEMBER, 1976

LIST OF ITEMS IN THE APPENDICES

APPENDIX A	A-3
Ordinance No. 4619, City and County of Honolulu	
Ordinance No. 4620, City and County of Honolulu	
APPENDIX B	A-9
Environmental Assessment/Determination for Re-zoning Request, Waipio, Oahu	
APPENDIX C	A-26
Plant Materials Survey in Panakauahi Gulch (September, 1973)	
APPENDIX D	A-30
A Species List of the Birds, Insects, and Mammals of Panakauahi Gulch, Oahu, Hawaii	
APPENDIX E	A-37
Summary and Conclusions from <u>Surface Water Runoff and Water Considerations for the Gentry-Waipio Project</u> (October, 1974)	
APPENDIX F	A-42
Various Correspondences relating to the air quality analysis for Gentry-Waipio from the Department of Health, Environmental Communications, Inc.	
APPENDIX G	A-48
Historical Urbanization, Oahu	

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APPENDIX A

ORDINANCE NO. 4619

BILL NO. 4 (1976)
(Draft No. 2)

A BILL FOR AN ORDINANCE TO AMEND A PORTION OF THE GENERAL PLAN ORDINANCE NO. 2443, DATED MAY 7, 1964, FROM AGRICULTURAL TO CERTAIN URBAN USE DESIGNATIONS FOR LAND SITUATED IN WAIPIO, EWA, OAHU, HAWAII.

BE IT ORDAINED by the People of the City and County of Honolulu:

SECTION I. A portion of the General Plan for Waipio, Ewa, Oahu, Hawaii is hereby amended by redesignating 510 acres of land from agricultural use classification to certain urban use designations according to the following schedule and as shown on the map attached hereto, marked Exhibit A, and by reference made a part hereof.

Residential	193 acres
Apartments	85 acres
Industrial	120 acres
Commercial	14 acres
Public Facilities	24 acres
Preservation	34 acres
Right-of-Way	<u>40 acres</u>
	510 acres

SECTION II. This ordinance shall take effect upon its approval.

INTRODUCED BY:

Rudy Pizarro

Councilmembers

DATE OF INTRODUCTION:

January 28, 1976
Honolulu, Hawaii

APPROVED AS TO FORM AND LEGALITY:

Kare M. Marumoto
Deputy Corporation Counsel

APPROVED this _____ day of _____, 1976.

FRANK F. FASI, Mayor
City and County of Honolulu

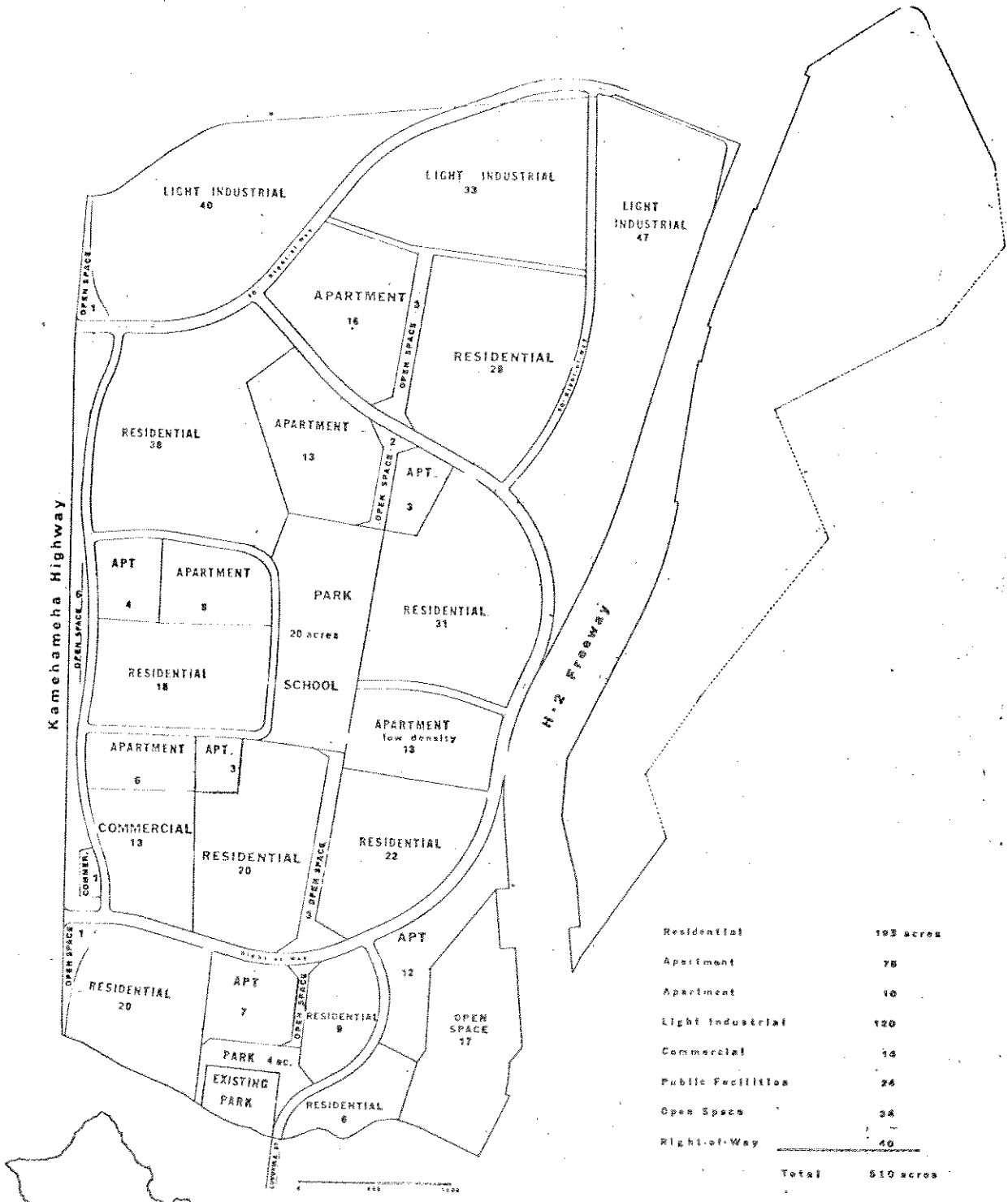


EXHIBIT A

PORTION OF THE GENERAL PLAN
CITY AND COUNTY OF HONOLULU

ORD. NO. 4619

CITY COUNCIL
CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAII

CERTIFICATE

I hereby certify that Bill No. 4 (1976), Vetoed by
the Mayor on July 30, 1976, was taken up
by the Council of the City and County of Honolulu for consideration on August 11, 1976, and, at the same meeting, Approved by
the said Council, the Veto of the Mayor to the Contrary Notwithstanding, on the
following vote:

AYES: Mrs. Bornhorst, Mr. Holck, Mr. Kaapu,
Mr. Loo, Mr. Matsumoto, Mr. Pacarro. - 6.

NOES: Mr. Koga. - 1.

ABSENT AND EXCUSED: Mr. Clement, Mr. Akahane. - 2.


Dated, Honolulu, State of Hawaii, this 12th day of
August, 19 76.

CITY COUNCIL

By


GEORGE G. AKAHANE
Chairman and Presiding Officer

ATTEST:


EILEEN K. LOTA
City Clerk

ORDINANCE NO. 4620

BILL NO. 5 (1976)
(Draft No. 2)

A BILL FOR AN ORDINANCE TO AMEND A PORTION OF THE GENERAL PLAN DETAILED LAND USE MAP ORDINANCE NO. 2473, DATED JULY 29, 1964, FROM AGRICULTURAL TO CERTAIN URBAN USE DESIGNATIONS FOR LAND SITUATED IN WAIPIO, EWA, OAHU, HAWAII.

BE IT ORDAINED by the People of the City and County of Honolulu:

SECTION I. A portion of the General Plan/Detailed Land Use Map for Waipio, Ewa, Oahu, Hawaii is hereby amended by redesignating 510 acres of land from agricultural use classification to certain urban use designations according to the following schedule and as shown on the map attached hereto, marked Exhibit A, and by reference made a part hereof.

Residential	193 acres
Low-Density Apartments	75 acres
Medium-Density Apartments	10 acres
Light Industrial	120 acres
Commercial	14 acres
Public Facilities	24 acres
Open Space	34 acres
Right-of-Way	<u>40 acres</u>
	510 acres

SECTION II. This ordinance shall take effect upon its approval.

INTRODUCED BY:

Gudy P. ...

DATE OF INTRODUCTION:

January 28, 1976
Honolulu, Hawaii

APPROVED AS TO FORM AND LEGALITY:

Clair M. Masunaga
Deputy Corporation Counsel

Councilmembers

APPROVED this _____ day of _____, 1976.

FRANK F. FASI, Mayor
City and County of Honolulu

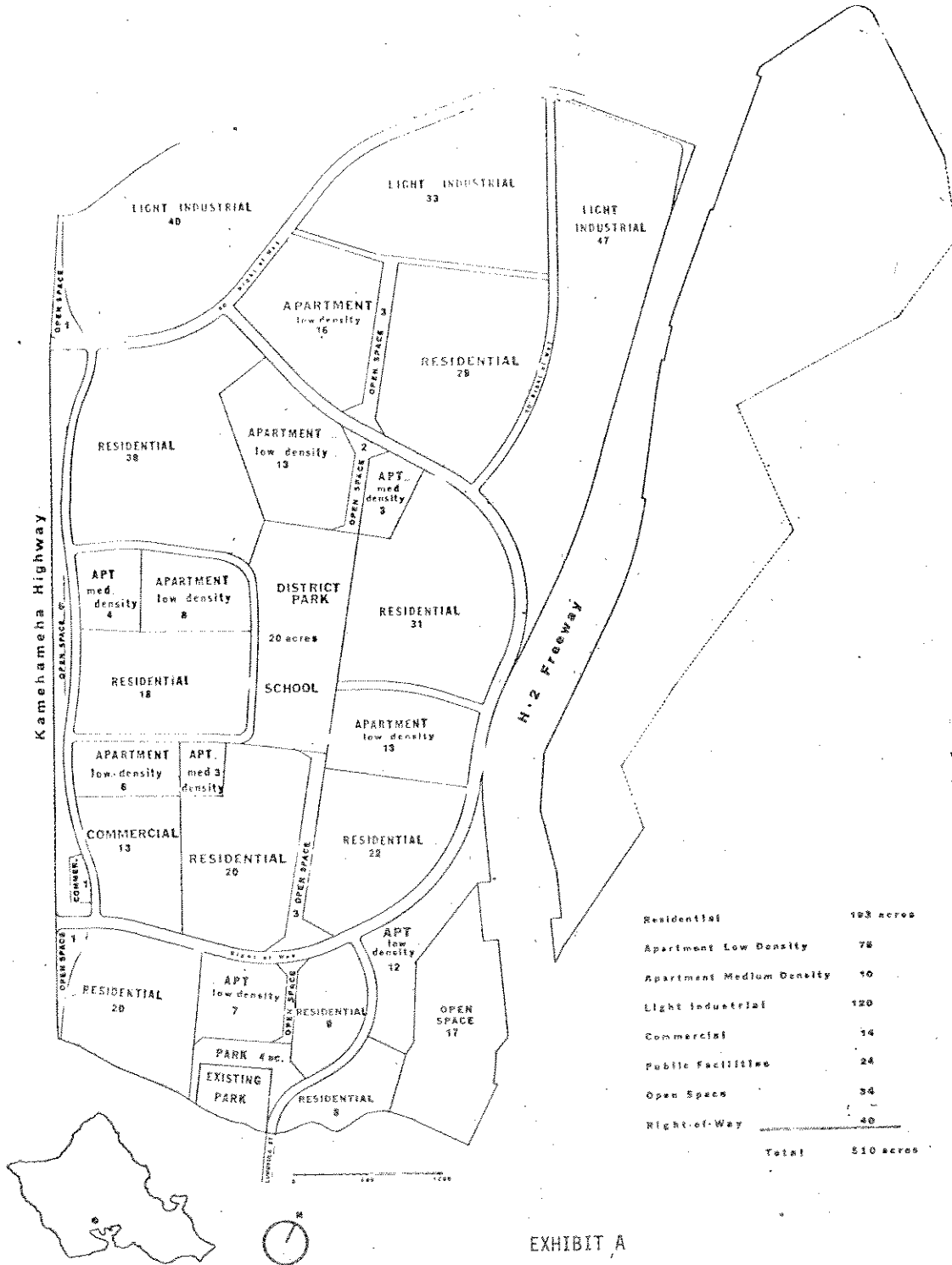


EXHIBIT A
 PORTION OF THE
 GENERAL PLAN DETAILED LAND USE MAP
 WAIPIO, EWA, OAHU

ORD. NO. 4620

CITY COUNCIL
CITY AND COUNTY OF HONOLULU
HONOLULU, HAWAII

CERTIFICATE

I hereby certify that Bill No. 5 (1976), Vetoed by
the Mayor on July 30, 1976, was taken up
by the Council of the City and County of Honolulu for consideration on _____
August 11, 1976, and, at the same meeting, Approved by
the said Council, the Veto of the Mayor to the Contrary Notwithstanding, on the
following vote:


AYES: Mrs. Bornhorst, Mr. Holck, Mr. Kaapu,
Mr. Loo, Mr. Matsumoto, Mr. Pacarro. - 6.

NOES: Mr. Koga. - 1.

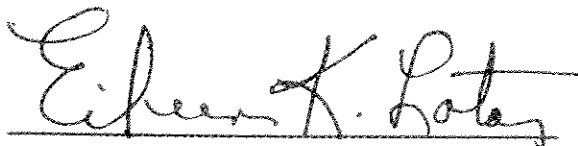
ABSENT AND EXCUSED: Mr. Clement, Mr. Akahane. - 2.

Dated, Honolulu, State of Hawaii, this 12th day of
August, 19 76.

CITY COUNCIL

By 
GEORGE G. AKAHANE
Chairman and Presiding Officer

ATTEST:


EILEEN K. LOTA
City Clerk

APPENDIX B
DEPARTMENT OF LAND UTILIZATION
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR



GEORGE S. MORIGUCHI
DIRECTOR

76/EIS-A/D-9 (JW)
76/2-22

AUG 26 1976

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

Dear Mr. Brenner:

Environmental Assessment/Determination
re-zoning Request, Waipio, Oahu

In accordance with Section 4(c), Chapter 343, HRS, we are notifying you of our intent to require an Environmental Impact Statement for the above. Attached is an EIS Preparation Notice.

By copy of this letter, with attachment, we are also notifying the applicant of our decision.

If you should have any questions or wish any additional information on this matter, please contact Mr. John Whalen of our staff at 523-4256.

Very truly yours,

A handwritten signature in cursive script, appearing to read "George S. Moriguchi".

GEORGE S. MORIGUCHI
Director of Land Utilization

GSM:ls
Enclosure

cc: Environmental Communications, Inc.

APPENDIX B
DEPARTMENT OF LAND UTILIZATION
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

FRANK F. FASI
MAYOR



GEORGE S. MORIGUCHI
DIRECTOR

76/EIS-A/D-9 (JW)
76/2-22

AUG 26 1976

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

Dear Mr. Brenner:

Environmental Assessment/Determination
Re-zoning Request, Waipio, Oahu

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By copy of this letter, with attachment, we are also notifying the applicant of our decision.

If you should have any questions or wish any additional information on this matter, please contact Mr. John Whalen of our staff at 523-4256.

Very truly yours,

A handwritten signature in cursive script, appearing to read "George S. Moriguchi".

GEORGE S. MORIGUCHI
Director of Land Utilization

GSM:ls
Enclosure

cc: Environmental Communications, Inc.

ENVIRONMENTAL ASSESSMENT/DETERMINATION

Applicant : Thomas H. Gentry
Agent : Norman Dyer, A.I.A. and Associates
Project Location: Waipio, Ewa District
Tax Map Key : 9-4-06: 08
Request : Re-zoning, various districts
Determination : EIS Required

A. Proposed Action

The proposed project consists of the development of a multi-functional community on 510 acres of land at Waipio, Ewa District, Oahu. The project area was the subject of a General Plan/DLUM amendment which was officially adopted by City Council on August 11, 1976, upon override of the Mayor's veto. (Ord. No. 4619 and 4620.)

A major part of the plan is the construction of 3,700 housing units of different types, densities and prices on 268 acres. The residential development would be divided into sub-communities or neighborhoods of 40 to 50 acres in size. Each neighborhood is planned with several housing types for a total of 600 to 900 dwelling units. A variety of housing designs and price ranges, including governmental subsidized units, are proposed within same neighborhoods.

There are also plans for the development of 120 acres for light-industrial uses. Other land uses include a commercial area, a school, community and district parks, open space and rights-of-way taking 122 acres. (Figure 3 and Table 1 show the Gentry-Waipio proposed land use.)

1. Technical Characteristics

- a. Plans call for development in eight increments. Approximately five hundred (500) units are planned to be constructed each year from 1977 to 1985.
- b. There would be five different housing types: single family homes in subdivisions and clusters, duplex and townhouses, low-rise condominiums and mid-rise condominiums.
- c. The proposed light-industrial park would be utilized for service and distribution-oriented businesses.¹

¹ At this time there is no detailed information on lot sizes and specific users and activities within the industrial park.

- d. Circulation. Plans for the internal street system intend to separate automobile and pedestrian traffic and eliminate through traffic. (See Figures 4a and 4b.) The applicant proposes two vehicular accesses onto Kamehameha Highway. Also, an interchange with the H-2 Freeway at the Mililani Memorial Road overpass is proposed.
- e. Potable Water Supply. Water demands have been translated into the need for approximately 2.5 million gallons per day (mgd) or two new wells each capable of producing 1,500 gallons per minute (gpm), plus a three million gallon storage reservoir at the appropriate elevation. The Board of Water Supply² has (1) no objections to the location of the reservoir² and (2) accepted the two proposed wells.³ Once developed, the system would be dedicated to the Board of Water Supply for operation and maintenance.
- f. Sewage Collection and Disposal. The project is within the service area of the Honouliuli Sewage Treatment Plant. To tie into the system, a sewer main alignment from the property to the Waipahu Pumping Station has been preliminarily engineered and is acceptable by the Department of Public Works.⁴ The sewer extension to the Waipahu Pumping Station is considered part of the improvement costs for development. The line would be dedicated to the City upon completion and approval.
- g. Electricity. The proposed development would require one sub-station taking an area of about 15,000 square feet. Two 46 kv transmission lines pass over the property in a north-south direction serving the Mililani and the upper Kipapa substations.
- h. Retail and Service Commercial Facilities. At the lower thoroughfare intersection with Kamehameha Highway (see Figure 3), a ten acre neighborhood shopping center is planned for development during the first phase. The initial phase of the neighborhood shopping center would include a supermarket, drug store, smaller commercial shops and office facilities. As the area matures, plans allow for a small department store plus additional retail shops.

² Letter of February 12, 1976 from Board of Water Supply to Norman Dyer, A.I.A. and Associates.

³ Letter of July 9, 1976, from Board of Water Supply to Norman Dyer, A.I.A. and Associates.

⁴ Letter of May 6, 1975, from Department of Public Works to Park Engineering.

- i. Recreation. The plans for the development include a community park through expansion of the existing neighborhood park above the Crestview subdivision. The creation of a 16-acre district park in the center of the project area is planned which would include various tot lots, small recreational areas and the greenway system.
- j. Education. The project includes as part of its plan an interim school, using the shell of residential buildings which would later be converted back to housing use, near Crestview Park. A permanent (6 acre) elementary school site has been reserved near the center of the project (see Figure 3). The interim and permanent elementary schools would serve both the Gentry-Waipio development and the existing Crestview/Seaview and subdivision.

2. Economic Characteristics

The proposed Gentry-Waipio development would be expected to greatly enrich property value. Presently the project site is vacant. Agricultural use (pineapple) was discontinued by Castle and Cooke in 1968 and 1970 (two separate land parcels). In 1970, the property was assessed at \$206,499. Upon the sale to Gentry in 1973, the assessed valuation was dramatically increased 33 times to a current assessed value of \$6,806,576. The land annual tax bill is now approximately \$200,000. Based on the previous agricultural use of the land, property taxes were \$5,000.

3. Social Characteristics

No families or businesses would be displaced by this development. The residential development would provide a total of 3,700 dwelling units (an estimated population of 11,500). A variety of dwelling units is planned. Because of its size and proximity, the project would be likely to absorb the present Crestview/Seaview subdivision in terms of social and economic interactions. The development of the light-industrial and distribution center would provide approximately 3,000 jobs.

The new residents and other activities located in the project site (e.g. schools, industrial, commercial) would increase demands for a variety of public facilities and services. Although the initial capital expenditures would be incurred primarily by the developer, the government must incur the operational expenses (e.g. maintenance, personnel for those facilities dedicated to the government). The project would also result in a change in relationships among existing land uses.

4. Environmental Characteristics

- a. In general, the project site lies on a gently rolling plateau at an elevation ranging from 300 feet above sea level at the southern portion of the area (next to Crestview) to 525 feet at the northwest corner near Mililani Memorial Road. The U.S. Department of Agriculture survey dated August, 1972, evaluated the topography of the property and is shown on Figure 5. It is noted that 92% of the property is between 0 to 7% slope.
- b. The soils on the project site are basically silty clays such as: Lahaina, Manana, Molokai, Wahiawa. Based on the soils test performed for the H-2 Freeway, firm and silty clay is 15 to 25 feet deep, with rock formations thereafter encountered. The characteristics of these are as follows: easily trenched for drainage and underground utility systems, has good bearing capacities to support residential and other structures.

In terms of agricultural productivity, the Soil Conservation Service, U.S. Department of Agriculture,⁵ indicated that their soil survey showed that the parcel consists almost entirely of soils well suited for cultivated agriculture. Figure 6 identifies the location of these soils.

- c. The mean rainfall on the subject property is 30.6 inches per year. During the 25 year period when rainfall was recorded on the property, the months of May through October were normally dry, having a median monthly rainfall of less than 1.4 inches. The median yearly daytime temperature is 82.6°F.
- d. Approximately 60% of the surface runoff drains toward Panakauahi Gulch which flows into Pearl Harbor's Middle Loch. The remaining 40% flows, overland toward the Oahu Sugar Company's sugarcane fields to the south and west of the site. It is possible that, eventually this water flows into Kipapa and Waikele Streams into West Loch.
- e. The area is covered with scrub brush, "volunteer" pineapple plants, haole koa, wild bittermelon vines, a few Albizzia Montana trees and one small African tulip tree. Aside from the poinsetta and monkeypod trees along Kamehameha Highway, and the trees next to the reservoir, the area is dominated by scrub brush about one to two feet high. On the Diamond Head (east) side the Panakauahi Gulch, replanted in the late 1920's, offers a thick and heavy forested area.

⁵ Letter to Norman Dyer, A.I.A. and Associates from the Soil Conservation Service, dated January 5, 1976.

- f. A survey of the fauna in Panakauahi Gulch was undertaken by Thomas F. Sourisseau. Sourisseau's observations indicated that the insects, avifauna, and mammals living in the gulch are exotic species which are not rare or endangered. It is felt that the fauna in the gulch would be greater than that which is found in the more open project area. It is felt that various common bird species such as barred dove, common mynah, Japanese white-eye, lace-necked dove and red-crested cardinal may nest or frequent the project.

Also, some "pests", house mouse, Polynesian rat, roof rat, and the Indian mongooses are likely to be present in the project area.

B. Affected Environment

The proposed site is located north of the Crestview subdivision and bounded by Kamehameha Highway, Mililani Memorial Road and the H-2 Freeway, one mile from the Waiawa Interchange. The 1964 General Plan for the City and County of Honolulu designated the property Agriculture. Ordinance No. 4619, 4620, effective August 11, 1976, changed the General Plan/Detailed Land Use Map (DLUM) designation to urban. The land is zoned for Agricultural-1. The proposed Gentry-Waipio Project abuts the existing 270 acre Crestview/Seaview subdivision of 450 single family units. The areas east, north and west of the site beyond the H-2 Freeway, Mililani Memorial Road and Kamehameha Highway is essentially rural or agricultural in nature. Sugar is cultivated east of the H-2 Freeway, while pineapple is cultivated west of Kamehameha Highway. Approximately two miles north of the Gentry-Waipio project is Mililani Town. Started in 1967 as a "New Town" on 3,660 acres owned by Castle and Cooke, Mililani presently consists of approximately 2,200 single family units and 1,600 multi-family units. Community facilities include schools, parks, fire station, town and shopping center.

1. Major Impacts

Potential environmental impacts, beneficial or adverse, direct or indirect, have been broadly identified as follows: air and water pollution, noise, drainage and flood control, effects on adjacent highways, effects on existing residential development, impact on utilities, changes in density, impact on governmental facilities and services, aesthetic or visual effects and alteration to the economic and population distribution pattern.

In further elaboration on these items, the following are considered significant:

- a. Economic impact will be in form of direct and indirect income generated by the proposal (individual, community,

and businesses), effects on employment and the labor force (the light-industrial park will employ an estimated 3,000 persons; construction workers will also be employed via the various contractors over the 10-year implementation schedule), property taxes (see Table 2), governmental expenditures especially in the area of operational and personnel costs needed to support the project. In the long-term view, the proposal could be expected to foster some economic growth in the surrounding environment.

- b. Social impact will occur. There will be increased demands on community facilities and services (i.e. police and fire protection, water, electricity). Educational and recreational facilities will be provided. Land use will be significantly altered from its present and past uses (agriculture). The population distribution pattern for the Ewa District will be altered with a sizeable concentration of people in this area. New social and economic patterns and relationships will be developed within the community (including Crestview/Seaview), as well as relationships of the community with the existing urban center (Waipahu). Impact on traffic will also occur. The proposed project could also directly and indirectly effect the land use or population growth in the adjacent areas.
- c. There will also be a wide range of physical environmental effects. Air quality would be affected by increase in air emissions (construction oriented point sources for the short-term, but vehicular emissions in the long-term). Water quality could be affected in a variety of forms, both short-term and long-term: erosion and siltation during construction; urban surface run-off affecting the waters of Pearl Harbor. From an individual standpoint, there will be a loss of open space and alterations to the visual landscape.

2. Mitigation Measures

No attempt has been made to distinguish "adverse" from "beneficial" in the above assessment of potential impacts. It would be expected that a number of conventional methods (incorporated into the standards of local and State regulatory agencies) are available and would be employed by the applicant and retained contractors to alleviate the short-term and some long-term adverse effects during site preparation and development (specifically, in the areas of erosion and dust control, siltation, noise, etc.). An in-depth examination of potential impacts should result in a more thorough discussion of other possible mitigation measures.

3. Alternatives

The applicant analyzed several alternatives to the proposed project. This included the review of 11 possible alternative areas which could be developed. These areas were reviewed in categories of agriculture, relocation, transportation, topography, soils, off-site improvements, environment, housing types and prices and community response. The applicant found that "Gentry-Waipio has the physical characteristics, economic and development capabilities to achieve a unique and desirable overall community".

In addition, the applicant prepared an analysis of the need for and cost-benefits of a light-industrial site in Waipio versus other areas in Oahu. It was concluded that: "Comparing site, physical characteristics and improvement costs, the proposed industrial distribution center can provide a portion of the overall needed industrial space at economical and competitive prices."

The use of the site for agriculture was extensively reviewed. The land is physically well-suited for agriculture and both the Soil Conservation Service and the Department of Agriculture have indicated in the past that it is desirable to retain this land in an agricultural use. In rebuttal to this, the applicant has stated that: "The property has already been removed from agricultural use by the previous owner. Agricultural experts have concluded that it is next to impossible to return the land to a profitable venture in farming. Agricultural use of the 510 acres is not economically feasible. Because of climatic conditions, it is not agronomically feasible to grow most of the crops listed in the State's policy of agricultural diversification".

4. Areas Requiring Further Study

The applicant has had prepared the following studies for the proposed project:

"A Preliminary Survey of the Plant Materials in Panakauahi Gulch," prepared by Paul R. Weissich, A.S.L.A. (Landscape Architect). September, 1973.

"Agricultural Assessment." Prepared by George Myers and Oscar A. Lorenz. September, 1974.

"A Comparative Analysis of Agricultural Soils," prepared by George A. Myers and Oscar A. Lorenz. September, 1974.

"Master Plan List for Tree Program," prepared by Paul R. Weissich. April 27, 1975.

"Traffic Impact Statement for Gentry-Pacific, Waipio Development", prepared by Henry Tuck Au, Consulting Engineer, September, 1975.

"Surface Water Runoff and Water Considerations for the Gentry-Waipio Project near Pearl Harbor, Oahu, Hawaii", prepared by Michael J. Chun, Ph.D. and Gordon L. Dugan, Ph.D. October 3, 1974.

"A Species List of the Birds, Insects and Mammals of Panakauahi Gulch, Oahu, Hawaii", prepared by Thomas F. Sourisseau. November, 1973.

"Survey of Demand & Availability of Industrial Space in Selected Areas of Oahu", prepared by Loren Peiterson. December, 1973.

"General Plan Amendment, City and County of Honolulu: Gentry-Waipio", prepared by Norman Dyer, A.I.A. & Associates.

"Environmental Assessment for Gentry-Waipio", prepared by Environmental Communications, Inc., January, 1976.

5. Reasons Supporting Determination

In addition to the requirements of Chapter 343, HRS, we have been guided in our determination by the Environmental Impact Statement Regulations adopted by the State's Environmental Quality Commission. We have examined the criteria for determining "significant" effects in Section 1.31, for example, and consider the following applicable:

- a. "In determining whether an action will probably have a significant effect on the environment, the agency shall consider every phase of a proposed action, expected consequence, either primarily or secondary, or the cumulative as well as the short or long-term effect of the action."

We have taken into consideration the secondary and long-term effects of the proposed subdivision as evidenced in Item B.1, above.

- b. Other specific significance criteria have been considered:

- (1) Effects on the economic or social welfare of the community or state, i.e., such as those identified under B.1, above.
- (2) Effects economic or sociological activities, i.e., such as those identified under B.1, above.
- (3) Secondary impacts, such as population changes and effects on public facilities, i.e., increases in density, increased demands on private utilities, public facilities and services, etc.

- (4) Cumulative effects and commitment for larger action, i.e., increased pressure for urbanization of the Ewa District.
- (5) Effects on air quality and ambient noise levels, i.e., such as those suggested under B.1.
- (6) Effects on an environmentally sensitive area, i.e., Pearl Harbor (via surface water runoff).

6. Agencies Contacted

City & County of Honolulu: Board of Water Supply
 Dept. of Public Works
 Dept. of Parks & Recreation
 Dept. of Housing & Community
 Development
 Dept. of Transportation Services
 Dept. of Land Utilization

State of Hawaii: Dept. of Health
 Dept. of Education
 Dept. of Land & Natural Resources
 Dept. of Transportation
 Dept. of Agriculture
 Dept. of Hawaiian Home Lands
 Dept. of Social Services & Housing
 Land Use Commission
 Office of Environmental Quality Control

Federal: U.S. Army Corps of Engineers
 Soil Conservation Service, U.S.
 Department of Agriculture
 Fourteenth Naval District

Private Organizations: Hawaiian Electric Company
 Roman Catholic Diocese of Honolulu
 Lanakila Baptist Schools
 Hawaii Building & Construction Trades
 Council
 United Brotherhood of Carpenters &
 Joiners of American Local No. 745
 Pacific Electrical Contractor's
 Association
 Waipahu Businessmen's Association
 Crestview/Seaview Community Association
 Waipahu Community Association

C. Suggested Agencies to be Consulted in Preparation of the EIS

(Those agencies listed below are in addition to the agencies already consulted, item B.6., above.)

City & County of Honolulu: Dept. of General Planning
 Fire Department
 Police Department

State of Hawaii: Dept. of Planning & Economic
Development
Dept. of Accounting & General Services
Department of Defense

University of Hawaii: Environmental Center
Water Resources Research Center


Private Organizations: Mililani Community Association
Life of the Land

Others, as may be required by the Environmental Quality
Commission.

D. Required Scope and Content of the EIS

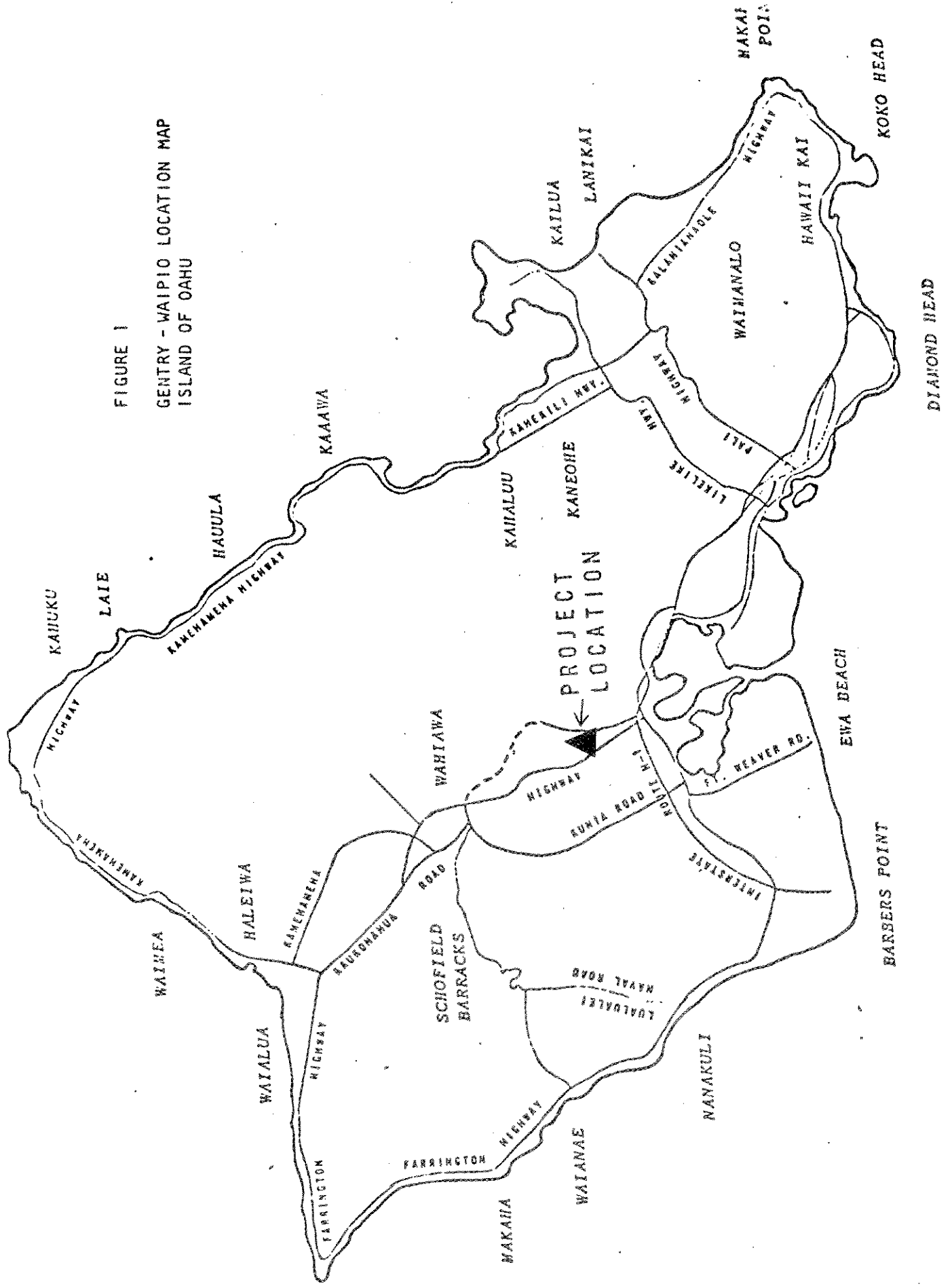
1. The EIS should discuss anticipated environmental effects of the proposed development, including those areas which will provide elaboration on impacts described under item B.1.
2. Content should conform to Section 1.42 of the Environmental Quality Commission's Environmental Impact Statement Regulations.

Additional guidance on 1 and 2, above, will be provided on request by the Department of Land Utilization before and during EIS processing.

APPROVED 
GEORGE S. MORIGUCHI
Director

GSM:ls

FIGURE 1
 GENTRY - WAIPIO LOCATION MAP
 ISLAND OF OAHU



Kamehameha Highway

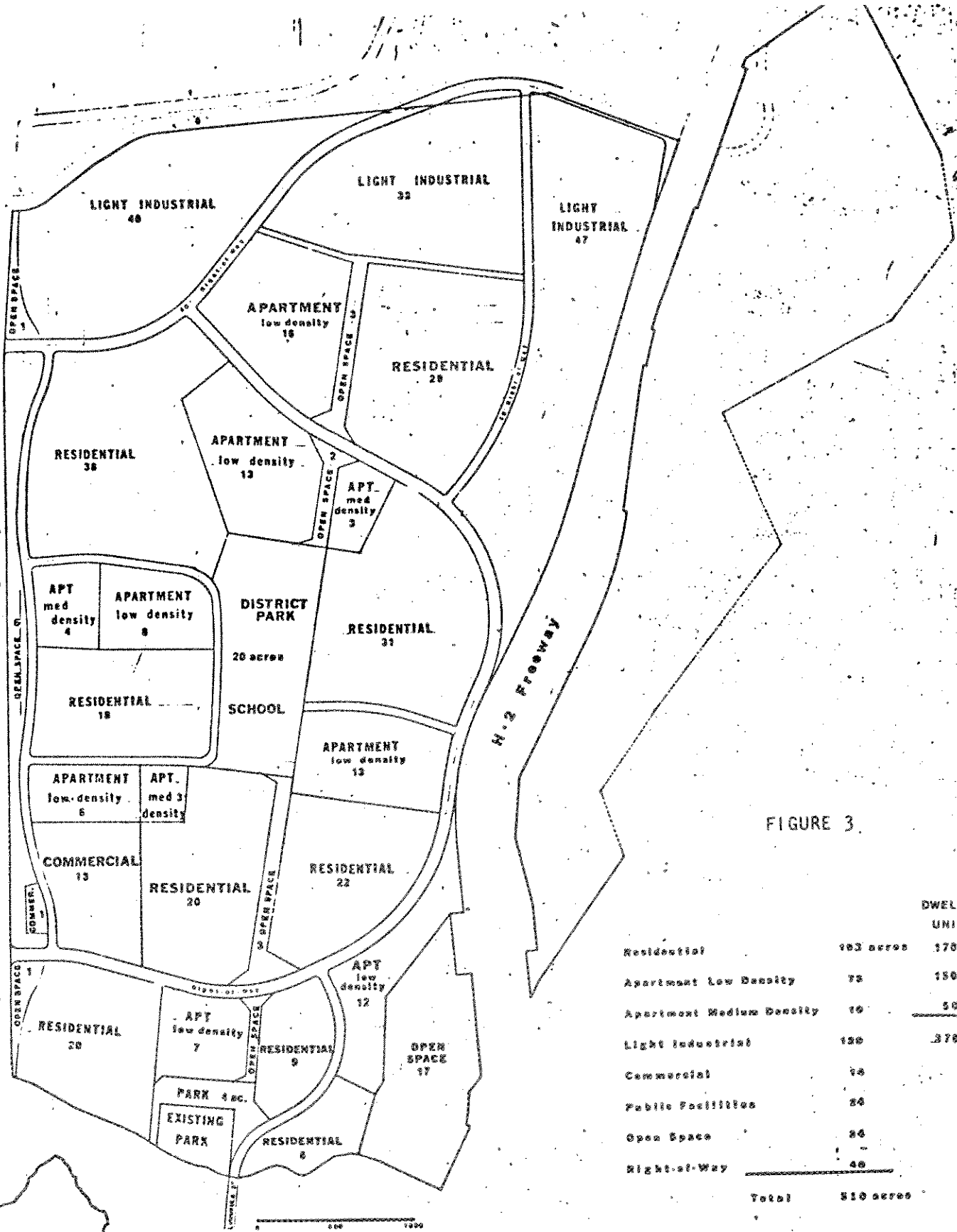


FIGURE 3

	ACRES	DWELLING UNITS
Residential	283	1780
Apartment Low Density	75	1500
Apartment Medium Density	10	500
Light Industrial	120	3788
Commercial	13	
Public Facilities	24	
Open Space	17	
Right-of-Way	40	
Total	510	acres

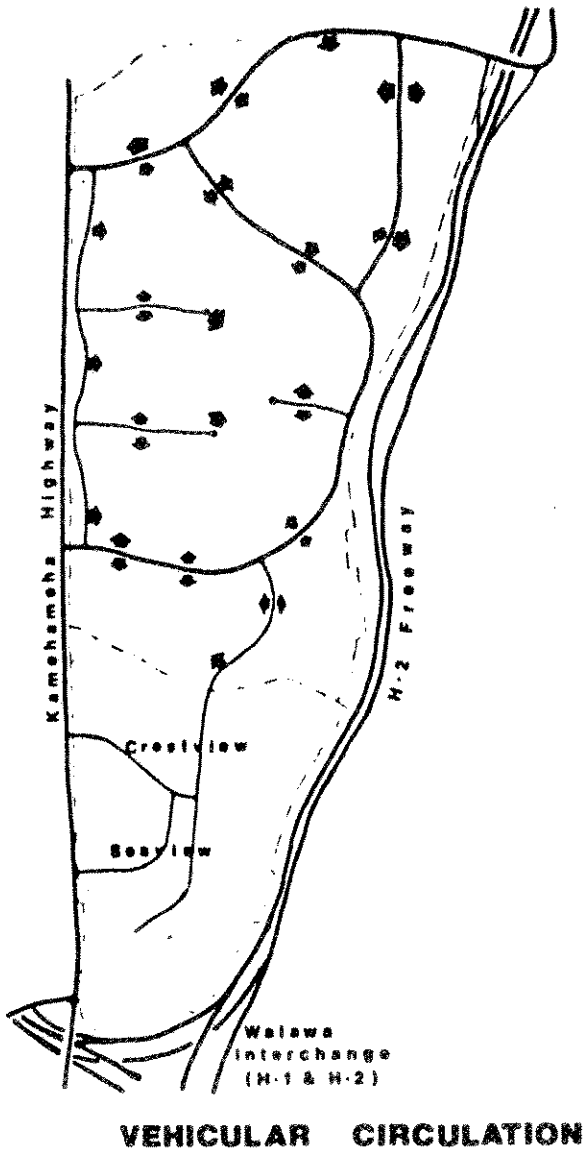
PROPOSED DETAILED LAND USE MAP

GENT

WAPIO

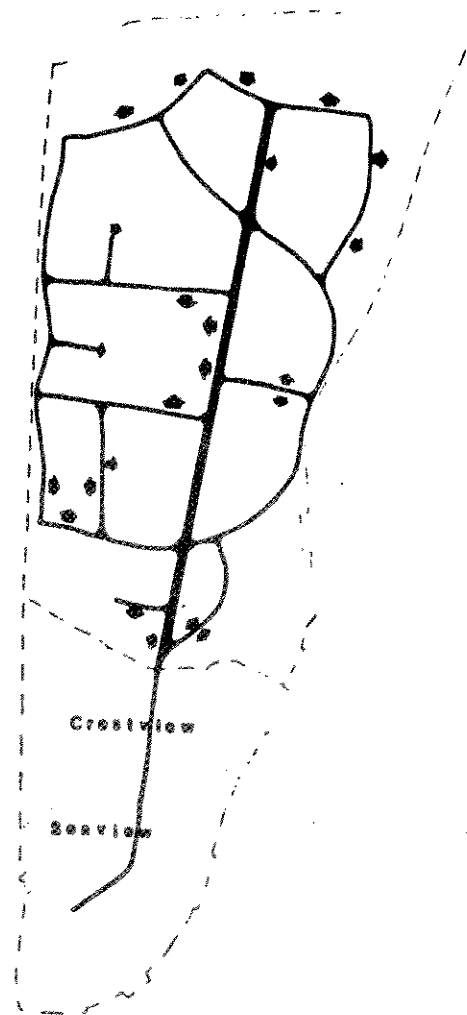


FIGURE 4a



VEHICULAR CIRCULATION

FIGURE 4b



PEDESTRIAN CIRCULATION

FIGURE 5

CLASSIFICATION	DESCRIPTION	APPROX. AREA	% OF AREA
A	Level (0-3% slope)	37 ac.	7%
B	Mild (3-7% slope)	433 ac.	85%
C	Moderate (7-15% slope)	20 ac.	4%
D	Steep Slope (15-25% slope)	20 ac.	4%

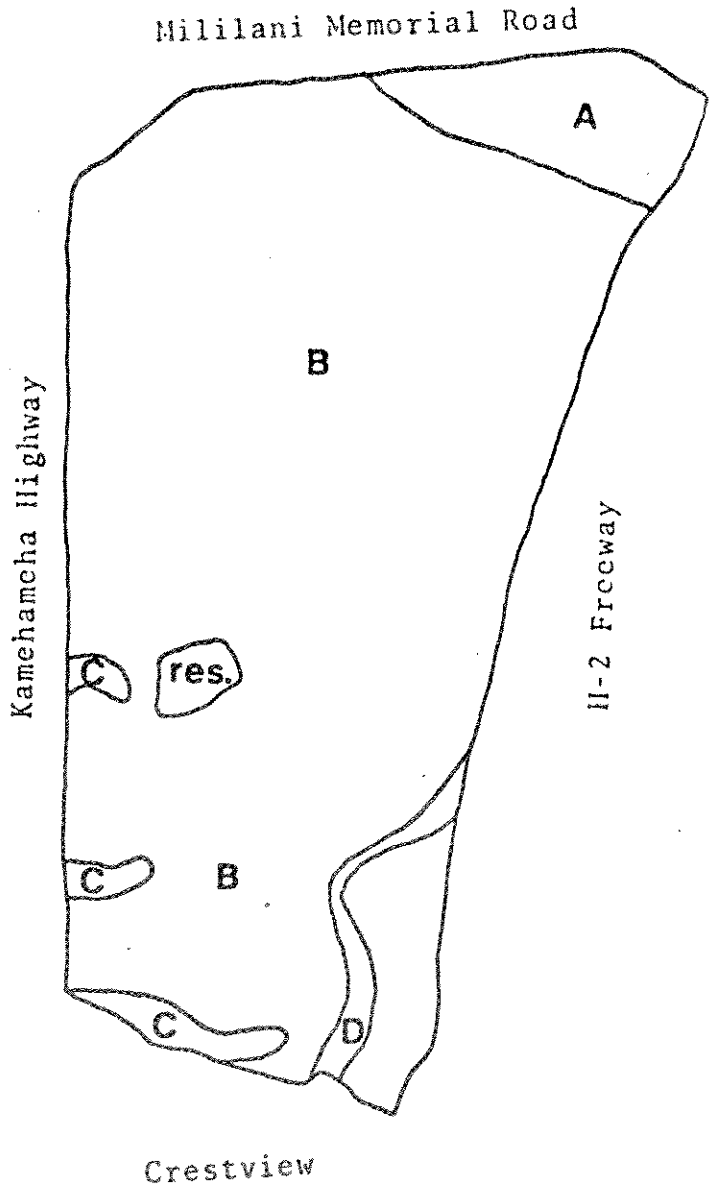


FIGURE 6

SOIL MAP

- WaA Wahiawa silty clay, 0-3% slopes
- LaB Lahaina silty clay, 3-7% slopes
- Wa MuB Molokai silty clay loam, 3-7% slopes
- MuC Molokai silty clay loam, 7-15% slopes
- MuD Molokai silty clay loam, 15-25% slopes
- HLMG HLMG Helemano silty clay, 30-90% slopes

(Joins sheet 42)

95 000 FEET

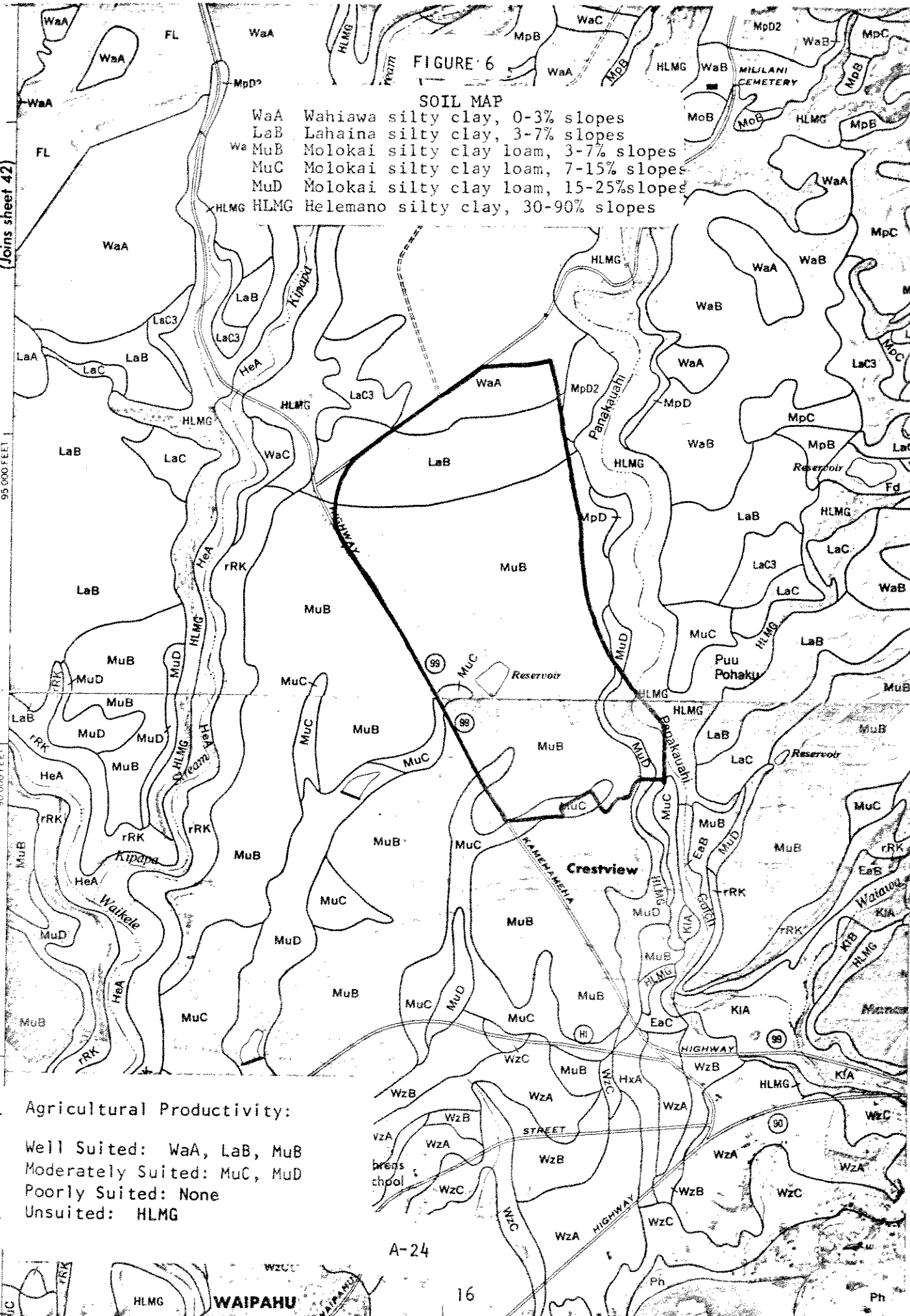
21° 25'

90 000 FEET

(Joins sheet 43)

Agricultural Productivity:

- Well Suited: WaA, LaB, MuB
- Moderately Suited: MuC, MuD
- Poorly Suited: None
- Unsuited: HLMG



A-24

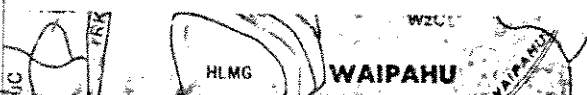


TABLE 1

GENTRY-WAIPIO PROPOSED LAND USE PLANS

<u>Use</u>	<u>No. of Acres</u>	<u>Use</u>	<u>No. of Acres</u>
Residential		Church	6
Single Family	58	Industrial	120
Gentry Plan	56	Commercial	10
Townhouse	60	Park/School	26
Low Rise	70	Circulation System	40
Mid Rise	24	Greenway	20
Subtotal	<u>268</u>	Gulch	<u>20</u>
		Subtotal	<u>242</u>

APPENDIX C

PLANT MATERIALS SURVEY IN
PANAKAUHI GULCH

Paul R. Weissich, A.S.L.A.
Landscape Architect

September 1973

September 1973

NAME

QUANTITY

TREES:

Acacia confusa Formosan Koa	common
Adenanthera pavonina Red Sandalwood	rare
Albizzia moluccana	common
Albizzia sp. (Acacia?:central gulch)	rare
Albizzia sp. (? : lower gulch near Erythrinas)	rare
Alcurites moluccana Kukui	rare
Araucaria columnaris Cook Pine	rare
Brassaia actinophylla Octopus Tree	rare
Cassia sp. (central gulch)	rare
Casuarina equisetifolia Common Ironwood	very common
Casuarina glauca Swamp Oak	very common
Cedrella sp. (lower gulch)	common
Erythrina sp. (lower gulch)	common
Eugenia cumini Java Plum	common
Fraxinus sp. Ash	rare
Gliricidium sepium Madre de Cacao	rare
Grevillea robusta Silk Oak	very common
Leucaena glauca Koa haole	very common
Macaranga tenarius	rare

<i>Melaleuca leucadendron</i> Paperbark Tree	very common
<i>Heliconia bijuga</i> Spanish Lime	rare
<i>Pimenta dioica</i> Allspice Tree	rare
<i>Psidium cattleianum</i> Strawberry Guava	common
<i>Psidium guajava</i> Common Guava	very common
<i>Ricinus communis</i> Castor Bean	rare
<i>Samanea saman</i> Monkey Pod Tree	common
<i>Schinus terebinthifolius</i> Christmas Berry Tree	very common
<i>Spathodea campanulata</i> African Tulip Tree	very common
<i>Trema orientalis</i> Charcoal Tree	rare
indet. tree (Bignoniaceae: grove in lower gulch)	common
indet. tree (Leguminosae: across stream from above)	rare
indet. tree (Leguminosae: small grove makai of <i>Erythrina</i>)	rare

SHRUBS

<i>Dodonaea viscosa</i> A'ali'i	common
<i>Lantana camara</i> Lantana	common
<i>Montanoa hibiscifolia</i> Montanoa	rare
<i>Osteomeles anthyllidifolia</i> 'Ulei	common
<i>Pluchea odorata</i> American Pluchea	rare

VINES

<i>Passiflora edulis</i> var. <i>flavicarpa</i> Passion Fruit	very common
<i>Solanum wendlandii</i> Potato Vine	rare

MISCELLANEOUS

<i>Bryophyllum pinnatum</i> Air Plant	very common
<i>Heliconia</i> sp.	rare
<i>Oplismenus hirtellus</i> Basket Grass	common
<i>Ruellia graecizans</i>	common
<i>Solanum nigrum</i> Popolo	common
<i>Xanthosoma roseum</i> 'Ape	rare

APPENDIX D

A SPECIES LIST OF THE
BIRDS, INSECTS, AND MAMMALS
OF PANAKAUHI GULCH,
OAHU, HAWAII

Prepared for Gentry Pacific

by

Thomas F. Sourisseau

Introduction:

This report is a species list of the insects, birds, and mammals encountered in Panakauhi Gulch, Oahu in November, 1973.

Materials and Methods:

Panakauahi Gulch was surveyed for insects, birds, and mammals on November 9, 10, 16, 17, 23, and 24. I typically arrived at the study site in the early morning and walked in the streambed through the bottom of the gulch for approximately 1500 yards before ascending to the rim of the gulch to complete it's length.

Birds were observed through a pair of field glasses; and, insects were collected with a small mesh insect net. Once the insects were caught they were put immediately into a kill jar containing ethyl acetate in plaster of Paris. No attempt was made to do a complete survey of the insects; only those which were immediately obvious were collected. Mammals were observed with field glasses and were caught with snap traps baited with oatmeal and peanut butter and left out overnight.

Results:

The species lists which follow contain the terms: very common, common, and rare to describe the abundance of the organisms. Very common organisms were those seen more than 10 separate times; common organisms were those seen from 3 to 10 times; and rare organisms were those seen less than 3 times.

INSECTS

Fm. Acrididae	very common
Short-horned grasshopper	
<u>Oxya chinensis</u>	
Fm. Ampulicidae	rare
Cockroach hunting wasp	
<u>Ampulex compressa</u>	
Fm. Apidae	very common
Honeybee	
<u>Apis mellifera</u>	
Fm. Argiopidae	common
Orb web spider	
<u>Argiope avara</u>	
Fm. Blattidae	common
Burrowing cockroach	
<u>Pycnoscelus surinamensis</u>	
Fm. Coccinellidae	rare
Australian ladybeetle	
<u>Coelophora inaequalis</u>	
Fm. Coenagrionidae	very common
Dragonfly	
<u>Megalagrion</u> sp.	

Fm. Culicidae

very common

Valley day mosquito

Aedes albopictus

O. Dermaptera

common

Earwig

Chelisoches morio

Fm. Diplopoda

rare

Millipede

Oxidus gracilis

Fm. Drosophilidae

very common

Fruit fly

Drosophila melanogaster

Fm. Formicidae

very common

Fire ant

Solenopsis geminata

Fm. Geometridae

very common

Koth

Scotorythra arboricolans

O. Isopoda

very common

Common Sowbug

Porcellio laevis

Fm. Muscidae

common

Common fly

Musca sorbens

Fm. Noctuidae	very common
Garden looper	
<u>Trichoplusia ni</u>	
Fm. Scolopendridae	rare
Centipede	
<u>Scolopendra subspinipes</u>	
Fm. Syrphidae	rare
Drone fly	
<u>Lathryophthalmus arvorum</u>	
Hover fly	rare
<u>Volucella obesa</u>	
Fm. Tachinidae	rare
Tachina fly	
<u>Archytas cirphia</u>	
Fm. Tenebrionidae	common
Darkling ground beetle	
<u>Gonocephalum seriatum</u>	
Fm. Tettigoniidae	very common
Long-horned meadow grasshopper	
<u>Gonoccephalus saltator</u>	
Fm. Vespidae	very common
Social wasp	
<u>Polistes sp.</u>	

Fm. Xylocopodidae

rare

Carpenter Bee

Xylocopa varipuncta

BIRDS

Barred Dove

very common

Geopelia striata striata

Black-headed Mannikin

rare

Lonchura malacca atricapilla

Cardinal

common

Cardinalis cardinalis

Common Mynah

very common

Acridotheres tristis tristis

Golden Plover

common

Pluvialis dominica

Japanese White-eye

very common

Zosterops japonica japonica

Lace-necked Dove

very common

Streptopelia chinensis chinensis

Linnet

common

Carpodacus mexicanus frontalis

Mockingbird

rare

Mimus polyglottos

Red-crested cardinal

very common

Paroaria coronata

Ricebird

common

Lonchura punctulata

Ring-necked Pheasant

rare

Phasianus colchicus torquatus

Strawberry Finch

rare

Amandava amandava

MAMMALS

House mouse

very common

Mus musculus

Polynesian rat

common

Rattus exulans

Roof rat

common

Rattus rattus

Small Indian Mongoose

very common

Herpestes auropunctatus auropunctatus

APPENDIX E

SURFACE WATER RUNOFF
AND
WATER CONSIDERATIONS
FOR THE
GENTRY-WAIPIO PROJECT
NEAR PEARL HARBOR, OAHU, HAWAII

By

Michael J. Chun, Ph.D. and
Gordon L. Dugan, Ph.D.
Environmental Consultants

OCT 3 1974

TABLE 1

Estimated Storm Water Runoff and Constituent Incremental Changes due to Development of 528 Acres of the Gentry-Waipio Project, Near Pearl Harbor, Oahu, Hawaii

Storm ¹		Storm Water Runoff-Incremental Changes					
Duration hrs	Recurrence Interval yrs	Quantity in.	Hydraulic		Nitrogen lbs/event	Phosphorus lbs/event	Suspended Solids lbs/event
			cfs	acre-ft			
1	1	1.4	390	32	+ 33	+ 63	- 8
1	5	2.1	585	48	+ 50	+ 94	- 11
1	10	2.4	669	55	+ 57	+108	- 13
1	25	2.8	780	64	+ 66	+126	- 15
1	50	3.1	864	71	+ 73	+139	- 17
1	100	3.5	975	81	+ 83	+157	- 19
6	1	2.4	111	55	+ 57	+108	- 13
6	5	4.6	214	106	+109	+207	- 25
6	10	5.6	260	129	+132	+252	- 30
6	25	6.6	306	152	+156	+297	- 36
6	50	7.7	358	177	+182	+346	- 41
6	100	8.7	404	200	+205	+391	- 47
24	1	3.4	39	78	+ 80	+153	- 18
24	5	7.0	81	161	+165	+315	- 38
24	10	8.7	101	200	+205	+391	- 47
24	25	10.5	122	242	+248	+472	- 57
24	50	12.0	139	276	+283	+540	- 65
24	100	14.0	163	322	+330	+630	- 75

1. From U.S. Weather Bureau "Rainfall-Frequency Atlas of the Hawaiian Islands," Ref. No. 5.
2. Based on a nitrogen value of 1.25 mg/L before development and 0.60 mg/L after development.
3. Based on a phosphorus value of 0.13 mg/L before development and 0.57 mg/L after development.
4. Based on a suspended solids value of 1500 mg/L before development and 250 mg/L after development.

SUMMARY AND CONCLUSIONS

The proposed 6000 housing unit Gentry-Waipio Project, located approximately two miles mauka of Waipahu, middle Loch of Pearl Harbor, and Pearl City, on Leeward Oahu, is situated on 646 acres of land which receives an annual precipitation rate of approximately 35 in/yr.

The incremental increase in storm water runoff for the 528 acres being developed for the proposed project is due to the transformation of primarily pineapple land, which has an estimated rainfall-runoff coefficient of 0.30, to urban land, which has an estimated coefficient of 0.70. These coefficients, together with the average annual precipitation for the project area, can be used to produce a calculated average annual incremental change in surface water runoff. However, using this method, these values can be misleading for situations where an insufficient quantity of precipitation fails to produce runoff.

To circumvent the problems and pitfalls of trying to determine incremental surface runoff increases from average annual precipitation rates, and with due consideration given to numerous variables, the expected significant storm runoffs were estimated by employing the assumed rainfall-runoff coefficients for pre- and post- project development conditions for 1, 6, and 24 hour duration storms at recurrence intervals of 1, 5, 10, 25, 50, and 100 years. Assuming that the entire surface water runoff for the project site is diverted into Panakauahi Gulch, the greater calculated incremental storm runoff (averaging 975 cfs) occurred for the 100 year storm with a 1-hr duration; whereas, the greatest total volume (averaging 322 acre-ft) was for the 100 year storm with a 24-hr duration. The 975 cfs represents an average flow value over a period of 1-hr rather

than the peak or instantaneous flow that is reported for floods. There apparently are no stream flow or peak discharge records for Panakauahi Gulch. However, the peak discharge, according to City and County of Honolulu "Storm Drainage Standards", for the approximately 4400 acre drainage area would correspond to 10,000 cfs. Using the same procedure, the "adjusted" incremental peak discharge for the project site would be approximately 1900 cfs or 19% of the indicated peak discharge of Panakauahi Gulch.

The calculated incremental change in nitrogen, phosphorus, and suspended solids output, due to project construction for the various storm intensities and durations under review ranged from an increase of 32 to 322 lbs/event and 63 to 630 lbs/event, respectively, for nitrogen and phosphorus to a decrease of 8 to 75 tons/event for suspended solids. The decrease in suspended solids is a direct result of stabilization and covering of the soil. However, the output from the approximately 40 percent of the property which presently drains toward Kipapa and Waikele Streams and into West Loch Pearl Harbor would decrease by 26 to 258 lbs/event, 3 to 27 lbs/event, and 15 to 155 lbs/event for nitrogen, phosphorus, and suspended solids, respectively.

Based on the extreme incremental change situation per storm event for 528 acres of the proposed development, (the 100 yr storm with a 24 hr duration) in comparison to the constituent yield, from the entire 4400 acre Panakauahi Gulch drainage area, the nitrogen and phosphorus would theoretically increase by 2.5 and 48%, respectively, and suspended solids would decrease by 0.6%. While the incremental change, even for the 100-yr event, is relatively insignificant for nitrogen and suspended solids, the phosphorus is significant. However, the coastal receiving waters are nitrogen sensitive, thus, increases in phosphorus alone do not tend to stimulate aquatic production. In terms of Pearl Harbor per se, silt mainly resulting from suspended solids, is reported to be the major detriment to the marine environment.

During construction activities, extreme care should be exercised in erosion control measures to prevent a significant impact on the receiving waters, Panakauahi Gulch, Waiawa Stream, and Pearl Harbor, particularly if a major storm occurs. However, construction activities are relatively short-term, in comparison to the project life, thus if stringent erosion control measures are followed, any quality change to the biological, chemical, and physical properties of the receiving waters should be minimal.

With respect to water requirements, the proposed development project would generate an average daily demand of about 2.4 mgd over a period of 10 years. This demand when compared to the future regional sustainable capacity of about 26 mgd appears to be somewhat significant, and even more so when compared to the Board of Water Supply's projections for the annual rate of increase in daily draft for the region over the construction period. However, in preparing its projections for water demand and water development, the Board has fully considered the increase in population expected for this region. The Board expects that by 2020 the regional water demands will closely approximate the sustainable capacity; thus, it should be prepared to serve future population growth in this region, at least up to the safe yield limits of the basal groundwater. From this standpoint, the water requirements generated by the proposed Gentry-Waipio development can be considered as part of the Board's projection for normal growth in the region.

With respect to wastewater, it is a sound and wise decision to plan for ultimate connection into the proposed Honouliuli regional system. However, careful consideration must be given to the short-term, interim wastewater treatment and disposal alternatives. Although more costly, tertiary treatment followed by stream discharge may be the viable alternative inasmuch as on-site demand for secondary treated effluent would probably be minimal. However, if the volume of effluent that is expected to be generated can be used, this alternative would be highly desirable.

APPENDIX F

ENVIRONMENTAL
COMMUNICATIONS
INC.

F. J. RODRIGUEZ,
PRESIDENT

September 20, 1976

Dr. James S. Kumagai
Department of Health
P. O. Box 3378
Honolulu, Hawaii 96801

Dear Dr. Kumagai:

At this time we are in the process of determining the impact of the proposed Gentry-Waipio project on air quality. This information will then be incorporated into the environmental impact statement which we are also preparing for the project.

In the past, we have applied the "box method" to determine the project's impact on ambient air quality. Determination by your staff in Pollution Technical Review Branch indicates that the "box method" is not adequate to address the problem of ambient air quality effects of non-point sources. Therefore, rather than preparing an air quality impact study which may be unacceptable to the Department of Health, we would like to request that you advise us of an "acceptable" method which could be utilized to obtain accurate indication of air quality impact. (This method must take into consideration the non-specific nature of the available plans regarding the project.)

We have, at this point, reviewed several methodologies which are readily available. Discussion on the reasons why these methodologies cannot be utilized are included in Exhibit A.

Lastly, the project information which is available is provided in Exhibit B. We appreciate your review of this matter and look forward to hearing from you.

Please do not hesitate to contact us if we can provide other information and/or discuss with you or your staff this matter.

Very truly yours,


F. J. Rodriguez

Enclosures: Exhibit A
Exhibit B
Environmental Assessment/Determination

cc: Norman Dyer, A.I.A., and Associates

AIR POLLUTION DISPERSION MODELS REVIEWED

Box Models

Description: The box model is the least sophisticated and provides the least detail. This type of model is useful in making preliminary decisions, especially in the area of defining the tolerance of a given area. The mathematical calculations are simple and easily understood by anyone.

Reasons for not utilizing these models: Not acceptable to the State Department of Health.

Gaussian Plume Models

Description: The Gaussian plume model is of higher sophistication (relative to the box model) and provides very detailed information. This type of model is useful as an evaluative tool to consider alternative land use and transportation plans in terms of the impact on the air quality. This method requires the use of a high speed digital computer along with comprehensive emissions and meteorological data. It is expensive and time consuming. It is necessary to make assumptions, therefore, care must be taken in analyzing and evaluating the results.

Reasons for not utilizing this model: The applicability of the Gaussian plume model to a proposed residential project (indirect sources) is inappropriate. The data available is insufficient to provide the working parameters required in the analysis of this model.

Numerical Simulation Models

Description: This is the most sophisticated but still in a formative stage. It provides detailed two and three dimensional pictures of the spatial patterns of pollutant concentrations and, therefore, most applicable to determining air quality impact of individual sources. This type of model is useful in the design and placement of large individual sources of air pollution. This model requires the use of a high speed digital computer.

Reasons for not utilizing this model: The applicability of the Numerical simulation model to a proposed residential project (indirect sources) is inappropriate. The data available is insufficient to provide the working parameters required in the analysis of this model.

Also reviewed was the Environmental Protection Agency's publication:

"Guidelines for Air Quality Maintenance Planning and Analysis Volume 9: Evaluating Indirect Sources."

The various methodologies employed for determining indirect sources of pollution are not applicable to the proposed Gentry-Walpio project.

Increment	Construction Schedule	1.8			1.6		0.7		8.0		0.60	
		No. of Units	Cumulative Total	No. of Auto	Cumulative Total	No. of Persons Employed	Cumulative Total	Work Trips	Cumulative Total	24 Hour Volume	Cumulative Total	A.M. Peak Hour Volume
1	1977	300	300	540	480	480	336	336	2400	2400	202	202
2	1978	400	700	1260	640	1120	448	784	3200	5600	269	471
3	1979	500	1200	2160	800	1920	560	1344	4000	9600	336	807
4	1980	500	1700	3060	800	2720	560	1904	4000	13600	336	1143
5	1981	500	2200	3960	800	3520	560	2464	4000	17660	336	1479
6	1992	500	2700	4860	800	4320	560	3024	4000	21600	336	1815
7	1983	500	3200	5760	800	5120	560	3584	4000	25600	336	2151
8	1984	500	3700	6660	800	5920	560	4144	4000	29600	336	2487
Total			3700	6660		5920		4144		29600		2487

Table 8

TRIP GENERATION BY INCREMENTAL DEVELOPMENT 1977-1984

Source: Revised Traffic Impact Statement for "Gentry-Pacific, Waipio" Development, prepared by Henry Tuck Au, Consulting Engineer, August 1, 1976.

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. Box 3378
HONOLULU HAWAII 96801

GEORGE A. L. YUEN
DIRECTOR OF HEALTH

Audrey W. Mertz, M.D., M.P.H.
Deputy Director of Health

James S. Kumagai, Ph.D., P.E.
Deputy Director of Health

Henry N. Thompson, M.A.
Deputy Director of Health

September 30, 1976

In reply please refer to

File _____

Mr. F. J. Rodriguez
Environmental Communications, Inc.
P.O. Box 536
Honolulu, HI 96809

Dear Mr. Rodriguez:

Receipt of your letter of September 20, 1976, concerning air quality impact analysis techniques proposed for the Gentry-Waipio project is acknowledged.

Some detailed research of alternative methods of analysis is required prior to our sending you a detailed reply. We hope to have a definitive answer to you on or before October 11, 1976.

Sincerely,

RALPH K. YUKUMOTO, CHIEF
Pollution Technical Review Branch

HJY/jcn 4-1

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII



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

October 18, 1976

GEORGE A. L. YUEN
DIRECTOR OF HEALTH

Audrey W. Mertz, M.D., M.P.H.
Deputy Director of Health

James S. Kumagai, Ph.D., P.E.
Deputy Director of Health

Henry N. Thompson, M.A.
Deputy Director of Health

In reply please refer to
File PTR

Mr. F. J. Rodriguez
Environmental Communications, Inc.
P.O. Box 536
Honolulu, HI 96809

Dear Mr. Rodriguez:

Subject: Suggestions for Addressing Air Quality Impact
of the Proposed Gentry-Waipio Project

As requested in your letter dated September 20, 1976, it is our conclusion that an "acceptable" method for determining air quality impact would be one which addresses the contribution of the particular project to ambient air quality concentration levels. We have reviewed the information contained in your correspondence and conclude that additional data will be required in order to estimate air quality levels.

Because there is no detailed information that can be used to address ambient air quality in the interior of the project area, we suggest that you structure your analysis in two phases. The first phase should incorporate an air quality analysis for estimating CO concentration levels at specific receptor points bordering the evaluation area. The second phase should employ the same type of analysis as the first phase except the analysis should be delayed until the traffic network within the project is defined.

Following are our suggestions for proceeding with the air quality impact evaluation:

Phase I

1. Define the evaluation area. We suggest that the evaluation area be limited to that land area bounded on the East and including H-2, bounded on the West and including Kam Highway, bounded on the North by the limits of the project, and bounded on the South by the limits of the Crestview subdivision. Our reasons for these suggestions are as follows:
 - (a) The two major traffic corridors, H-2 and Kam Highway, will contribute to CO concentrations affecting the project area.
 - (b) The project itself will contribute additional traffic which will also affect the project area and Crestview subdivision.
2. Obtain traffic data as required for those highway segments which make up the entire length of both H-2 and Kam Highway within the evaluation area.

10/21/76

3. Estimate CO concentration levels for specific receptor points within the project and at Crestview due to traffic on H-2 and Kam Highway. These estimates should be represented in two ways:
 - (a) Values computed based on traffic volume data which are due solely to vehicles not contributed by the project area.
 - (b) Values computed based on total traffic volume data which shall include that contributed by the project area.

The difference in (a) and (b) above will be in the net contribution due to the project area.

Phase II


When the traffic network within the project area is defined, we suggest that an analysis of CO concentration due to traffic queing for all significant signalized and non-signalized intersections be performed.

An acceptable method for estimating CO concentration levels for Phases I and II is described in the following reference:

U.S. Environmental Protection Agency, "Guidelines for Air Quality Maintenance Planning and Analysis, Volume 9: Evaluating Indirect Sources," January 1975.

Since our suggestions do not encompass complete details regarding analytical procedures and potential problem areas, we recommend that you review the noted reference and, if you desire, discuss the matter with our staff.

Sincerely,


JAMES S. KUMAGAI, Ph.D.
Deputy Director for
Environmental Health

HLT/jcn 1-1

APPENDIX G

HISTORICAL
URBANIZATION - OAHU

Historical records and maps identifying the urban expansion since the turn of the century show that the property is directly in line with the urbanization of Oahu. In 1900, the residential population of approximately 58,000 people were located in the central Honolulu area of Nuuanu, Chinatown, Makiki and Kapahulu. Also at this time, Pearl City and the Pearl Peninsula had experienced some moderate development.

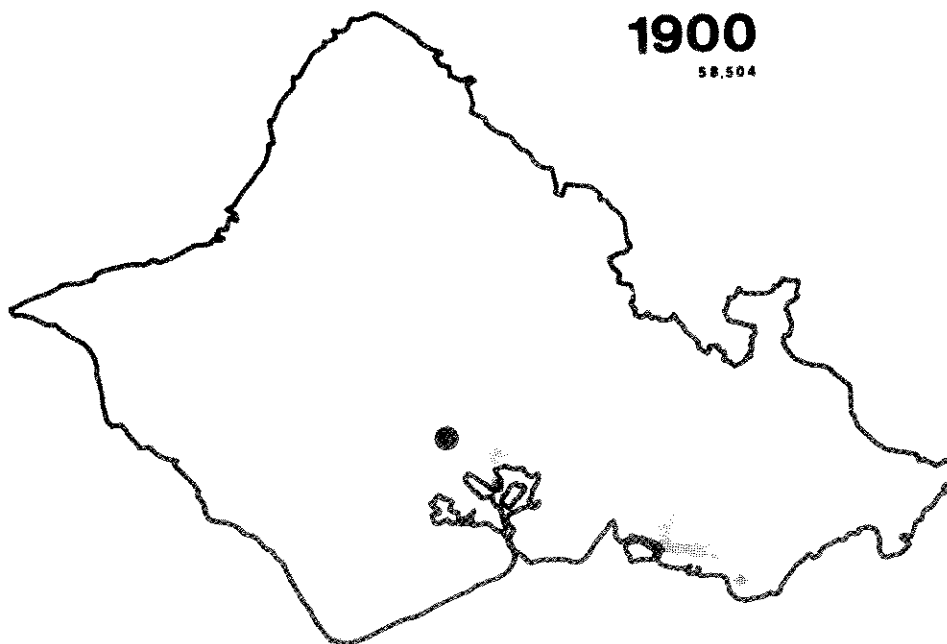


Exhibit III-1

By 1940, the residential population of 258,000 was mainly concentrated from Kahala to the Kalihi area. The sugar mills and their related company housing were operating in Aiea, Ewa, Waipahu, Waialua and Kahuku. The military had made substantial improvements at Schofield and Pearl Harbor. While transportation to Kailua and Waimanalo was difficult at best, the initial phases of urbanization were beginning to be apparent.

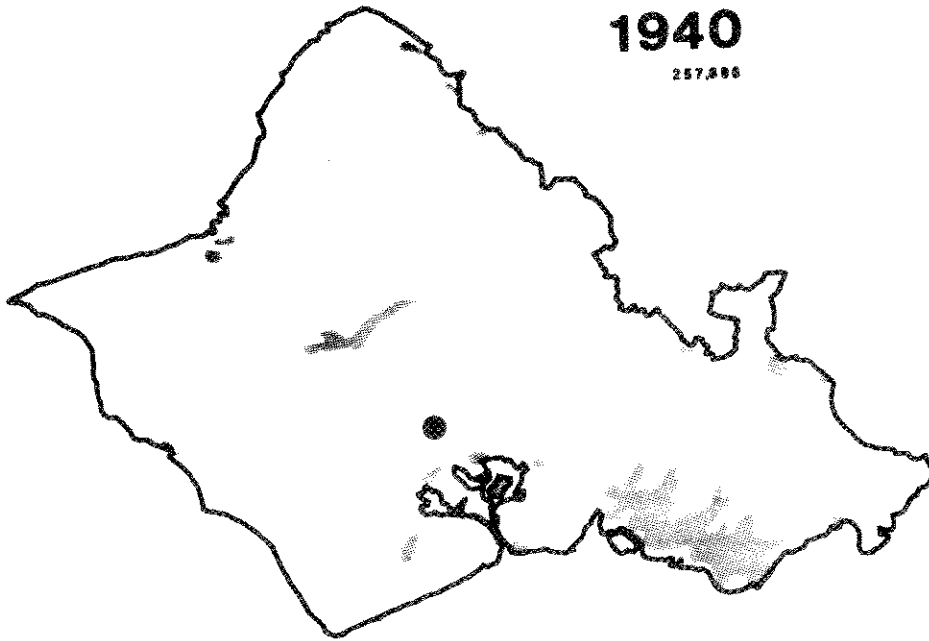


Exhibit III-2

By 1970, the population had reached 630,500 and urban development now extended from Koko Head to Pearl City and Waipahu. Some census districts have the highest recorded residential intensity of any major city in the United States. It should also be noted that nearly all of the developable land lying within this corridor has been utilized and that pressures for new housing had generated the demand for "isolated" developments of Mililani (A), (Castle & Cooke property in Central Oahu) and Makakilo (B), (Campbell Estate in Ewa). The population of the Ewa Census District has reached 132,000.

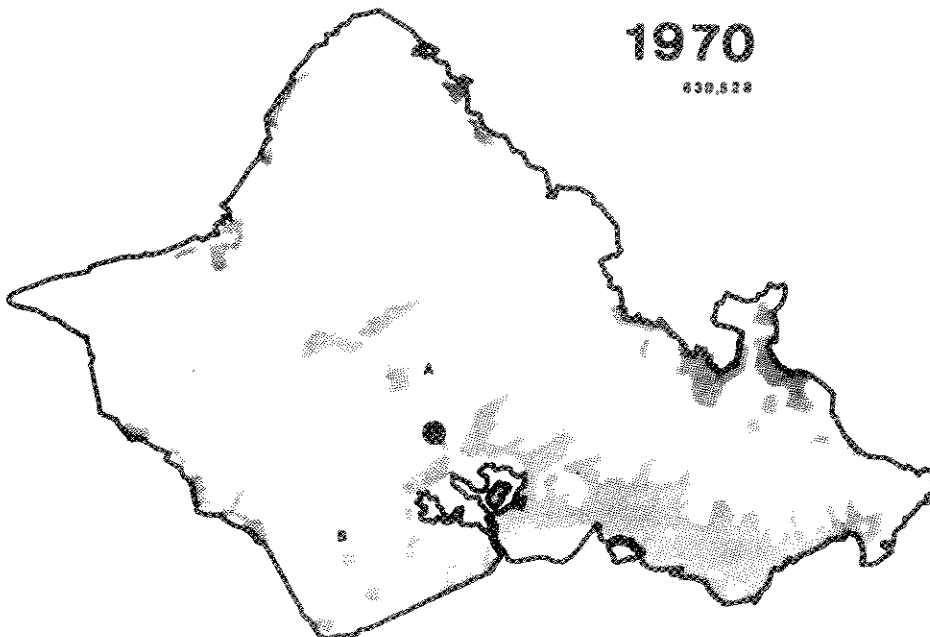
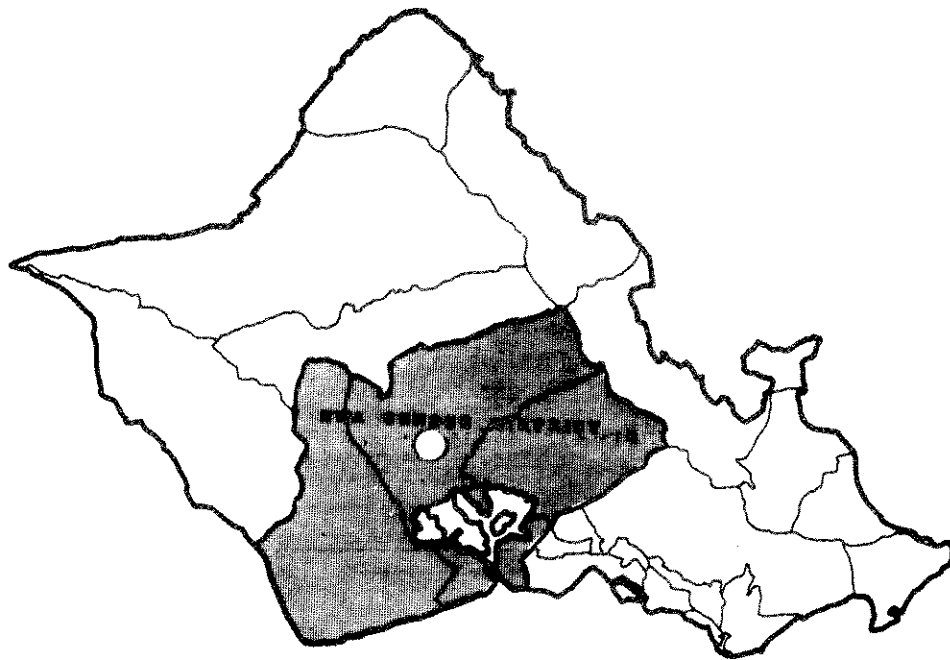
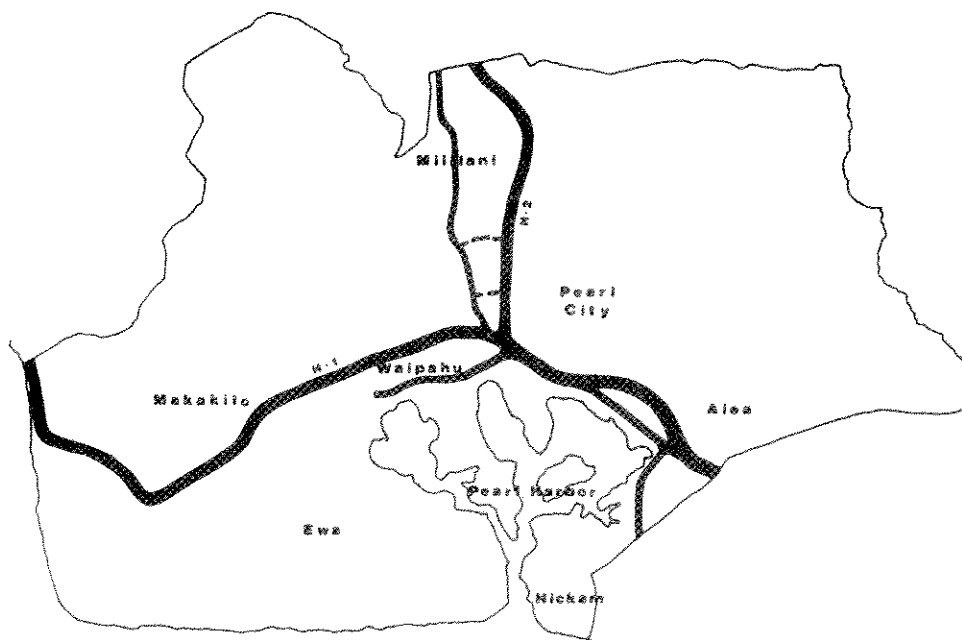


Exhibit III-3

Land availability and convenient access are traditionally the dominant influence over the rate of urbanization. The changes that have occurred within eight (8) miles of the subject property over the last fifteen years have been dramatic. Specifically, the Ewa Census District, defined as Hickam-Aiea-Pearl City-Ewa-Waipio-Waipahu (Census Tracts 73 through 89) (Exhibit III-4) has grown from a population of 79,000 in 1960 to a population of 132,000 established at the 1970 Census. Since 1960, this area has provided a substantial number of moderate and middle income housing units oriented towards family living. Approximately 21,500 new dwelling units have been built, nearly all single family and many sold to owner/occupants. Included in the housing production are approximately 4,000 townhouses/low rise condominium units built since 1969. Interestingly, in 1969, the townhouse represented only 10% of the sales. Since 1972, the production of single family and townhouse units is about equal (Table III-1). During 1975, a substantial number of high-rise units will be completed, principally in the Pearl Ridge area, with a slight decline in single family and townhouse development compared with the previous year (Exhibit III-5).



EWA CENSUS DISTRICT (Census Tracts 73-89)



EWA CENSUS DISTRICT

EXHIBIT III-4

Table III-1

NEW HOUSING SURVEY 1961-74
EWA CENSUS DISTRICT
 Waimalu, Pearl City, Waipahu, Ewa, Waipio/Mililani

	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
SINGLE FAMILY														
NO. UNITS	385	819	858	899	1,272	1,152	1,390	1,623	1,336	1,753	1,735	1,558	782	354
AVG. SALES PRICE	24,000	23,000	24,000	27,000	26,000	30,000	32,000	35,000	38,000	43,000	50,000	57,000	67,000	73,000
TOWNHOUSE									108 33,000	237 35,000	864 32,000	1,107 40,000	827 45,000	510 52,000
MULTI-STORY												200		49
TOTAL	385	819	858	899	1,272	1,152	1,390	1,623	1,444	2,020	2,619	2,863	1,609	913

(1) Bank of Hawaii, Department of Business Research

Most of the land inventory for these residential developments were in parcels of fifty (50) or more acres (Exhibit III-6)

PEARL CITY: Pacific Palisades, Momilani, Pearl View Terrace, Waiau and NewTown.

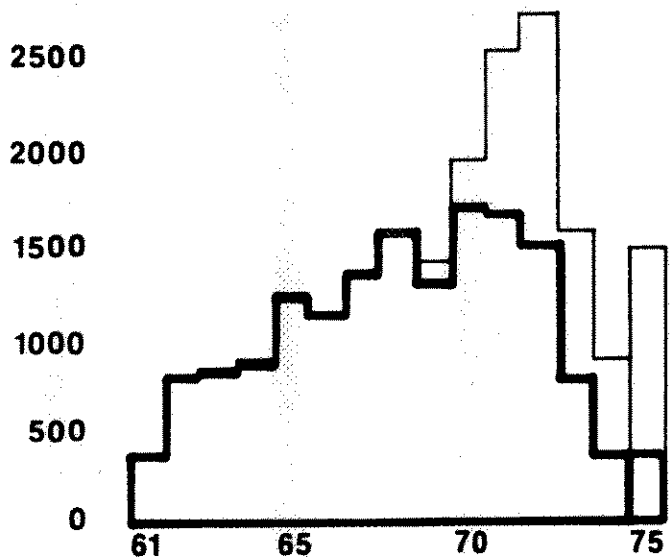
WAIPAHU: Waipahu Gardens, Robinson Heights, Waipahu Triangle, Harbor View, and Waipahu Estates.

EWA: Makakilo, Ewa Estates

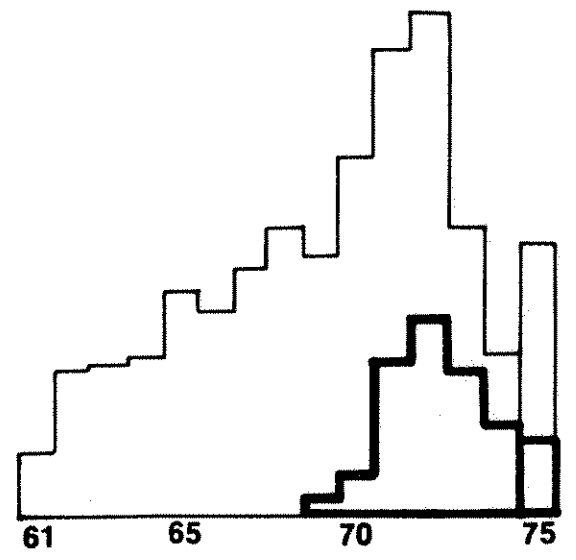
WAIPIO: Mililani

It has become obvious that single family subdivisions are costly on many points. Conservation of land with more highly intense planned communities such as NewTown, Village Park and newer portions of Mililani appears to be an attractive alternative in providing a desirable residential development.

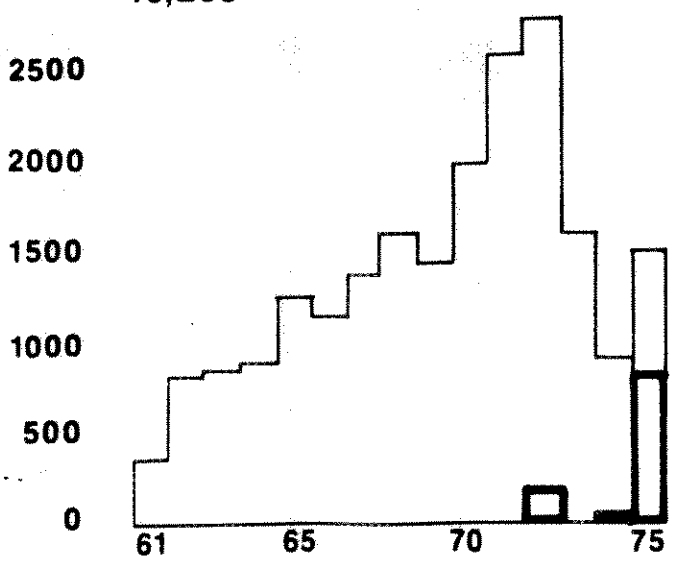
EWA CENSUS DISTRICT 1961 thru 1975



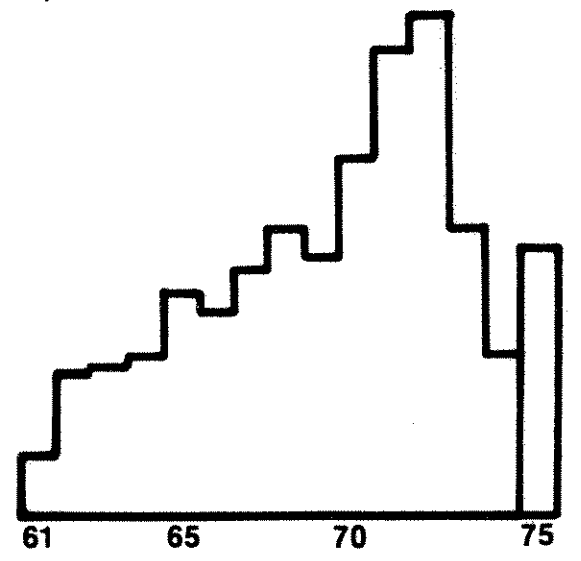
single family 76%
16,296



townhouse 19%
4,073



high rise 5%
1049



total new housing
21,418