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ENVIRONMENTAL IMPACT STATEMENT ADDENDUM

PROPOSED IOLANI SCHOOL PROPERTIES PROJECT

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FINAL
ENVIRONMENTAL IMPACT STATEMENT
ADDENDUM
FOR THE PROPOSED
IOLANI SCHOOL PROPERTIES PROJECT
at Kamooalii, Koolaupoko,
Kaneohe, Oahu

November, 1983

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Exhibit	B	Access Study for Proposed Kamooalii Development by Community Planning, Inc.; February, 1983.
Exhibit	C	Department of Parks & Recreation letter dated January 21, 1983 regarding insecticide and herbicide spraying of Pali Golf Course.
Exhibit	D	"Chapter 66 - Pesticides", Regulations of State Department of Agriculture.
Exhibit	E	Final Environmental Statement, Administrative Action (State DOT H-3 Statement) regarding agriculture impacts.
Exhibits	F	Memorandum from Community Planning, Inc. to Man Kwong Au, dated May 6, 1983 regarding relocation of banana farm tenants.
Exhibit	G	Correspondence from Department of Parks and Recreation with responses from Environmental Communications, Inc. regarding scenic view corridor.
Exhibit	H	View From Nuuanu Pali Lookout, Kamooalii Development, Iolani School Properties.
Exhibit	I	Typical Cross-Section, Kamooalii Development, Iolani School Properties.
Exhibit	J	Organizations and Persons Consulted During Review of the Draft EIS Addendum and Reproduction of Comments and Responses Made.

INTRODUCTION:

This addendum EIS is being reviewed under the provisions of Chapter 343, HRS which provides in a broad sense, the procedures under which a non-accepted EIS can be amended. Historically, the Iolani School project was required to prepare and file a full Environmental Impact Statement prior to receiving consideration of their petition to change the boundary designations from Conservation to Urban District. This requirement was initiated at the request of the State Land Use Commission after the filing of the petition on December 8, 1982 for Phase I of the project.

The resulting decision not to accept the EIS was made on May 18, 1983 by the Land Use Commission. On May 27, 1983, the Land Use Commission advised Mr. Roy Takemoto, chairman of the Environmental Quality Commission of the specific deficiencies in the Iolani School EIS and the petitioner was advised that there would be the opportunity to file with the State Land Use Commission an addendum document that would address the deficiencies.

The Environmental Quality Commission declared in its' Declaratory Ruling #83-01, the procedure for correcting a non-accepted EIS. This addendum document addresses specifically, the six points in the State Land Use Commission letter dated May 27, 1983. This document, an addendum, therefore does not follow the required format provided for in the Rules and Regulations issued by the Environmental Quality Commission and administered by the Office of Environmental Quality Control (See letter by Faith Miyamoto, Executive Secretary).

The reviewer is requested to review the responses to the six (6) specific points raised by the Land Use Commission and in their review, indicate as to the adequacy of the responses prepared by the consultants retained by Iolani School. The full review period of thirty (30) days is provided and the procedures are in compliance with OEQC regulations as to the preparation and filing of the document with EQC for distribution, review, comment and response. We request your cooperation in what is the initial review of an addendum prepared to correct a non-accepted EIS.

STATE OF HAWAII
DEPARTMENT OF PLANNING
AND ECONOMIC DEVELOPMENT

• • •

LAND USE COMMISSION

Room 104, Old Federal Bldg., 335 Merchant Street
Honolulu, Hawaii 96813 Telephone: 548-4611

GEORGE R. ARIYOSHI
Governor

WILLIAM W. L. YUEN
Chairman

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GORDAN Y. FURUTANI
Executive Officer

May 27, 1983

Mr. Robert R. Takemoto
Chairman
Environmental Quality Commission
Room 301, 550 Halekauwila Street
Honolulu, Hawaii 96813

Attention: Ms. Jacqueline Parnell

Dear Mr. Takemoto:

In compliance with 1:72 Procedure for Acceptance (b), Sub-Part H. Acceptance of Environmental Impact Statement, of the Environmental Quality Commission's Regulations, the Land Use Commission hereby notifies the Environmental Quality Commission that at its meeting on May 18, 1983, the Commission considered but did not accept the final Environmental Impact Statement (EIS) submitted by Iolani School for a State Land Use District Boundary Amendment at Kaneohe, Oahu. This letter is the Land Use Commission's order denying acceptance of the EIS.

The findings and reason for non-acceptance of the EIS by the Land Use Commission are as follows:

1. The EIS submitted by the applicant is for only Phase I of a multi-phase development. In order for the EIS to be complete, it must address all phases of the proposed project (Phase II-A and II-B).

2. A more complete assessment of the impact of the proposed project on flood control, ground water recharge and potential pollution by insecticides used at the Pali Golf Course (and for Phase I with respect to ground water recharge) for Phases II-A and II-B of the proposed project need to be provided.

3. More information on the impact of all phases of the proposed development on the sewage and drainage situation must be provided.

4. Information regarding the social and economic impact of the entire development on the banana farmers are inadequate and must be addressed more fully.

MAY 31 1983

5. More information concerning the impact of the proposed development on the archaeological sites known to exist on the subject property must be provided.

6. The full impact of the entire project on the scenic-view corridor of the windward side has not been adequately addressed and more information on this matter must be provided.

Please contact the Land Use Commission staff if you have any questions regarding the above matter.

Sincerely,

William W. L. Yuen

WILLIAM W. L. YUEN
Chairman

cc: Iolani School
c/o Lincoln Ishida

GEORGE R. ARIYOSHI
GOVERNOR

ROY R. TAKEMOTO
CHAIRMAN

STATE OF HAWAII
ENVIRONMENTAL QUALITY COMMISSION
850 HALEKAUWILA ST.
ROOM 301
HONOLULU, HAWAII 96813

TELEPHONE NO
(808) 548-6915

June 23, 1983

Mr. Gordan Y. Furutani
Executive Officer
Land Use Commission
Room 104, Old Federal Bldg.
335 Merchant Street
Honolulu, Hawaii 96813

Dear Mr. Furutani:

This is to inform you that at its June 20, 1983 meeting, the Environmental Quality Commission made a declaratory ruling regarding the procedure for correcting a non-accepted EIS. This declaratory ruling is attached for your information.

Should you have any questions, please contact Faith Miyamoto of our staff at 548-6915.

Sincerely,

Roy Takemoto

Roy Takemoto
Chairman

cc: Fred Rodriguez

JUN 28 1983

GEORGE R. ARIYOSHI
GOVERNOR

ROY R. TAKEMOTO
CHAIRMAN

STATE OF HAWAII
ENVIRONMENTAL QUALITY COMMISSION
550 HALEKAUWILA ST.
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TELEPHONE NO.
(808) 548-6915

Declaratory Ruling #83-01

The Environmental Quality Commission has, on its own motion, ruled upon a recurring question that has lent itself to conflicting interpretations. This ruling was made at the Commission meeting on June 20, 1983.

The problem involves the procedure for correcting a non-accepted EIS. At the present time, the EIS Regulations do not contain procedures for correcting deficiencies in a non-accepted EIS.

Therefore, the Environmental Quality Commission declares as follows:

> In cases where the EIS is not accepted by the accepting authority, an addendum must be prepared that addresses its deficiencies. This document must then be submitted for public review as if it were a draft EIS. A 30-day period for public review of the addendum will commence as of the date the notice of availability is published in the EQC Bulletin. The requirements for filing, distribution, publication of availability for review, acceptance or non-acceptance and notification and publication of acceptability shall be the same as the requirements for a draft EIS.

This declaratory ruling shall not preclude the applicant or proposing agency from preparing an entirely new EIS.

GEORGE R. ARIYOSHI
GOVERNOR

STATE OF HAWAII
ENVIRONMENTAL QUALITY COMMISSION
550 HALEKAUWILA ST.
ROOM 301
HONOLULU, HAWAII 96813

ROY R. TAKEMOTO
CHAIRMAN

TELEPHONE NO.
(808) 548-6915

September 26, 1983

Mr. F. J. Rodriguez, President
Environmental Communications Inc.
P.O. Box 536
Honolulu, HI 96809

Dear Mr. Rodriguez:

This is in response to your letter of September 15, 1983, regarding the addendum for the Iolani School project EIS. In accordance with the procedures for correcting a non-accepted EIS established by EQC Declaratory Ruling #83-01, an addendum that addresses the deficiences of the non-accepted EIS must be prepared. Therefore, the format that you propose to use is acceptable.

Should there be any further questions, please feel free to call me at 548-6915.

Sincerely,

Faith Miyamoto
Executive Secretary

SEP 27 1983

1

THE EIS SUBMITTED BY THE APPLICANT IS FOR ONLY PHASE I OF A MULTI-PHASE DEVELOPMENT. IN ORDER FOR THE EIS TO BE COMPLETE, IT MUST ADDRESS ALL PHASES OF THE PROPOSED PROJECT (PHASE II-A AND II-B).

1. "The EIS submitted by the applicant is for only Phase I of a multi-phase development. In order for the EIS to be complete, it must address all phases of the proposed project (Phase II-A And II-B)."

This section is prepared in order to complete the EIS. It addresses all phases of the proposed project.

I. SUMMARY

Type Action:	Applicant Action
Approving Agency:	Land Use Commission, State of Hawaii
Applicant:	Iolani School 563 Kamoku Street Honolulu, Hawaii 96826 Phone: 949-5355
Project Location:	The land under consideration for development of 383.8 acres is located in the Koolaupoko District on the Windward side of the island of Oahu and is bounded on the east by Kionaole Road, on the south by the summit of the Koolau Range, on the west by Likelike Highway, and the north by the City's Ho'omaluhia Park.
Proposed Action:	The proposed project will provide approximately 186.0 acres of residential use and 789.6 acres for highways and major roadways, open space and drainage ways. Approximately 166.8 acres of the total 186.0 acres alloted for residential use will be utilized to develop 971 dwelling units. The remaining 19.2 acres of the 186.0 acres will be developed for park use.
Tax Map Key:	Portion of 4-5-25:23; 4-5-41:1; 4-5-42: 1,6,8, and 10. Total acreage: 975.6 acres.
Request:	State Land Use Boundary Amendment, of 381.4 acres for Urban Use
Planning and Engineering Consultants:	Community Planning Inc. 700 Bishop Street, Suite 608 Honolulu, Hawaii 96813 Phone: 531-4252
Environmental Consultants:	Environmental Communications Inc. P.O. Box 536 Honolulu, Hawaii 96809 Phone: 521-8391

II. PROJECT DESCRIPTION AND STATEMENT OF OBJECTIVES

A. Location of Proposed Project

The proposed Iolani School project is located in the Koolaupoko District on the windward side of the island of Oahu (Figure 1).

The land under consideration for development, for single family and duplex dwellings and townhouses, as defined as portion of Tax Map Keys: 4-5-25: 23; 4-5-41: 1; 4-5-42: 1,6,8 and 10, consists of a total of 975.6 acres and is bounded on the east by Kionaole Road, on the south by the summit of the Koolau Range, on the west by Likelike Highway, and the north by the City's Ho'omaluhia Park.

B. Description of Proposed Project

The proposed Iolani School project site totaling 383.8 acres, including 2.4 acres of land within existing Urban State Land Use, will provide approximately 186.0 acres of residential mixed uses with the remaining 197.8 acres proposed for urbanization set aside for the Interstate Highway H-3, major roadways, open space and drainageways (Figure 1). Urbanization of the project site is a logical extensión of existing residential areas.

The conceptual development plan indicates that the project proposes construction of 971 single-family residences, duplexes and town-house units with zoning proposed for R-5 Residential with minimum lot areas of 6,000 square feet.

Some 19.2 acres of the 186.0 acres will be designated for three park sites to comply with current County Park Dedication requirements.

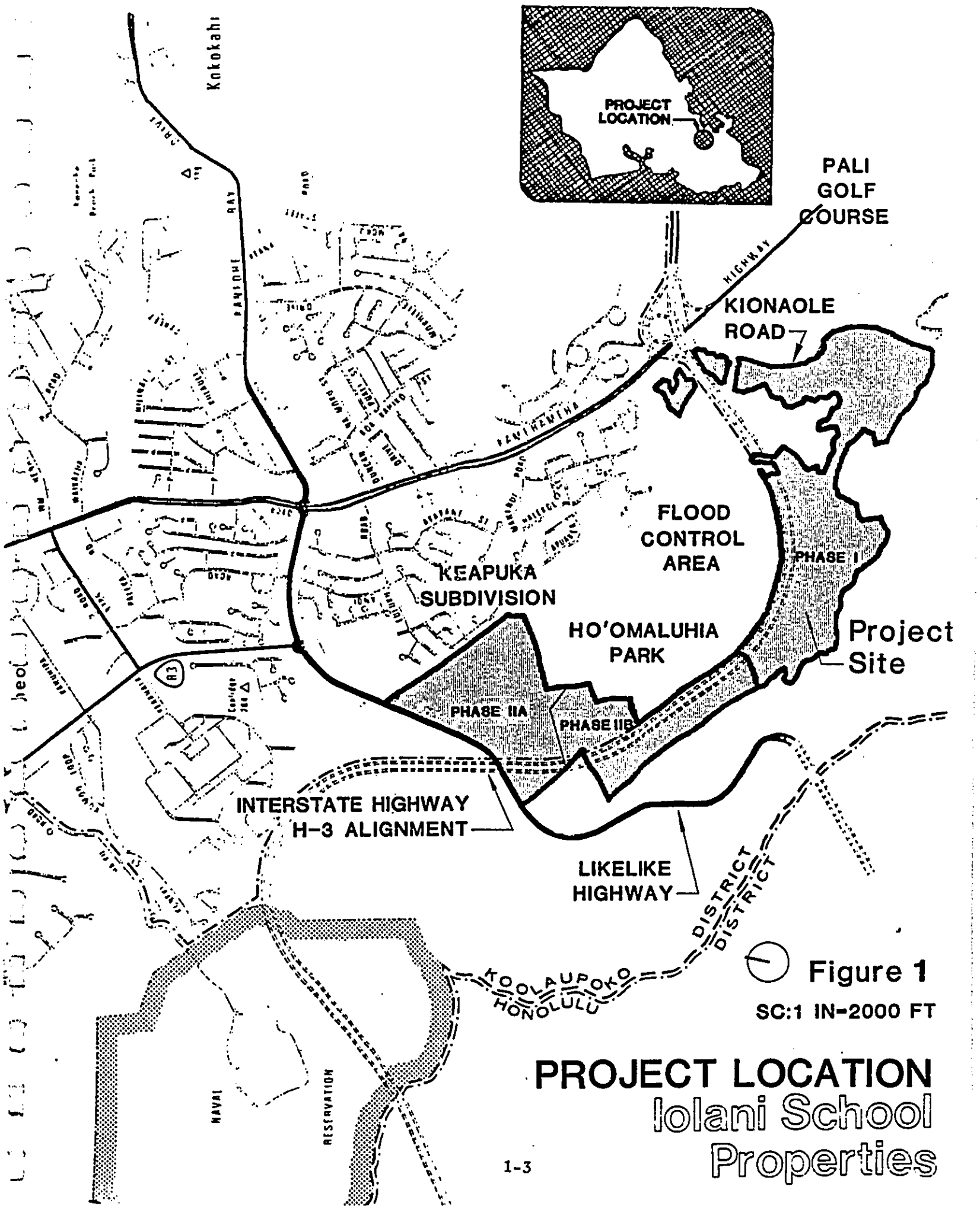


Figure 1

SC:1 IN=2000 FT

PROJECT LOCATION
Iolani School Properties

Density will approximate 5 dwelling units per acre on areas to be developed for residential use.

The estimated population for the project site is 2,900 people.

C. Statement of Objectives

It has been estimated that some 1,300 dwelling units are currently needed within the Koolaupoko District to assist in alleviating the overall housing demand for the Island of Oahu. The following represents the quantitative basis for this estimate. According to various sources, there exists today a need for approximately 40,000 dwelling units on the Island of Oahu (Hawaii Housing Authority, 1978). Therefore, upon realization that the Koolaupoko District represents 14 percent of the total Oahu population, it can be assumed that 14 percent of 40,000 dwelling units, or 5,600 dwelling units need to be developed in the District. Further, when considering Kaneohe as a Koolaupoko District sub-area, representing 23 percent of the District's total population, it can be estimated that 23 percent of 5,600 dwelling units, or 1,300 dwelling units need to be developed.

In addition, according to the proposed policy revisions to the General Plan, population estimates for the Koolaupoko District will increase by 10,000 people by the year 2000 and will require an additional 3,300 dwelling units to accomodate this projected population growth. The Kaneohe area requirement is approximately 760 dwelling units. Therefore, when considering existing needs of 1,300 dwelling units and projected needs of 760 dwelling units, it can be concluded that the Kaneohe area will require approximately 2,060 dwelling units to satisfy population demands.

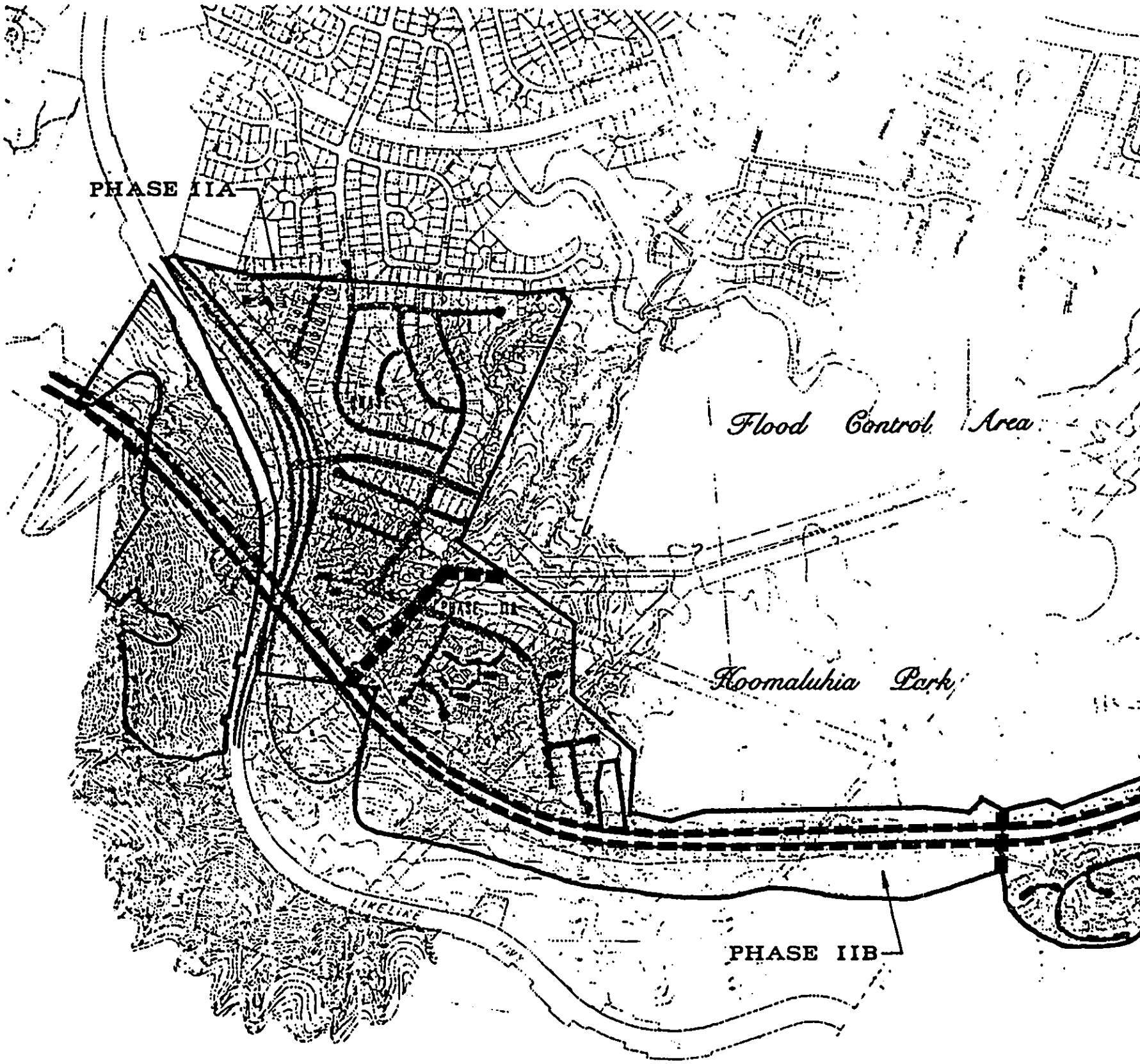
Accordingly, it is reasonable to assume there exists a significant need for developable land for the purpose of accomodating

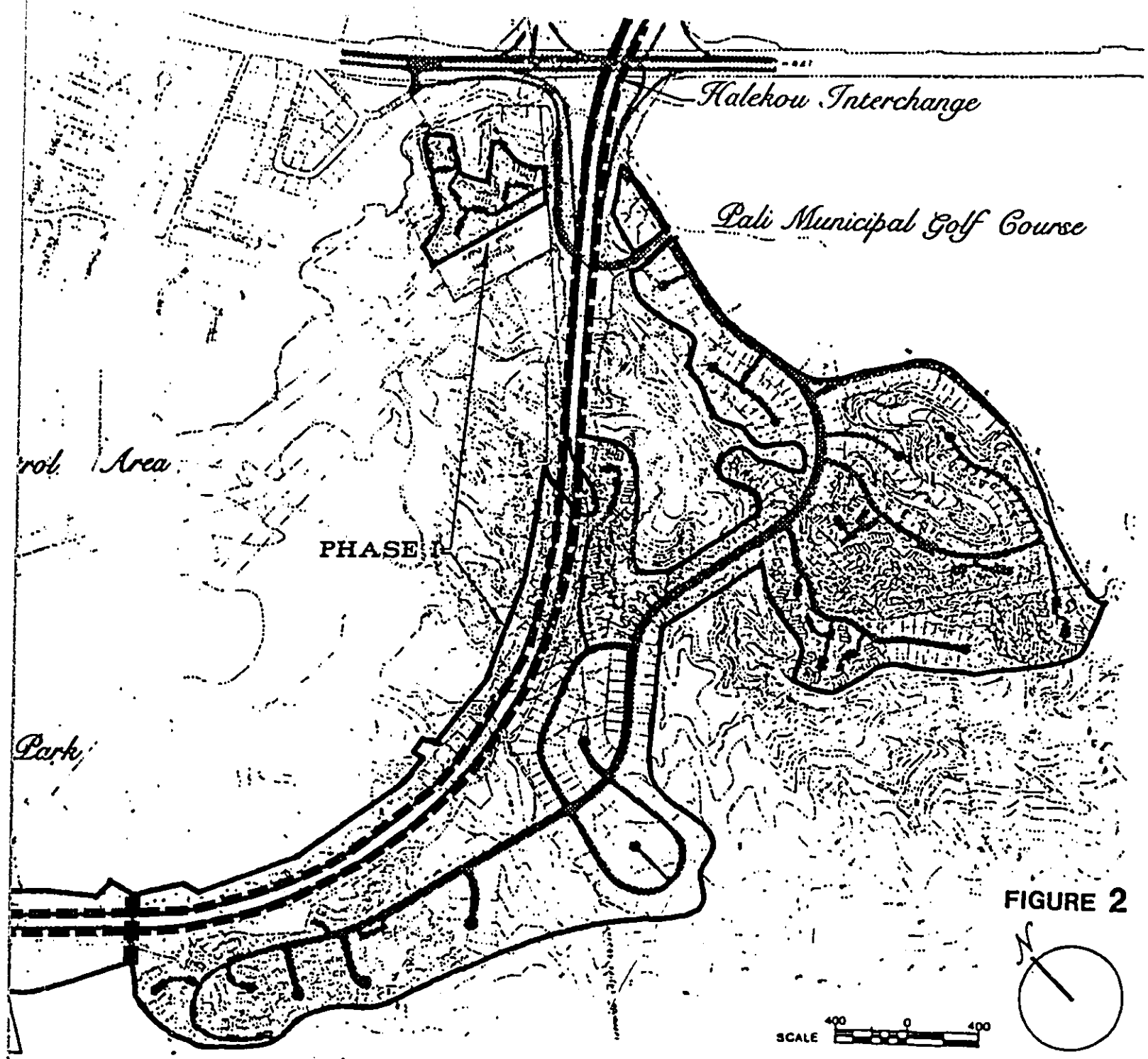
current and projected market conditions for housing. It is the objective of Iolani School to alleviate these demands by providing affordable housing.

D. Phasing

The proposed project will be phased over 12 to 15 years in two (2) separate increments (Figure 2). The development plan phasing for the project is based on the premise of locating a variety of unit types on areas that are most able to handle varying densities. Single-family detached units will be sited on the flattest portions of the site where only minimal grading will be necessary. These areas generally exist along Kionaole Road at the entrance and at the northern end where open grasslands exist in gentle slopes. On-site areas that are narrow and possess a more varied terrain, will be utilized for neighborhood clusters characterized by higher density unit types, such as duplexes and townhouses. This unique design layout affords flexibility in siting the dwelling units, thereby providing more open space and generating only minimal disturbance to the natural terrain. The following further details the proposed action associated with each phase:

1. Phase I. The area that comprises the Phase I development encompasses 201.4 acres of the total, 381.4 acres envisioned for urbanization. Of the 201.4 acres proposed for the Phase I increment, 113.6 acres will be utilized to create a series of neighborhoods situated in small clusters. Phase I will provide 611 dwelling units, in the following mix: 259 single-family dwelling units on lots of a minimum of 6,000 square feet, 82 duplex units on lots of 11,000 square feet and 270 townhouse units arranged in five separate clusters.


PHASE IIA
Flood Control Area
Koomaluhia Park
PHASE IIB



PHASING
Iolani School Properties

Three parks totaling 10.4 acres will also be located during this phase of the development.

The remaining uses to be provided by the proposed action are listed as follows:

Roads	17.2 acres
Open Space	39.2 acres
H-3 Right-of-Way	31.4 acres

A main 60-foot wide collector road will provide access to each neighborhood cluster and will connect to the existing Kionaole Road.

Existing public services and facilities will be made available to the proposed project. In addition , the proposed action for this phase will include: street improvements and utilities, clearing, grubbing, and grading of roadway prism, water and drainage systems, and sewer systems. At the park sites, the proposed action will include: clearing and grubbing, grading, grassing and automatic sprinkler systems.

2. Phase II

a. Phase IIA. Phase IIA consists of 92.4 acres, of which 2.4 acres are classified as urban. This portion of the project site is located adjacent to the Keapuka Subdivision on the east, Likelike Highway on the north and west, and Ho'omaluhia Park and agricultural lands on the south. Phase IIA will provide a total of 245 units in the following mix: 155 single-family dwelling units on lots of a minimum of 6,000 square feet, 44 duplex units on lots of 11,000 square feet, and 46 townhouses arranged in two separate

clusters. Private yard space, common open space areas, and on-grade parking will be provided to each unit.

Existing access to the site is by Luluku Road. However, realizing that the continued use of the roadway and other access points through the Keapuka Subdivision may meet with resident opposition, an additional access will utiiize Likelike Highway by way of a permitted existing access point on the makai side with adequate deceleration and acceleration lanes designed and constructed to allow for merging traffic on and off Likelike Highway. The roadways within the development will then be designed to divert traffic away from Luluku Road and other access streets in the Keapuka Subdivision.

Phase IIA will also be provided with a park of 6.0 acres, to be located along the main collector road.

The remaining area is to be utilized as follows:

Roads	10.6 acres
Open Space	13.7 acres
H-3 Right-of-Way	25.7 acres

Existing public services and facilities will be made available to the proposed project. In addition, the improvements and utilities, clearing, grubbing, and grading of roadway prism, water and drainage systems, sewer systems, and electrical, telephone, and street light systems. At the park site, the proposed action will include clearing and grubbing, grading, grassing and automatic sprinkler systems.

b. Phase IIB. The Phase IIB area consists of 90.0 acres

and is located adjacent to Phase IIA. Planned for development will be 115 dwelling units, in the following mix: 43 single-family dwelling units on lots of a minimum of 6,000 square feet, 14 duplex units on lots of 5,500 square feet, and 58 townhouses arranged in one cluster.

A 60-foot wide major street connection to Phase IIA with access via Likelike Highway will be provided.

Phase IIB will also be provided with a park of 2.8 acres, to be located along the main collector road.

The following is a breakdown of the remaining uses for the proposed action:

Roads	3.6 acres
Open Space	34.4 acres
H-3 Right-of-Way	30.6 acres

Existing public services and facilities will be made available to the proposed project. In addition, the proposed action for this phase will include: street improvements and utilities, clearing, grubbing, and grading of roadway prism, water and drainage systems, sewer systems, and electrical, telephone, and street light systems. At the park site, the proposed action will include: clearing and grubbing, grading, grassing and automatic sprinkler systems.

E. Costs

Although actual total construction development costs are indeterminate at this time, it is estimated that approximately $31,100,000 will be expended. Estimated costs are expressed in 1982 dollars.

The estimated cost for improvements to implement each phase is as follows:

Phase I

1. Off-Site Costs:

   a. Water-Related Improvements. Construction of a 0.5 M.G. reservoir, deep wells, pumps, pump station, transmission mains and access road is approximated to be $1,300,000.

   b. Sewer-Related Improvements. Construction of sewer pump station, sewer force main and gravity mains with connection to an existing 24-inch sewer main will be $1,715,000.

   The total estimated cost for the off-site water and sewer system, including $603,000 for engineering and contingencies, will be $3,618,000.

2. On-Site Costs:

   Residential-related improvements, including engineering and contingencies, are approximated at $14,820,000. Improvements to the park site, including engineering and contingencies, will be $162,000.

   The total estimated cost for street improvements, utilities and improvements of park sites, including engineering and contingencies, will be $14,982,000.

The total cost for off-site and on-site improvements for Phase I, including engineering and contingencies, will be $18,600,000.

Phase II (Phases IIA and IIB)

1. Off-Site Costs:

   a. Water-Related Improvements. Construction of a 0.3 M.G. reservoir, deep wells, pumps, pump station, transmission mains and access road, relocation of existing 10-inch and 16-inch mains will be $1,420,000.

   b. Street Improvements. Construction of interchange with full acceleration and deceleration lanes off Likelike Highway will cost approximately $475,000.

   The total estimated cost for off-site water and street improvements, including $379,000 for engineering and contingencies, will be $2,274,000.

2. On-Site Costs

   Residential-related improvements, including engineering and contingencies and BWS development charges, incurred during Phase II will be $9,865,200. Park site improvements, including engineering and contingencies, are approximated at $355,200.

   The total estimated cost for street improvements, utilities and improvements to park site, including engineering and contingencies and facility charges, will be $10,220,400.

The total cost of off-site and on-site improvements for Phase II, including engineering and contingencies, will be $12,494,400.

F. Development Program Schedule

A tentative development program schedule for each of the phases may be provided as follows:

Phase I

1.	Application for urban State land use	1982-1983
2.	Application for City DP amendment and zoning change	1983-1984
3.	Preparation of construction plans	1984-1986
4.	Construction of improvements	1986-1990
5.	Occupancy	1987-1992

Note: This phase could be further separated into two increments of 305 ± units each.

Phase II (Phases IIA and IIB)

1.	Application for urban State land use	1988-1989
2.	Application for City DP amendment and zoning change	1989-1990
3.	Preparation of construction plans	1990-1991
4.	Construction of improvements	1991-1993
5.	Occupancy	1992-1994

G. Intended Market

The proposed project is intended to supply needed housing to all of Oahu, with special attention given to prospective purchasers from the Kaneohe area. Selling price of the units will be at market price at the time of sales.

To meet the market demand, presently believed to be the low/moderate income purchaser, the petitioner desires to market same within the affordable price market. In order to meet this demand, the petitioner contemplates a leasehold arrangement for the land

for a set period of time, with the right to purchase clause inserted into the lease.

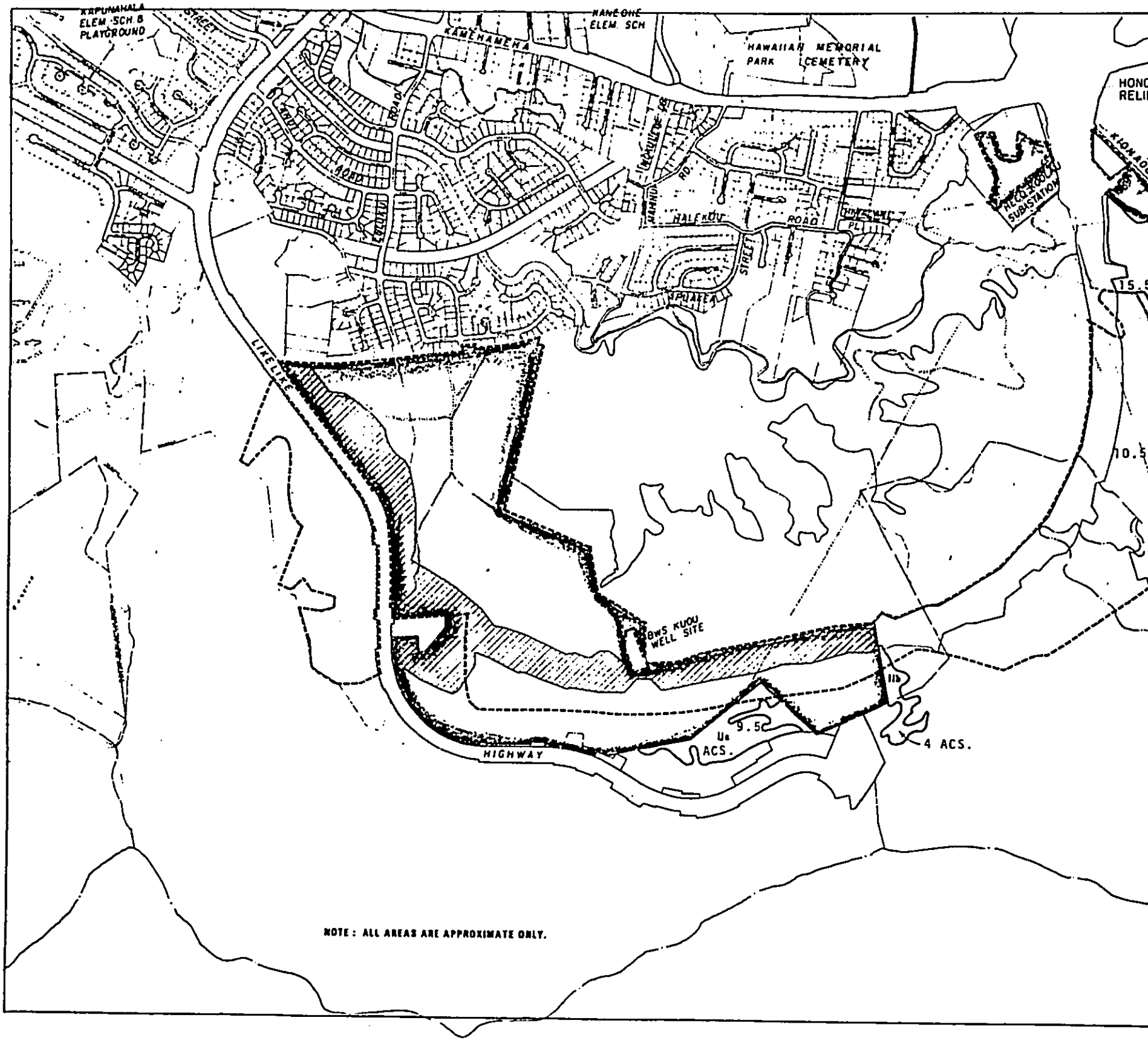
H. Socio-Economic

The proposed project will supply housing to low-and moderate-income residents. It is anticipated that the loss of acreage in banana production could be offset by making available an equal amount of land in the vicinity of the project site. Relocation costs would be the responsibility of the farmers. It is anticipated that lease rents would remain comparable with those at the time of relocation.

The Interstate Highway H-3 alignment and the proposed Kamooalii residential development of Iolani School will affect the existing banana farm tenants. It is the intent of the owners to make available lands of 30% slope or less for relocation of the farmers and to provide new leases. The total area of banana production affected by the proposed project in Phases I and II represents 110.4 acres (13.2 acres in Phase I and 97.2 acres in Phase II). It should be noted that H-3 would take 62.4 acres of which 6.1 acres is not within the proposed development of Phase II. Figure 3 indicates those areas where the existing leases may be relocated.

I. Regulatory Considerations

1. State Land Use Classification. A majority of the project site is currently situated within "Conservation" District boundaries (Figure 4). Subsequently, the applicant must submit a petition to the Land Use Commission to redesignate a total of 381.4 acres of the 383.8 acre project site to "Urban", which would then allow the proposed action to be in conformance with provisions of the State Land Use law. The subject petition for boundary amendment deals with Phase I of the project, consisting of 201.4 acres.


KAPUNAHALA ELEM SCH.& PLAYGROUND
STREET
KAMEHAMEHA
KANEOHE ELEM. SCH
HAWAIIAN MEMORIAL PARK CEMETERY
HONO RELI
KIONAO
ROAD
HALEKOU
ROAD
STREET
PUAKEA
HECO KOOLAU SUBSTATION
LIKELIKE
BWS KUOU WELL SITE
HIGHWAY
9.5
Ua
ACS.
4 ACS.
15.5
10.5
NOTE : ALL AREAS ARE APPROXIMATE ONLY.

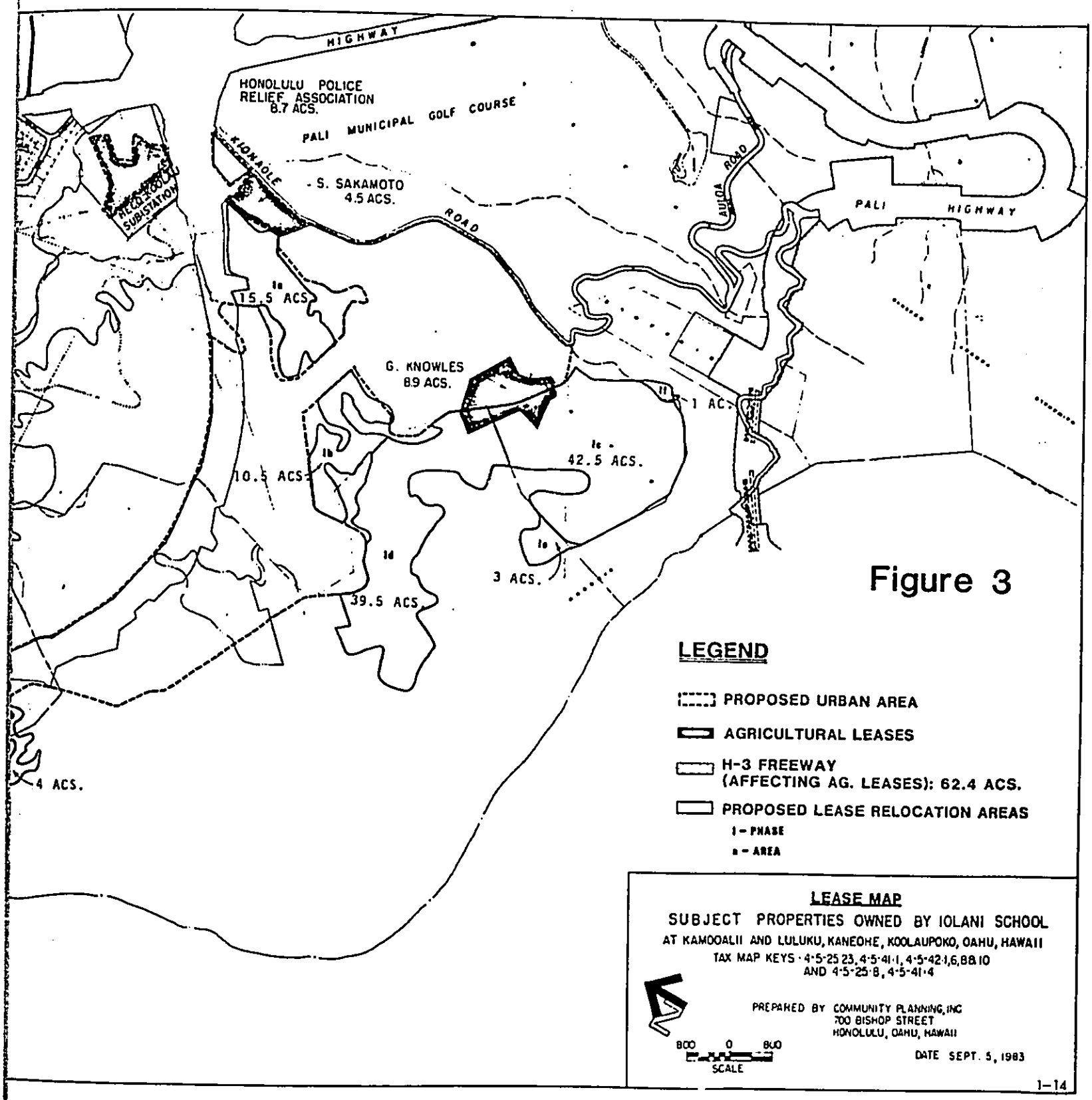

HIGHWAY
HONOLULU POLICE RELIEF ASSOCIATION 8.7 ACS.
PALI MUNICIPAL GOLF COURSE
KIONAOLE ROAD
S. SAKAMOTO 4.5 ACS.
HECO-KOOLAU SUBSTATION
AULOA ROAD
PALI HIGHWAY
15.5 ACS
G. KNOWLES 8.9 ACS.
1 AC.
42.5 ACS.
10.5 ACS
3 ACS.
39.5 ACS
4 ACS.
LEGEND
PROPOSED URBAN AREA
AGRICULTURAL LEASES
H-3 FREEWAY (AFFECTING AG. LEASES): 62.4 ACS.
PROPOSED LEASE RELOCATION AREAS
1 - PHASE
a - AREA
LEASE MAP
SUBJECT PROPERTIES OWNED BY IOLANI SCHOOL
AT KAMOOALII AND LULUKU, KANEOHE, KOOLAUPOKO, OAHU, HAWAII
TAX MAP KEYS · 4-5-25 23, 4-5-41-1, 4-5-42-1,6,8&10
AND 4-5-25-8, 4-5-41-4
PREPARED BY COMMUNITY PLANNING, INC
700 BISHOP STREET
HONOLULU, OAHU, HAWAII
800 0 800
SCALE
DATE SEPT. 5, 1983
1-14

Figure 3

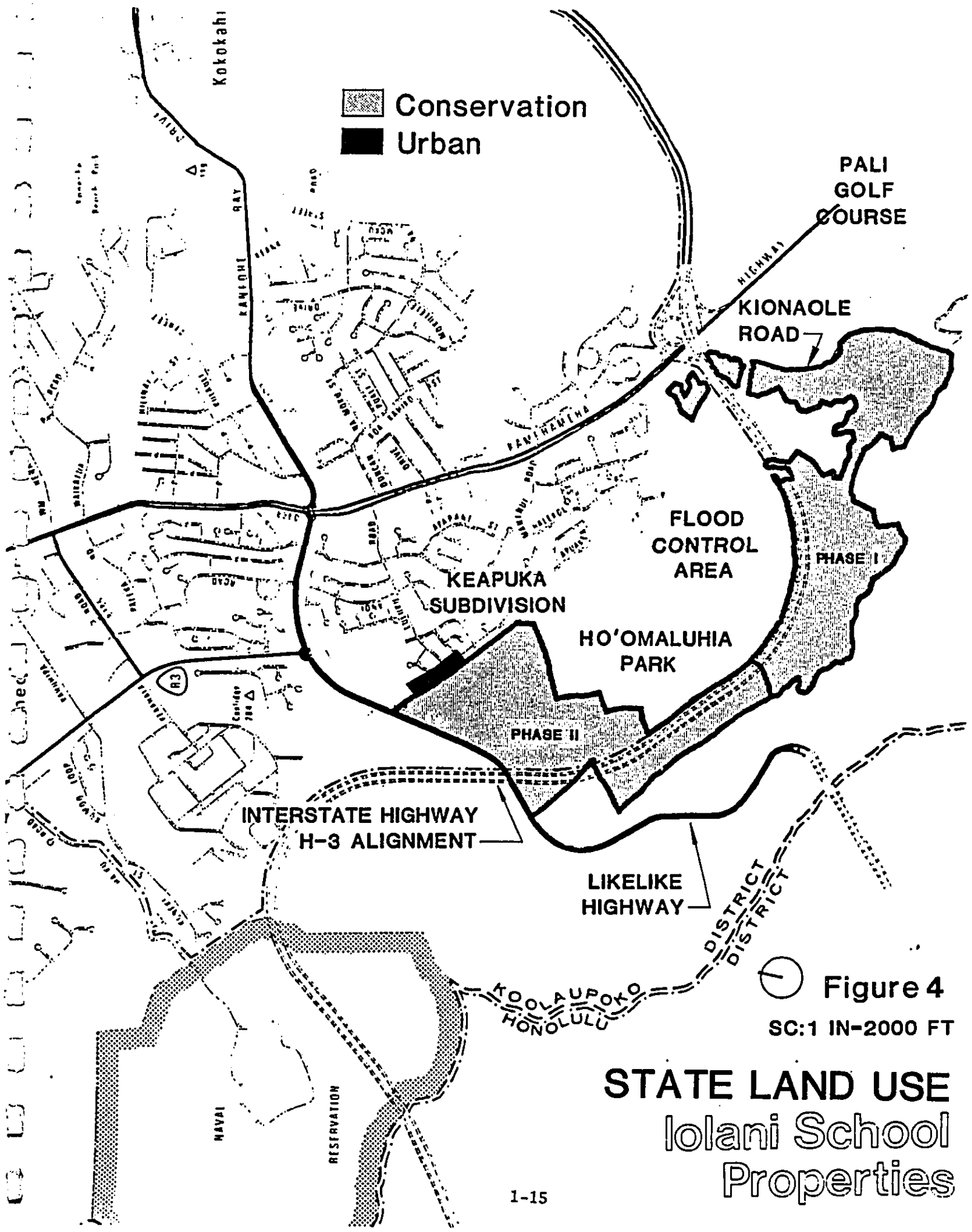


Figure 4

SC:1 IN=2000 FT

STATE LAND USE
Iolani School Properties

The area of each land use designation for the total parcel is as follows:

a)	Urban	2.4 acres
b)	Conservation	973.2 acres

2. Agricultural Lands of Importance in the State of Hawaii (ALISH). The project sites are characterized by "other important agriculture" and "prime agriculture" designated lands (Figure 5). However, with the final implementation of the proposed action, only an insignificant fraction of these designated lands will affect Oahu totals. The other important agriculture designated lands constitute approximately 152.8 acres of the subject lands or .7 percent of Oahu's total, while the prime agriculture designated lands comprise 169.2 acres of subject lands or .3 percent of Oahu's total (Evaluation Research Consultants,1981).

3. Interim Statewide Land Use Guidance Policies. The Interim Statewide Land Use Guidance Policies were established pursuant to Chapter 205, Hawaii Revised Statutes and are utilized by the State Land Use Commission as criterion for their decision-making. The following discusses how the proposed action complies with the policies:

   a. "Land use amendments shall be approved only as reasonably necessary to accommodate growth and development, provided there are no significant adverse effects upon agricultural, natural, environmental, recreational, scenic, historic, or other resources of the area."

      The project is consistent with this policy.

   b. "Lands to be reclassified as an urban district shall have adequate public services and facilities or as can be so provided at reasonable cost to the petitioner."

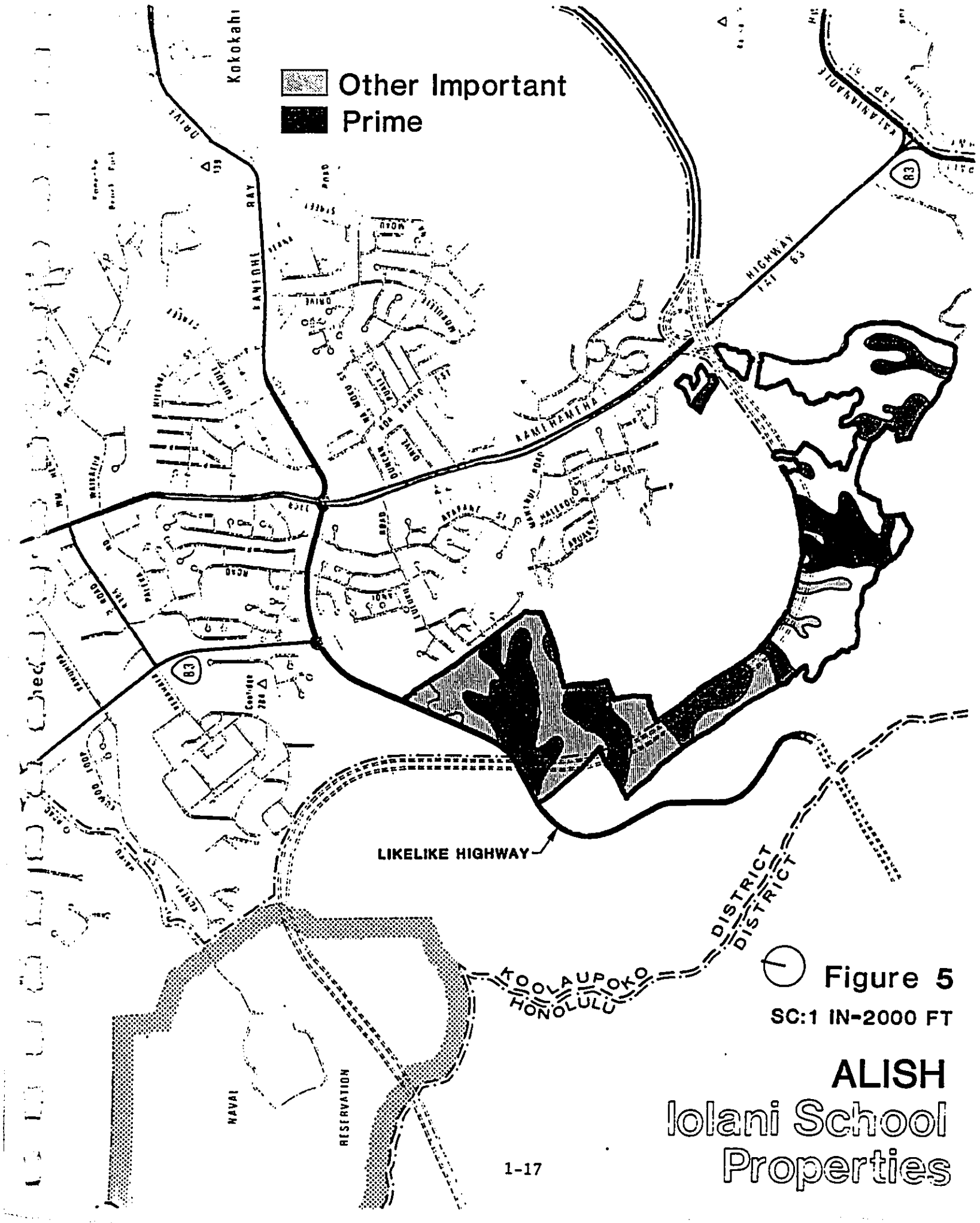


Figure 5

SC:1 IN=2000 FT

ALISH
Iolani School Properties

The project will utilize existing services and facilities and further expand these public improvements to service the project in accordance with all governmental standards and regulations. The cost of these improvements to serve the project area will be borne by the petitioner.

c. "Maximum use shall be made of existing services and facilities, and scattered urban development shall be avoided."

As noted, this project will utilize existing services and facilities. The project does not represent a proposal for scattered urban development, since the adjacent Keapuka and Mahinui Subdivisions are located just north of the project site.

d. "Urban districts shall be contiguous to an existing urban district or shall constitute all or part of a self-contained urban center."

The site is contiguous to an existing urban district as it is within close proximity to the urban centers of Kaneohe and Kailua town. It adjoins the Ho'omaluhia Park and the Pali Golf Course. It is in the vicinity of such residential areas as Keapuka, Luluku and Mahinui.

e. "Preference shall be given to amendment petitions which will provide permanent employment, or needed housing accessible to existing or proposed employment centers, or assist in providing a balanced housing supply for all economic and social groups."

The aim is "affordable housing" and if necessary the petitioner has stated that at least ten percent of the proposed dwelling units will be targeted to lower income buyers and/or offered to State and County housing agencies on a cost plus basis. In summary, the petitioner

is committed to provide a fair share of needed housing to the extent practical.

f. "In establishing the boundaries of the districts in each county, the Commission shall give consideration to the general plan of the county."

The General Plan of the City and County of Honolulu designates this Koolaupoko area of Oahu for urban fringe use. Kaneohe is one of the two "urbanized" areas of this Koolaupoko area. The petitioner's property, located within minutes of Kaneohe town, is feasible for the proposed development.

g. "insofar as practicable conservation lands shall not be reclassified as urban lands."

The petitioner does in fact request reclassification of some conservation district lands to urban. The rationale for this request is described in the project proposal and is based partly on the topography, location and environment of the property. The petitioner's plan proposes substantial "open green space" within the project. In this way, the project is consistent with conservation-oriented land planning and development.

h. "The Commission is encouraged to reclassify urban lands which are incompatible with the interim statewide land use guidance policy or are not developed in a timely manner."

This policy is not applicable to the project site which lies adjacent to an area of existing residential subdivisions.

4. Hawaii State Plan. The Hawaii State Plan identifies the goals, objectives, and policies of the State of Hawaii and serves as a guide for future development. The following are relevant

objectives and policies of the Hawaii State Plan and a discussion of how the proposed action relates to them:

"Greater opportunities for Hawaii's people to secure reasonable priced, safe, sanitary, livable homes located in suitable environmets that satisfactorily accommodate the needs and desires of families and individuals." (Section 19; Objectives and Policies for Sociocultural Advancement-Housing; (a) (1))

The proposed project will increase housing inventory and will provide reasonably priced, safe, sanitary, and livable homes.

"Increase homeownership and rental opportunities and choices in terms of quality, location, cost, densities, style, and size of housing." (Section 19; Objectives and Policies for Sociocultural Advancement-Housing; (b) (3))

The development of the proposed action is sensitive to quality, location, cost, densities, style and size.

To meet the market demand for housing, presently believed to be the low-and moderate-income purchaser, the petitioner desires to market the homes within the affordable price market. In order to meet this demand, the petitioner contemplates a leasehold arrangement for the land for a set period of time, with the right to purchase clause inserted into the lease. The intent of this arrangement is to increase homeowners opportunities.

"Promote design and location of housing developments taking into account the physical setting, accessibility to public facilities and services, and other concerns of existing communities and surrounding areas." (Section 19; Objectives and Advancement-Housing; (b) (5))

The design for the project is based on the premise of locating a variety of unit types on areas that are most able to handle varying densities. Single-family detached units will be sited on the flattest portions of the site where only minimal grading

will be necessary. These areas generally exist along Kionaole Road at the entrance and at at the northern end where open grasslands exist in gentle slopes. On-site areas that are narrow and possess a more varied terrain, will be utilized for neighborhood clusters characterized by higher density unit types, such as duplexes and townhouses. This unique design layout affords flexibility in siting the dwelling units, thereby providing more open space and generating only minimal disturbance to the natural terrain.

5. State Housing Plan. The proposed State Functional Plans are the primary guide-posts for implementing the Hawaii State Plan. They will further define and particularize the State Plan's comprehensive goals, objectives, policies and Priority Directions. Hence, while the Hawaii State Plan establishes overall directions for Hawaii, the proposed State Housing Plan delineates specific objectives, policies and high priority actions with respect to the housing industry to be addressed in seeking to achieve the ideals expressed in the Hawaii State Plan.

The following are relevant policies of the State Housing Plan and a discussion of how the proposed action relates to them:

"Develop greater opportunities for Hawaii's people to secure reasonably priced, safe, sanitary, livable homes located in suitable environments that satisfactorily accommodate the needs and desires of families and individuals." (Objective A)

According to the Hawaii State Plan Survey the needs and desires of Hawaii families and individuals relate to the provision of low-and moderate-income housing. The proposed action will satisfy such needs and desires by providing housing which are reasonably priced, safe, sanitary, and livable.

"Stimulate and promote feasible approaches that increase housing choices for low-income, moderate-income and gap group households." (Objective A, Policy 2)

The proposed project is intended to supply needed housing to all of Oahu, with special attention given to prospective purchasers from the Kaneohe area.

To meet the market demand, presently believed to be the low- and moderate-income purchaser, the petitioner desires to market the homes within the affordable price market. In order to meet this demand, the petitioner contemplates a leasehold arrangement for the land for a set period of time, with the right to purchase clause inserted into the lease. The aims and goals of the petitioner are to provide affordable housing, particularly to meet the needs of the low- and moderate-income family.

"Increase homeownership and rental opportunities and choices in terms of quality, location, cost, densities, style, and size of housing." (Objective A, Policy 3)

"Assist the orderly development of residential area, sensitive to community needs and other land uses." (Objective B)

"Promote design and location of housing developments taking into account the physical setting, accessibility to public facilities and services, employment and other concerns of existing communities and surrounding areas." (Objective B, Policy 1)

The design for the project is based on the premise of locating a variety of unity types on areas that are most able to handle varying densities. The design layout affords flexibility in siting, thereby, providing more privacy, and utilization of streets and utilities.

6. State Water Resources Development Plan. The purpose of the State Water Resources Development Plan is to set forth specific

water-related objectives, policies, programs, and projects to guide State and County governments in implementing the broader objectives, policies, and priority directions of The Hawaii State Plan. By presenting such information, the State Water Resources Development Plan provide a basis for the wise allocation of resources to carry out various State programs in coordination with County activities. The following is an objective that is applicable to the proposed project.

"Assure adequate municipal water supplies for planned urban growth." (Objective D; Water for Municipal Use)

The State Water Resources Development Plan states, "of high priority in the State is the assurance of an adequate supply of safe drinking water to meet increasing demands of urban development." Based on the aforementioned objective and statement, it can be assumed that the project would be given an adequate supply of water, if available.

7. State Agriculture Plan. The purpose of the State Agriculture Plan is to set forth objectives, policies, programs, and projects to guide State and County governments in implementing the agricultural and agriculture-related objectives, policies, and priority directions contained in the Hawaii State Planning Act, also referred to as the Hawaii State Plan, Chapter 226, Hawaii Revised Statutes. The Plan emphasizes, but does not limit itself to, the delivery of services and the allocation of resources by State agencies. In the latter regard, the Plan's recommendations provide broad direction for the State's program budgeting and appropriation process. The Plan also addresses the identification of impacts and potential conflicts between agriculture and other planning efforts and fields of activity. The following is a policy that is applicable to the proposed project:

"Provide suitable public lands at reasonable cost and with long-term tenure for commercial agricultural purposes." (Policy B2; Land)

The Interstate Highway H-3 alignment and the proposed Kamooalii residential development of Iolani School will affect the existing banana farm tenants. It is the intent of the owners to make available lands of 30% slope or less for relocation of the farmers and to provide new leases. It is anticipated that the loss of acreage in banana production could be offset by making available an equal amount of land in the vicinity of the project site. Lease rents should remain comparable with those at the time of relocation.

8. State Conservation Lands Plan. The overall purposes of the Conservation Lands Plan are to particularize and implement The Hawaii State Plan and, in the process, to establish a rational basis for managing the Conservation lands and resources in Hawaii. As population increases and urbanization pressures grow, the need for wise use of land and resources will become greater. This Plan, in consonance with the other plans, serves to direct the growth of Hawaii toward a future preferred by the people of Hawaii. The following are policies that are applicable to the proposed project.

"Protection of rare or endangered species and habitats native to Hawaii." (Objective B, Protection of Endangered Species)

Despite the abundance of vegetation and fauna species found at the project area, no rare or endangered species can be found, thereby, minimizing the project's overall impact on Oahu's inventory of threatened species of vegetation and fauna.

"Control erosion of State lands and forest areas through proper

conservation and management programs." (Policy C2; Management of Open Space, Watersheds, and Natural Areas)

To minimize the occurrence of soil erosion, temporary soil erosion and sediment control measures will be designed and implemented during the construction phase in accordance with Chapter 23, Grading, Soil Erosion, and Sediment Control, Revised Ordinances of Honolulu, 1978, as amended; the City & County of Honolulu's Grading, Grubbing, and Stockpiling Ordinance No. 3968, 1972; and the USDA Soil Conservation Services Erosion and Sediment Control Guide for Hawaii, 1981. Approval by the City & County of Honolulu Department of Public Works will be required to ensure proper grading and erosion control.

"Protect and manage the lands with historic or natural resources value." (Policy C3; Management of Open Space, Watersheds, and Natural Areas)

It is recommended that intensive archaeological surveys be conducted in all portions of the project site before any construction begins.

No construction will take place until adverse impacts on significant archaeological sites have been mitigated.

If any unknown sites are encountered during construction, the State Historic Preservation Officer will be notified.

9. City and County Development Plan. A major portion of the proposed project site not located within the urban area of the Development Plan for Koolaupoko is designated as "Preservation" The proposed action is therefore, inconsistent and the applicant must request a Development Plan Amendment from the City and

County of Honolulu Department of General Planning for residential, park and major roadway uses.

The area of each land use designation for the total parcel is as follows:

a)	Residential	2.4 acres
b)	Preservation	973.2 acres

10. City and County Zoning. The project site is currently zoned "R-5", "P-1", and "AG-1".

The applicant must therefore, apply for a zoning district change, to allow for R-5 Residential uses of the total project site from the City and County of Honolulu Department of Land Utilization.

The area of each existing zoning district for the total parcel is as follows:

a)	Residential R-5	2.1 acres
b)	Restricted Agricultural AG-1	0.3 acres
c)	Preservation P-1	973.2 acres

III. DESCRIPTION OF THE EXISTING CONDITIONS, IDENTIFICATION OF POTENTIAL IMPACTS, AND EVALUATION OF THEIR SIGNIFICANCE

A. Physical Geography

1. Topography

a) Existing. Geologically, the entire area was created by the Koolau volcanic series and was of basaltic origin. The terrain has also been shaped by extensive erosion and sedimentation, and the area is underlain directly by alluvium and perhaps members of the Honolulu volcanic series. The project site varies in elevation from 150 to 175 feet above mean sea level. The slopes on the project site are predominately between 0-20 percent. However, the site has slopes in excess of 20%.

b) Impacts. No hard basalt rocks exist to pose problems regarding construction of foundations, underground utilities or other facilities.

The development plan for the project is based on the premise of locating a variety of dwelling unit types on areas that are most able to handle varying densities. Variables such as existing slopes and grades were therefore, major considerations when the plan was formulated. The plan indicates that development will be more intense in areas characterized by minimal slopes of 20 percent or less. Therefore, it is anticipated that only minor excavation and grading work will need to be done to implement the proposed action. However, other adverse impacts may arise during construction of the project. During grading and excavation activities, the site may become subjected to slight erosion problems.

c) Mitigative Measures. Adverse impacts resulting from excavation and grading activities, such as erosion, may be mitigated by complying with the City and County of Honolulu's Grading, Grubbing and Stockpiling Ordinance No. 3968, 1972 and the U.S. Department of Agriculture Soil Conservation Service's Erosion and Sediment Control Guide for Hawaii, 1981.

2. Climate

a) Existing. The project sites receive approximately eighty-five (85) inches of rainfall per year. Fifty (50) percent of the rainfall is concentrated in the months of January, February, March, November and December. The mean annual average temperature is about 74°F. Winds are tradewinds, blowing predominantly from the northeast directions.

b) Impacts. The proposed action will not affect the climate.

c) Mitigation Measures. None required.

3. Soils

a) Existing. The following details the soil types which comprise the project site (U.S. Department of Agriculture Soil Conservation Service, 1972).

(1) Lolekaa Series: This series consists of well-drained soils on fans and terraces on the windward side of the island of Oahu. These soils developed in old, gravelly colluvium and alluvium. They are gently sloping to very steep. Elevations range from nearly sea level to 500 feet. The annual rainfall amounts to 70 to 90 inches and is well distributed throughout the year. The mean annual soil temperature is 71° F. Lolekaa soils are geographically associated with Alaeloa and Waikane soils. These soils are used

for pasture, homesites, orchards, and truck crops. The natural vegetation consists of guava, Christmas berry, californiagrass, hilograss, and ricegrass.

Lolekaa silty clay, 3 to 8 percent slopes (LoB) - This soil is on terraces and fans. In a representative profile the surface layer is dark-brown silty clay about 10 inches thick. The subsoil is 46 to more than 70 inches thick. The upper part is dark-brown silty clay that has subangular blocky structure, and the lower part is dark yellowish-brown loam that has blocky structure. The substratum is strongly weathered gravel. The soil is strongly acid in the surface layer and strongly acid to extremely acid in the subsoil. Permeability is moderately rapid. Runoff is slow, and the erosion hazard is slight. The available water capacity is about 1.3 inches per foot of soil. Soft, weathered gravel is common in the subsoil but does not affect use and management of the soil for farming. In places roots penetrate to a depth of 5 feet or more.

Lolekaa silty clay, 8 to 15 percent slopes (LoC) - On this soil, runoff is slow to medium and the erosion hazard is slight to moderate. Workability is slightly difficult because of the slope.

Lolekaa silty clay, 15 to 25 percent slopes (LoD) - This soil is on side slopes of terraces and along drainagewas. Runoff is medium, and the erosion hazard is moderate. Workability is slightly difficult because of the slope.

Lolekaa silty clay, 25 to 40 percent slopes (LoE) - Top soil occurs along drainageways and on fans adjacent to the Koolau Range. Runoff is medium to rapid, and the erosion hazard is moderate to severe. Workability is difficult because of the slope.

(2) Kaneohe Series: This series consists of well-drained soils on terraces and alluvial fans on the windward side of Oahu. These soils developed in alluvium and colluvium derived from basic igneous rock. In a few places they developed in volcanic ash and in material weathered from cinders. The soils are gently sloping to very steep. Elevations range from 100 to 1,000 feet. The annual rainfall, which is fairly well distributed throughout the year, amounts to 70 to 90 inches.

The mean annual soil temperature is 71° F. Kaneohe soils are geographically associated with Alaeloa, Lolekaa, and Waikane soils.

These soils are used for pasture, homesites, and urban development. The natural vegetation consists of guava, Boston fern, sensitive plant, glenwood-grass, and hilograss.

Kaneohe silty clay, 3 to 8 percent slopes (KgB) - This soild occupies uniform slopes. Included in mapping were small areas of reddish-colored soils and areas of dark-brown soils that formed in gravelly alluvium. In a representative profile the surface layer is dark-reddish-brown silty clay about 14 inches thick. The soil, 40 to more than 50 inches thick, is dusky-red and dark-red silty clay that has subangular blocky structure. The substratum is soft, weathered gravel. The soil is slightly acid in the surface layer and strongly acid in the subsoil. Permeability is moderately rapid. Runoff is slow to medium, and the erosion hazard is slight. The available water capacity is 1.2 inches per foot in the subsoil. In places roots penetrate to a depth of 5 feet or more. This soil is used for pasture and golf courses.

Kaneohe silty clay, 8 to 15 percent slopes (KgC) - On this soil, runoff is medium and the erosion hazard is moderate. Included in mapping were small eroded spots and gravelly areas.

Kaneohe silty clay, 30 to 65 percent slopes (KHOF) - This soil occurs on terrace faces and along drainage-ways. Runoff is medium to rapid, and the erosion hazard is moderate to severe. Workability is difficult because of the slope.

(3) Hanalei Series: This series consists of somewhat poorly drained to poorly drained soils on bottom lands on the islands of Kauai and Oahu. These soils developed in alluvium derived from basic igneous rock. They are level to gently sloping. Elevations range from nearly sea level to 300 feet. The annual rainfall amounts to 20 to 120 inches. The mean annual soil temeprature is 74° F. Hanalei soils are geographically associated with Haleiwa, Hihimanu, Mokuleia, and Pearl Harbor soils. These soils are used for taro, pasture, sugarcane, and vegetables. The natural

vegetation consists of paragrass, sensitive plant, honohono, Java plum, and guava.

Hanalei silty clay, 0 to 2 percent slopes (HnA) - This soil is on stream bottoms and flood plains.

Included in the areas mapped on Kauai along the Waimea River and in Waipaoiki Valley are small areas where the surface layer is 8 to 10 inches of reddish-brown silty clay. Included in the areas mapped on Oahu were small areas of very deep, well-drained alluvial soils and small areas of very poorly drained to poorly drained clay soils that are strongly mottled and are underlain by peat, muck, or massive marine clay. In a representative profile the surface layer, about 10 inches thick, is dark-gray and very dark gray silty clay that has a dark-brown and reddish mottles. The subsurface layer is very dark gray and dark-gray silty clay about 3 inches thick. The subsoil, about 13 inches thick is mottled, darkgray and dark grayish-brown silty clay loam that has angular blocky structure. The substratum is stratified alluvium. The soil is strongly acid to very strongly acid in the surface layer and neutral in the subsoil. Permeability is moderate. Runoff is very slow, and the erosion hazard is no more than slight. The available moisture capacity is about 2.1 inches per foot of soil. Roots penetrate to the water table. Flooding is a hazard.

Hanalei silty clay, 2 to 6 percent slopes (HnB) - On this soil, runoff is slow and the erosion hazard is slight.

b) Impact. Impact on the soil will result from introduction of soil conditioners and fertilizers, pesticides, herbicides, etc. These conditioners will enhance the grassing and landscaping of the project sites. The introduction of such chemicals however, will not adversely affect the soil.

c) Mitigative Measures. None required

B. Environmental Considerations

1. Air Quality

a) Existing. There exists no long-term air quality monitoring station in the immediate vicinity of the proposed project site. The only monitoring station on the windward side of Oahu is in Waimanalo, approximately 10 miles east-southeast of the project area. However, considering the project site is located on the windward side of the island, away from industrial activity, and is characterized by a minimal amount of adjacent roadways, it is reasonable to assume that present air quality is nearly pristine and is in conformance with existing State Department of Health Standards.

A summary of air pollutant measurements from State of Hawaii long-term monitoring stations nearest the project site is presented in Table 1. Data from six different sampling stations are included in the summary. Data from the table indicate that particulate, sulfur dioxide, nitrogen dioxide and lead levels are well within allowable air quality standards.

Since it now seems likely that H-3 Freeway will be routed through the project area, the impact of this highway in terms of expected worst case carbon monoxide concentrations has been determined using the same computer models and meteorological assumptions presented in the main body of the report.

b) Impacts. The impact of the project on air quality can be considered in two ways: the short-term impact

TABLE 1
SUMMARY OF AIR POLLUTANT MEASUREMENTS
AT NEAREST MONITORING STATIONS

POLLUTANT	1975	1976	1977	1978	1979	1980	1981
PARTICULATE MATTER							
No. of Samples	86	71	51	60	59	57	57
Range of Values	13-65	12-69	14-59	15-61	12-61	10-90	14-78
Average Value	29	25	31	29	30	29	28
No. of times State AQS exceeded	0	0	0	0	0	0	0
SULFUR DIOXIDE							
No. of Samples	81	68	45	57	54	59	56
Range of Values	5-34	5-32	5- 5	5-7	5-16	5- 5	5- 5
Average Value	5	5	5	5	5	5	5
No. of times State AQS exceeded	0	0	0	0	0	0	0
CARBON MONOXIDE							
No. of Samples	169	355	359	365	207	329	216
Range of Values	.9-27.4	.5-24.2	0-19.6	0-20.7	0-17.3	0-3.5	0-4.6
Average Value	6.6	5.4	3.5	3.1	2.9	0.6	1.2
No. of times State AQS exceeded	35	41	22	19	10	0	0
OXIDANT (OZONE)							
No. of Samples	234	322	300	284	338	295	147
Range of Values	6-65	2-127	4-61	10-84	10-80	10-84	10-104
Average Value	25	40	25	33	39	48	37
No. of times State AQS exceeded	0	1	0	0	0	0	1
NITROGEN DIOXIDE							
No. of Samples	88	21					46
Range of Values	5-64	24-61					6-77
Average Value	38	44					25
No. of times State AQS exceeded	0	0					0
LEAD							
No. of Samples			4	1	4	4	1
Range of Values			.48-.89	.72	.25-.42	.20-.41	.25
Average Value			.71	.72	.33	.26	.25
No. of times State AQS exceeded			0	0	0	0	0

Note: Refer to Air Quality Study For the Proposed Kamooalii Development Project; Barry D. Root; May, 1982, for location of monitoring stations.

during the initial construction period, and the long-term impact created by motor vehicles operated by the proposed development's residents.

During construction, it is inevitable that a certain amount of fugitive dust will be generated by the site preparation activities necessary to create suitable home sites in the project area. Assuming rates of dust generation for this project will be similar to other apartment and shopping center construction projects, a yield of approximately 1.2 tons of dust per acre per month will be generated (Root, 1982).

Construction equipment used on site will emit some air pollutants in the form of engine exhausts. The largest equipment, is generally diesel-powered. However, for this equipment, individual carbon monoxide emission rates are no greater than those for an average automobile, still, nitrogen dioxide emissions can be quite high. Fortunately, nitrogen dioxide emissions from other sources in the area should be minimal and the overall pollutant emissions from construction equipment should be minor compared to levels generated on the nearby Likelike Highway.

Long-term impacts resulting from the completion of the proposed project and subsequent occupation will include the increased level of carbon monoxide, hydrocarbons, and nitrogen oxides into the air. When the project is completed and the homes occupied, the project will not in itself constitute a significant direct source of air pollutant emissions, but by serving as an origin for residential use and thereby, facilitating vehicular activity, the project will serve to increase air pollutant emission levels in the project

area. However, recent Federal mandates have been written to decrease such emissions originating from vehicles. The major control measure designed to reduce vehicular lead emissions is a Federal law requiring the use of unleaded gasoline in most new automobiles. As older cars are gradually removed from the vehicle fleet, lead emissions should decrease substantially. Federal control regulations also call for increased efficiency in removing carbon monoxide from vehicle exhausts. By the year 2000, carbon monoxide emissions from the vehicle fleet then operating should be about half the levels now emitted. Decreases in hydrocarbon and nitrogen oxide emissions have been mandated as well.

With increasing pressure to achieve greater fuel economy and to aid economically-troubled auto makers, there will be a continuing tendency on the part of the U.S. Congress to relax or even eliminate some existing air pollutant emission goals. It is thus difficult to forecast future vehicular emission rates with any degree of certainty. It seems logical, however, to conclude that if each year's crop of new vehicles burn less fuel to travel the same distance, then fleet emission rates should also decrease each year as older, less efficient vehicles are removed from the roadways.

For these computations the nearest edge of the project site to a lane of traffic on the H-3 Freeway has been determined to be a little over 20 meters. Traffic volumes for peak hour conditions in the year 2000 are presented in the H-3 Environmental Impact Statement to be 10,891 in the peak direction and 3,556 in the off-peak direction. These volumes have been combined with projected 1992 vehicular emission rates to produce

worst case peak hour emissions assuming vehicular speeds of 35 mph in unimpeded flow.

The minimum configuration for H-3 through the project area is likely to be five lanes in each direction with a median at least two lanes wide. The evening peak traffic condition would produce maximum impact on the Kamooalii side of the highway with light tradewinds blowing at an angle of 45 degrees to the roadway.

Using these assumptions, the following carbon monoxide concentrations have been computed for 1992:

PEAK ONE HOUR CARBON MONOXIDE CONCENTRATION:
8 mg/m3

PEAK EIGHT HOUR CARBON MONOXIDE CONCENTRATION:
4.8 mg/m3

These levels are within acceptable State and Federal AQS.

c) Mitigative Measures. The only direct adverse short-term air quality impact that the proposed project is likely to create is the emission of fugitive dust during the demolition and construction phases of the project. Primary control of this impact, consists of wetting down loose soil areas with water, oil, or suitable chemicals. An effective watering program can reduce particulate emission levels from construction sites by as much as 50 percent (Root, 1982). Other control measures include good housekeeping on the job site and pavement or landscaping of work areas as quickly as possible. Should these control measures fail to prevent nearby residents from being exposed

to excessive levels of suspended particulate matter, then it might also be necessary to erect dust catching barriers between active work areas and affected residents.

Once completed, the proposed project is expected to have minimal impact on the air quality of the surrounding region. The only potential long-term indirect air pollution contribution likely to be made by this project will be increased exhaust emissions from the traffic attracted to the project. However, except for periods of exceptional traffic congestion, these vehicular emissions in and around the project area are expected to be well within allowable air quality standards and no special mitigative measures seem necessary. It is worth noting, however, that landscaping of sufficient density to serve as windbreaks, can act as filters to screen some particles and carbon monoxide from the air. Early establishment of landscaping of this nature can, therefore, help to mitigate the potential impact of airborne contaminants in the project area.

It is suggested, however, that as much tall, dense landscaping as possible be provided to help mitigate the air quality impact of H-3 on those future residents of Kamooalii who will be residing nearest to the edge of the roadway.

2. Noise Quality

a) Existing. No estimation of noise measurements was taken for the purposes of this Assessment. However, due to the absence of significant development in adjacent areas, it can be assumed that excessive noise levels are minimal. The inclusion of the State's H-3

highway alignment on an adjacent corridor parallel to the proposed project, creates potential problems to the project in terms of highway noise impacts.

Review of the EIS prepared for the H-3 route dated June 3, 1982 and titled "DRAFT SECOND SUPPLEMENT TO THE INTERSTATE ROUTE H-3 ENVIRONMENTAL IMPACT 4 (f) STATEMENT (1982), Report Number FHWA-HI-EIS-82-01-D (S) INTERSTATE ROUTE H-3 HALAWA TO HALEKOU INTERCHANGE" provided the following extract data. (pages B-95 to B-103) Civil No. 72-3606 AFFIDAVIT OF MARTIN RUBIN. In summary, the data extracted stated "that a noise contour study has been conducted for the project and included an examination of the project that skirts the Ho'omaluhia area. The alignment along this section of the project traverses very irregular terrain. Due to this terrain the roadway is located at a higher elevation than the terrain of Ho'omaluhia. This has the effect of attenuating noise levels emitted from vehicles on H-3. Thus the L_{10}=70dBA contour remains relatively close to the H-3 right-of-way, and at the maximum extends approximately 100 feet beyond the right-of-way."

We have included also a copy of a table which defines the various dBA levels. It is attached as Table 2.

b) Impacts. During construction, there is likely to be noise generated from excavation, foundation, erection, and finishing activity.

After completion of the project, the impact of noise levels are not expected to be significant, since increased noise levels will be generated only during peak hour traffic flows.

TABLE 2

TYPICAL FLUCTUATING NOISE LEVELS

$dBA^{L}10$	NOISES
120	Loud Band
110	
100	
90	
	Noisy Urban Daytime
80	Shouting at 3 feet
70	Exterior FHWA Standard
	Normal Speech at 3 feet
60	Quiet Urban Daytime
	Interior FHWA Standard
50	Quiet Urban Nightime
40	
	Quiet Rural Nightime
30	
20	
10	
0	

The State Department of Health does not have regulations which cover the impacts of vehicular noise on adjacent residential sectors. The regulations that are of record, deal with vehicle noise as a problem of the vehicle itself and not from an impact to specific sectors such as residential, commercial, etc. The compatability of highway corridor alignments and adjacent residential sectors are subject to review by the Department of Health however, and they comment on the potential impacts and recommend mitigative measures based on their understanding of the potential impacts.

The proposed project will be in comformance with the 1976 Air Installation Compatibility Noise Zone (AICUZ) for the Kaneohe Marine Corps Air Station.

c) Mitigative Measures. Adverse noise impacts resulting from the proposed project are expected to be rather limited. Subsequently, few special noise mitigation measures appear necessary. However, four methods for minimizing noise may be undertaken to reduce noise generation during construction. These include the: placing of mufflers on construction machinery, equipment, etc.; instructing of workers to avoid unnecessary "gunning" of construction equipment and to turn off equipment when not in use; creating of earth berms which would absorb some of the noise; and conducting of construction activity during daylight hours, between 8:00 a.m. to 5:00 p.m. In addition, noise generated by the project must conform to the State Department of Health's Title II, Administrative Rules, Chapter 42, Vehicular Noise Control for Oahu, and Chapter 43, Community Noise Control for Oahu. A noise permit for the proposed project will be required from the Noise and Radiation Branch of the Department of Health.

Mitigative measures to reduce excessive vehicular noise levels after completion of the project are not necessary, since long-term noise impacts were assumed to be insignificant.

3. Water Quality

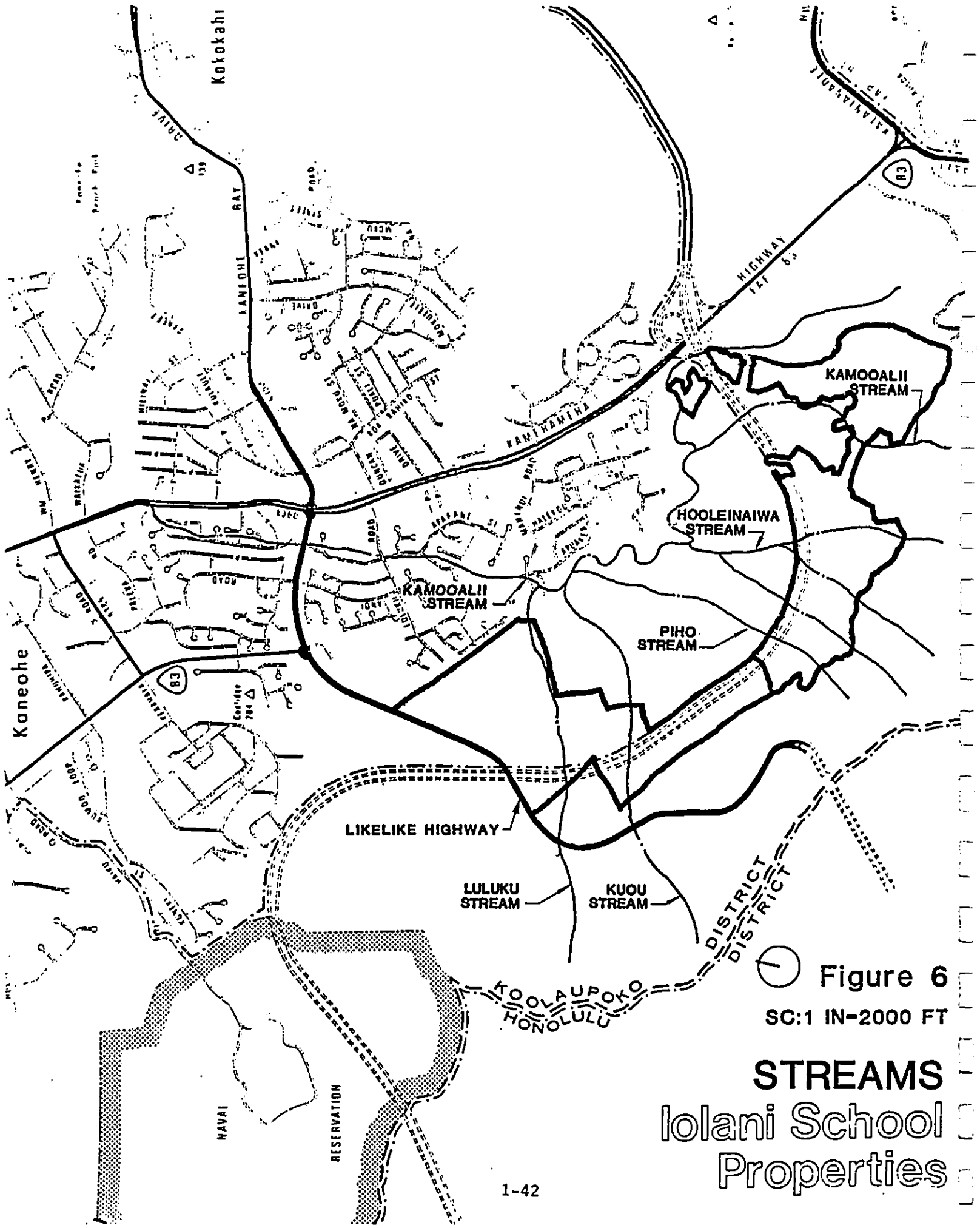
a) Existing. The proposed project is situated in the 5.8 square mile Kamooalii-Kaneohe drainage area, which is the southern most of 10 defined drainage areas comprising the approximately 40 square mile Kaneohe Drainage Basin. Several streams flow through or by the project sites and discharge into Kaneohe Bay (Figure 6).

The State Department of Health has classified the waters of Kaneohe Bay in the class AA zone, with the intent that the Bay retain its pristine state as much as possible. The streams that empty into the Bay are subject to class 2 standards and are to be protected for recreational purposes, propagation of fish and other aquatic life, and agricultural and industrial water supply.

b) Impacts. During construction, impacts to surface and groundwater are anticipated to be minimal, since the soils found at the project site possess limited erosive characteristics.

According to Stephen P. Bowles, groundwater recharge consultant, "The proposed residential development of Iolani School is generally located within an area of groundwater discharge. Water development is presently limited to the two Kuou wells, located within Phase II B in the northern portion drainage basin.

In a 1969 study of the area, by the U.S. Geological


Kokokahi
Kaneohe
KANEOHE BAY DRIVE
KAMEHAMEHA HIGHWAY
KAMOOALII STREAM
HOOLEINAIWA STREAM
PIHO STREAM
LIKELIKE HIGHWAY
LULUKU STREAM
KUOU STREAM
KOOLAUPOKO DISTRICT
HONOLULU DISTRICT
NAVAL RESERVATION
Figure 6
SC:1 IN=2000 FT
STREAMS
Iolani School Properties

Survey (Takasaki, Et.Al., 1969), detailed low flow measurements on all tributary streams are reported. As indicated in the U.S.G.S. report, the area below an elevation of 500 feet is best described as a groundwater discharge area at the present stage of groundwater development.

The Board of Water Supply is proposing a number of wells for the area. Depending on the quantities of groundwater developed by the wells, portions of Luluku-Kamooalii basin may change from discharge to recharge systems. The extent of the reversal is dependent on the final location of wells and the quantity of water pumped.

Based on the information contained in the 1969 U.S.G.S. report and the proposed location of B.W.S. wells, it is doubtful that the proposed residential development would have any impact on the groundwater, other than an increase in demand. The existing and proposed B.W.S. well locations can be relocated in order to minimize any potential conflicts (See Exhibit A)."

After completion of the project, impacts to surface and ground water quality are also anticipated to be minimal, since the proposed action will include only residential activity.

Due to the underlying geological formations, the proposed developed project area may be considered to be situated over a groundwater recharge area. Developments over a recharge area will, in most situations, unless provisions have been made otherwise, result in a decrease in groundwater recharge potential directly under the developed area.

Under natural and modified surface conditions, it is difficult to accurately estimate the quantity of surface applied water that is reaching the usable groundwater reservoir. The actual amount of groundwater recharge is basically a function of the local hydrologic cycle, which involves the interrelationships of precipitation, evaporation, runoff, and infiltration. The greater the intensity and/or quantity of precipitation (essentially rainfall on Oahu), the greater will be one or more of the other three hydrologic factors. The more intense and/or the longer the duration of the storm, the greater is the percentage of runoff in comparison to the infiltration.

All four interrelated hydrologic factors have literally thousands of combinations which alter their percentage quantities, based on rainfall. For example, infiltration is dependent on not only the intensity and/or amount of rainfall, but also on the soil type, anticedent soil moisture content, underlying geologic features, slopes, and vegetation cover, just to mention a few. On a very simplistic basis, evaporation from a free water surface is primarily dependent on temperature, wind, and humidity. However, when vegetation is involved, a portion of the infiltrated water is taken up by the vegetative root system and evaporated from the plants surface. Vegetative evaporation is known as transpiration, but due to the mere impossibility of segregating evaporation from transpiration when vegetative surfaces are involved. On Oahu, studies have shown that evaporation rates approach or equal the rates from the standard class A U.S. Weather Bureau Evaporation Pan.

For comparative purposes, long-term recharge rates could be considered to be the difference between the

annual rainfall and the evapo/transpiration rate (Evaporation pan percentage), less the resulting runoff. Low-intensity, short-duration rainfall on relatively dry soil would probably not produce any runoff or infiltration. Thus, for infiltration and/or runoff to occur, sufficient rainfall would have to be applied for the given set of conditions. The proposed project site is situated in an area that receives an average annual rainfall of approximately 85 inches. Published up-to-date pan evaporation rates for the region are not readily available, but comparison with the closet sites indicate that the rates should be at at least 45 inches annually. Thus, the potential water for runoff and infiltration would be approximately 40 inches. However, it is not anticipated that all of this potential water would be lost since: (1) During dry weather conditions, the residents of the development would be expected to water their lawns, shrubbery etc., which could lead to additional infiltration; (2) A sizeable portion of the water running off the areas of impervious surfaces within the development would flow onto adjacent pervious surfaces, such as lawns, gardens, etc., which should enhance infiltration over this area; (3) The runoff generated from the project flows into the newly constructed Kaneohe Flood Control Reservoir, behind a 76 ft. dam which maintains a permanent surface area of 26-acres and up to 152 acres under maximum reservoir conditions. Thus, additional infiltration should result unless the bottom surface is completely sealed; and (4) Over 70% of the water in the streams draining the Ko'olaupoko District, in which the project is located, originates from groundwater sources.

c) Mitigative Measures. The impact of construction activities can be minimized by adhering to strict erosion control measures, particularly those specified in the

City and County of Honolulu's grading, grubbing, and stockpiling Ordinance No. 3968, 1972; the State Department of Health's Water Quality Standards, Chapter 37-A, Public Health Regulations, 1968; and the USDA Soil Conservation Service's Erosion and Sediment Control Guide for Hawaii, 1981.

4. Aesthetics, Scenic Views, and Visual Landscape

a) Existing. The project sites are bounded on the west and south by the "palis," cliff-like remnants of the volcanic cones of the Koolau Mountain Range, on the east by the Pali Golf Course and the crenulated walls of the Halekou or Kaneohe volcanic cone, and on the north by an existing urban development and Kaneohe Bay.

b) Impacts. The proposed action, if implemented, will encroach into the existing open lands. Construction of the propcsed project will also not affect views of the Koolau Mountain Range, since building heights of the proposed structures are limited and consistent with single-family dwelling units.

The residential clusters of Phase I of the development will be visible from the Pali Lookout, with the rooftops of residences as the primary feature. The rooftops would be seen intermittently behind mature trees and vegetation which surround each residential cluster. Landscape treatment on individual lots and street trees will result in a further blending of the residences into the surrounding landscape. The separation of each cluster by open space will reduce the visibility of the total development and afford a blending of these new urban features into the open space and vegetation elements of the view.

Phases IIA and IIB of the proposed project are in the background portions of the panorama, beyond Ho'omaluhia Park and the dam, which is a dominant feature in the view perspective. These residential portions of the project will appear as a contiguous extension of existing residential subdivisions located makai of the park.

With the inclusion of the proposed Kamooalii project of Iolani School, the panoramic view is altered primarily by the Phase I residential clusters, which are in the foreground. The visual presence of this type of preferred development will be softened by intervening open space and landscape materials. The other dominant elements of the view remain unchanged. These include the Ho'omaluhia Park and Pali Golf Course open space, the Koolau palis, and the urban form of the various existing Kaneohe residential subdivisions (See Exhibit H for panoramic view from Nuuanu Pali Lookout).

c) Mitigative Measures. None required.

5. Flood Hazards

a) Existing. The Kaneohe area has had a long history of intense rainstorms and frequent devastating floods. Since 1952, nine major floods have occurred causing considerable property damage and the loss of two lives.

The sites for the proposed development increments are classified Zone D, or areas of undetermined but possible flood hazards, according to the Flood Insurance Study for Oahu prepared by the Federal Insurance Administration.

b) Impacts. The U.S. Army Corps of Engineers, after the 1969 floods, implemented and completed the Kaneohe Flood Control Project, which created a retention dam

and a reservoir at the headwaters of Kaneohe Stream, and channel improvements to the stream outlet at Kaneohe Bay, to provide flood protection for the highly urbanized areas in the Kaneohe region.

The dam protects only those areas downstream of the dam. Those areas are designated Zone C, or areas of minimal flooding.

Runoff from the proposed project would be directed to the tributaries flowing into Ho'omaluhia Park and thus, protect the existing residential sites from flooding.

c) Mitigative Measures. Improvements relating to drainage is discussed on page 1-68, Drainage.

6. Archaeological Sites

a) Existing. A literature search and walk-through reconnaissance survey was completed for the project site Iolani School Lands.

The literature search uncovered previous archaeological investigations in adjacent areas that were conducted in 1976, 1977, and 1982. These investigations included the 1976 Bernice P. Bishop Museum publication entitled

Archaeological Investigations in Upland Kaneohe, edited by Paul H. Rosendahl; the 1976 report entitled "Archaeological Reconnaissance Survey of the Windward Portion of Route H-3" by Paul Cleghorn and Elaine Rogers-Jourdane; the 1977 manuscript entitled "Archaeological Phase I Survey of the Windward Portion of Proposed Interstate H-3: Halekou Interchange to Windward Portal of Koolau Tunnel, Oahu", by Thomas Dye; and the "Archaeological Reconnaissance Survey

for Route H-3 (Alternative A)", by Charles Streck. The Rosendahl volume reported the presence of four sites, consisting of terrace complexes, rockmounds, a stone alignment, a retaining wall, and an oven for manufacturing charcoal. The Cleghorn and Rogers-Jourdane report noted the discovery of two tentatively prehistoric sites, which consisted of human burials.

The following details a description of each archaeological site as provided by the Rosendahl and Dye reports:

Site 53: Stone and Concrete Oven for Charcoal Manufacture

This modern feature is an oval dome with stone lining in the inner walls and a concrete dome ceiling with an iron plate sandwiched between the concrete. The whole structure, except for the upper part of the dome, is dug into a slope. It measures 6.4 meters long, 3.6 meters wide, and 2.25 meters high to the apex of the dome. There is one opening measuring 1.55 meters by 60 cm and the wall thickness is built out to 55 cm here. The rest of the structure has a thickness of about 18 cm. At the back, opposite the entrance, is a small rectangular opening 20 cm wide by 15 cm high and going back 30 cm into the wall; this was probably the chimney. The sides are lined with uniformly round stones and some larger basal stones. From the floor to the concrete ceiling are six to eight layers of stones of single thickness. Above the walls on either side are located three vent holes 12 cm in diameter. On the basis of large amounts of charcoal present on the floor and accounts of informants, it was verified that the function of this structure was a charcoal-making oven of recent historic origin.

Site 54: Large Terrace Complex

This site is the most extensive multiple-feature site found. At present six or more large, rock-wall-reinforced terrace areas can be seen. In addition, there are more than 10 other features that include smaller individual plots, terraces, platforms, and retaining walls.

Three Kamooalii tributaries flow through the complex, providing ample irrigation, and join at the lower margin of the complex. These streams divide the complex into two areas. One is a long, narrow strip defined on both sides by the stream gullies, and most of the smaller terraces are located here. On the opposite bank is a larger, somewhat higher, flat area with the larger terraces. Although purely hypothetical at this time, the locations of the smaller terraces which appear more suited for dry cultivation. It is quite possible that the upper reaches of this complex were destroyed during the construction of a jeep road that goes through there.

Site 56: Terrace Complex

This complex is comprised of four separate features situated on a flat at the base of a rise. They seem to be small terrace outlines with some disturbance.

Site 57: Terrace Complex

Probably associated with the Site 56 complex, this appears to be a large site, roughly in the shape of a quadrilaterial, with several interrelated and interconnected features. The outer perimeter measures 4.3 by 18.7 by 17.3 by 25.5 meters. This quadrilateral runs downward along the slope of the land and ends at the flat fronted by the old jeep road. Most of the features fall within the lower half of this area, which is covered by a grove of kukui and mountain apple (Eugenia mallaccensis) trees--sometimes also called Malay apple. The origin, date, and function of this site are unknown, but some of the features suggest agricultural forms.

Site 58: Possible Terrace and Two Rock Mounds or Piles

These features are located directly across the jeep road from Site 57, described above. An ill-defined alignment of stones 11 meters along with a width of 20 cm suggests a badly disturbed terrace. Two piles of small stones 1.65 meters apart and 1 meter from the stream bank are located 11.8 meters due S of this alignment. The larger pile measures 2 meters in diameter with a height of 25 cm, and the smaller measures 1.3 meters by 20 cm.

Site 59: Stone Alignment With Some Features

This site is probably a badly disturbed terrace border.

Sporadic stones define two alignments, 3.8 and 6.5 meters long, respectively, with a width of about 15 cm. A mound of small stones lies in the middle of the longer alignment. A few other stones can be seen in a poorly defined alignment nearby.

Site 60: Retaining Wall

This is a poorly defined, discontinuous stone wall on the W bank of Kamooalii Stream at the inland margin of the first terracette above the stream. The wall is constructed of various-sized stones and is 60 cm (maximum) high.

Site 61: Stone and Concrete Oven for Charcoal Manufacture

This site is similar to Site 53, except that the dimensions are slightly smaller.

Site 62: Retaining Wall

This is an L-shaped retaining wall located 15 meters E of Site 61. Its perpendicular situation in relation to the stream suggests its being a terrace border. The longer portion of the wall (12.1 meters long) is oriented 110° W, but the remaining stonework measures only 7.6 meters in length. It is built of two layers of large, rectangular stones, 30 cm high, which slant into the higher earth bank. The other portion of the wall--2.7 meters long, 20 cm high, and 1 meter wide-shows a marked difference in construction, utilizing small stones.

Site 63: Terrace Complex

This complex--located across the stream from Site 62 and on a point of land defined by a sharp bend in the stream--is comprised of two separate, very crude features that indicate small terraces and stone-bordered plots.

Site 64: Enclosure and Platform

This site is located at the edge of a large kukui grove near several small grassy clearings. Four stone walls roughly define a four-sided structure measuring 30 cm high by 2.9, 2.4, 3.2, and 2.9 meters.

Attached to the exterior of the SE wall is a low (10 cm), rectangular platform 2.1 meters in length by 1 meter in width, which borders a depression or pit 50 cm square.

Another stone platform, 35 cm in height and L-shaped, lies 3.5 meters from the NE wall. The base of the L, nearest the enclosure, measures 2.4 meters in length; the longer arm, oriented 30° E, measures 6.5 meters long, and both are 1.5 meters wide. Intact sections indicate a two-layer construction of stones. On the eastern side of the longer segment, 4.5 meters from the base of the L, is an indentation 80 cm square.

The size of this site and the probable association between the enclosure and the platform suggest a religious function rather than an agricultural or habitational one. Its cultural origin is probably Hawaiian.

Site 65: Ditch System

North of the kukui grove mentioned in the description of Site 64 is a steep embankment about 3 meters high, which divides this upper area from the lower flood plain created by the stream flowing below the eastern side of the grove. Located atop this embankment is a ditch 30 meters long, 2 meters wide, and 50 cm deep. It starts at the lower margin of the kukui grove near the stream and parallels the embankment until the steepness modifies to a gradual slope. The ditch fronts a natural flat terrace area W of the kukui grove.

Two possible walls located along the ditch on the extremities of this terrace suggest its possible agricultural function, in addition to the various taro and 'ape that grow in the ditch and throughout the whole terrace area as well.

Another smaller channel flows perpendicularly into the larger ditch about 10 meters from the latter's point of origin.

Site 68: Platform

This site is a small, crude, and deteriorated platform.

Site 71: Terrace and Platform

This series of four rectangular terraces and four platforms is on a small knoll just south of Likelike Highway. The two northernmost platforms are depressed in the center, and in the next-to-bottom terrace is a fine-grained basalt stone, set upright in the middle of the mauka wall. Overall dimensions are 16.15 meters along a-a, 6.15 meters wide at the N edge, with a rise of 2.65 meters from S to N for a slope of 16 percent.

The Streck document determined the possibility of the following two sites being located within the project boundaries:

Possible Site No. 1

Disturbed possible agricultural area.

Site 50-Oa-G5-78

Probable agricultural terraces and alignments and two basalt-lined depressions.

Figure 7 presents the locations of these sites relative to the project area.

b) Impacts. Possible Site No. 1 appears to be located within the area proposed for development. The remaining archaeological sites are either situated outside of the project boundaries or in areas proposed for open space.

c) Mitigative Measures. It is recommended that intensive archaeological surveys be conducted in all portions of the project site before any construction begins.

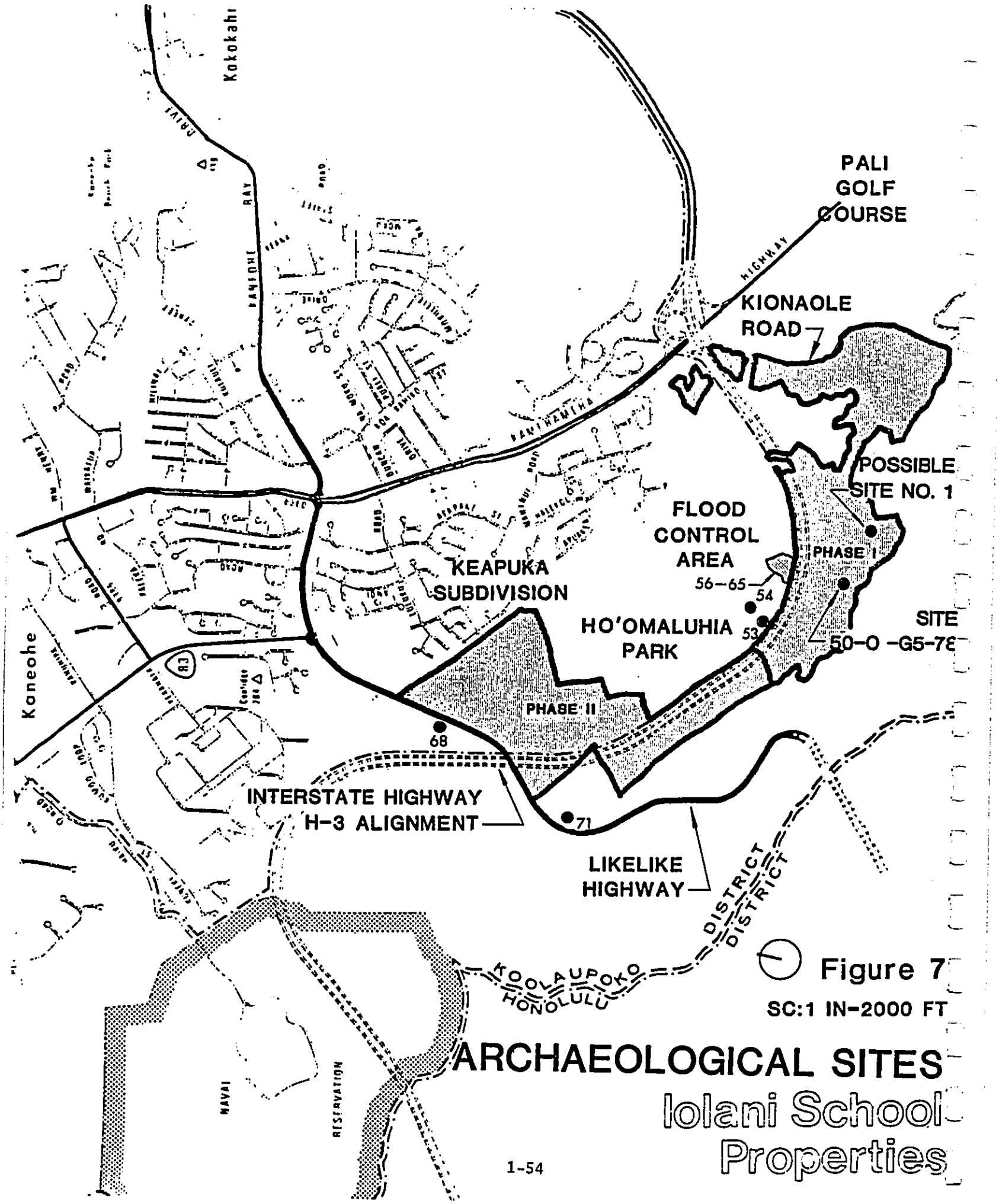
No construction will take place until adverse impacts on significant archaeological sites have been mitigated.

If any unknown sites are encountered during construction, the State Historic Preservation Officer will be notified.

C. Biological Considerations

1. Agricultural Significance

a) Existing. A literature search and walk-through survey, entitled A Botanical Survey of Iolani School


Kokokahi
PALI
GOLF
COURSE
KIONAOLE
ROAD
POSSIBLE
SITE NO. 1
PHASE I
FLOOD
CONTROL
AREA
56–65
54
53
KEAPUKA
SUBDIVISION
HO'OMALUHIA
PARK
SITE
50-O -G5-78
Koneohe
PHASE II
68
71
INTERSTATE HIGHWAY
H-3 ALIGNMENT
LIKELIKE
HIGHWAY
DISTRICT
DISTRICT
KOOLAUPOKO
HONOLULU
Figure 7
SC:1 IN-2000 FT
ARCHAEOLOGICAL SITES
Iolani School
Properties
NAVAI
RESERVATION

Lands Proposed for Residential Development, Kaneohe-Kailua, Oahu, prepared by Winona P. Char, were completed for the project site.

While there were no studies found that dealt specifically with the entire proposed project area, a number of studies have been done on adjacent areas and portions of the project sites. The "Interstate Route H-3 Environmental Impact Statement", prepared by the Department of Transportation in 1974, provided brief descriptions of vegetation types, largely banana fields, that were present within parts of the project site. The "Supplemental Environmental Statement for Flood Control and Allied Purposes for the Kaneohe-Kailua Area, Oahu, Hawaii, prepared by the U.S. Army Corps of Engineers, in 1965, found that vegetation in the adjacent Ho'omaluhia Park Project, consisted largely of introduced species. The project area, except for the steeper slopes, had been under taro, rice, pineapple, sugar, or banana cultivation in the past.

The intensive walk-through survey that was completed for the project sites indicated an abundance of vegetation types. Specifically, five introduced species form most of the dominant vegetation. Figure 8 presents the location of these vegetation types. A description of each type is as follows:

Banana farmland (B)

Large fields of banana are cultivated in the Phase IIA area, on the less steep slopes. A number of small streams run through the fields. A few small areas contain truck gardens. The residences of the local farmers and storage areas for farm equipment can also be found.

Guava (*Psidium guajava*) and Java plum (*Eugenia*

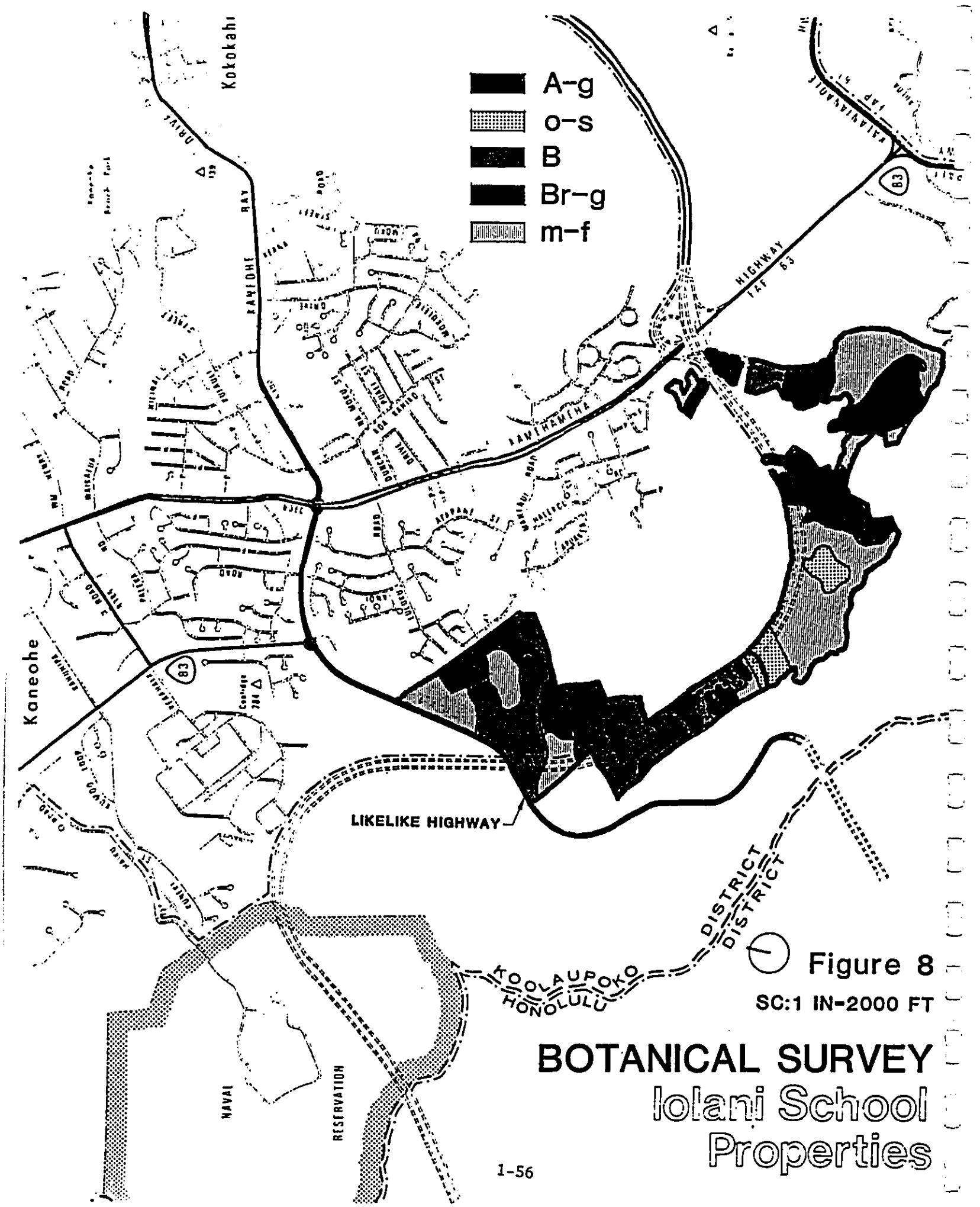


Figure 8

SC:1 IN-2000 FT

BOTANICAL SURVEY

Iolani School Properties

cuminii) thickets are found along the fields bordering the highway. Steeper areas within the banana fields are not cultivated. These gulley areas and steep banks usually support a mixture of tree species and shrubs. Large patches of Brachiaria grassland are found in marshy, low-lying areas within the banana fields.

Brachiaria grassland (Br-g)

Brachiaria mutica or Californiagrass occurs in both well-drained areas or in low-lying wet areas.

In the well-drained Phase I site, extensive areas of Brachiaria grassland were once used for grazing cattle; remnants of barbed-wire fencing can be found around the peripheries of these grasslands. Rather extensive patches of molassessgrass (Melinis minutiflora) are found in association with Brachiaria. A few small shrubs of guava, 1 to 2 meters tall, and patches of swordfern (Nephrolepis exaltata) are found scattered throughout the grassland. In some areas scattered clumps of Java plum trees, 7 to 9 meters tall, form a cover of 30 to 40 percent and the grasslands become savannahlike.

Brachiaria grasslands can usually be found in wet or low-lying areas within the Phase IIA and IIB sites. Standing or moving water is always found. Plant species associated with wetlands such as the primrose willow (Ludwigia octivalvis), job's tears (Coix lacrymajobi), and paco (Athyrium esculentum) are frequently found. The native pink hibiscus (Hibiscus youngianus) can be found along the peripheries of Brachiaria grassland located across from the Ho'omaluhia Park headquarters.

Andropogon grassland (A-g)

Andropogon virginicus or broomsedge grassland occurs only within one site of the project area--on the well-locates southeast of the Ho'omaluhia riding center. Neophrolepis ferns and a few scattered shrubs of guava and 'akia (Wikstroemia aff. oahuensis) are frequently found in this vegetation type.

Open scrubland (o-s)

Open scrubland is confined to the knolls or hilltops occurring among the mixed forests. Roughly 70 percent of the vegetation cover is composed of the grasses Andropogon and Paspalum orbiculare (rice-grass) and the matforming 'uluhe cattleianum, guava, and 'akia shrubs as well as small trees of Java plum, silk oak

(Grevillea robusta), hala (Pandanus ordoratissimus), and 'ohia (Metrosideros collina ssp. polymorpha), which form the remaining 30 percent cover, are scattered throughout the grass-'uluhe association. Extensive areas are covered with 'uluhe and scattered Java plum and 'ohia trees near the steep foothills at the base of the Pali.

Mixed forests (m-f)

The mixed forests usually consist of a mixture of several introduced tree species, 10 to 20 meters tall. Java plum is the most commonly occuring species with 30 to as much as 50 percent of the cover. The mixed forests also exhibit a number of variations. Sometimes almost pure stands of one species may occur. For example, in the lower Kionaole Road area, African tulip trees (Spathodea campanulata) cover a small area. The site may have at one time been occupied since numerous ornamental species such as Syngonium auritum, Philodendron andreanum, torch ginger (Phaeomeria magnifica), and a Heliconia species were found.

Clusters of large, old mango trees (Mangifera indica) with their rounded crowns stand out above many of the other tree species.

Large, almost impenetrable, thickets of hau (Hibiscus tiliaceus) occur in the drainage areas throughout the mixed forests.

A Java plum-hala forest association can be found in the area south of the Ho'omaluhia Park water tank. Understory vegetation under these mixed forests consists of seedlings of the tree species present and shade tolerant herbaceous species such as shampoo ginger (Zingiber zerumbet), basketgrass (Oplismenus hirtellus), and various fern species.

b) Impacts. Due to the varied history of past land use within the project sites, the vegetation consists largely of introduced species with scattered native species. As a summary, the land in the Phase I site is largely uncultivated and vegetation consists of large areas of Brachiaria grassland and mixed forests, while the majority of land in the Phase IIA and IIB sites are used for raising bananas. However, despite the

abundance of vegetation types, no rare or endangered plants can be found in the project areas, thereby minimizing the project's overall impact on Oahu's inventory of threatened plants.

The proposed action will reduce, by 110.4 acres, the amount of land currently under banana cultivation. Some adverse economic impact then, may arise, which will affect agriculture consumption within the State.

The Department of Agriculture has indicated that the project area has Land Study Bureau Overall Productivity Ratings of "C" and "E." By this method of classification, the property has fair to good productivity potential for vegetable, forage, grazing, and orchard uses.

c) Mitigative Measures. Adverse economic impacts stemming from the reduction of lands currently under banana cultivation can be mitigated by increasing banana production on areas of the landowner not proposed for urban development and elsewhere on Oahu, such as Maunawili Valley and Waimanalo.

Erosion and runoff problems can be mitigated by minimizing grading and grubbing activity; confining vegetation removal to a small scale; and grassing-over the areas cleared, as soon as possible.

2. Fauna

a) Existing. A fauna survey, entitled Bird and Mammal Report for the Proposed Iolani School Project, prepared by Andrew J. Berger, was conducted to inventory the birds and mammals inhabiting the project sites. No endangered Hawaiian birds or other vertebrate animals, either on, or adjacent to the proposed project sites

were observed. A total of fourteen (14) species of birds were identified as introduced to the region, whereas, only one bird species was identified as indigenous. The following details a description of each respective species:

1. Introduced Species

Cattle Egret (Bulbucus ibis), Order Ciconiiformes, Family Ardeidae:

This species was imported to Hawaii from Florida to aid in the battle to control house flies, horn flies, and other flies that damage hides and cause lower weight gains in cattle. A number of Cattle Egrets were released on Oahu in 1959 and 22 additional birds were released during July 1961. It has been estimated that 2,000 Cattle Egrets now roost in trees on Kaneohe Marine Corps Air Station (Berger, 1981).

Lace-necked or Spotted Dove (Streptopelia Chinensis), Order Columbiformes, Family Columbidae:

This Asian dove was introduced to the Hawaiian Islands at an early date; the exact date is unknown, but the birds are said to have been very common on Oahu by 1879. The species is still common on all islands and is classified as a game bird. Although this species occurs where rainfall exceeds 100 inches per year, the highest densities are found in drier areas where the introduced kiawe (mesquite) is one of the dominant plants.

Barred Dove (Geopelia striata), Order Columbiformes, Family Columbidae:

This species is called the Zebra Dove in its native habitat in Australia. This dove is said to have been introduced to Hawaii sometime after 1922. It is now commonly abundant on all of the main islands in the chain. The Barred Dove also prefers the drier areas where seeds are abundant. Flocks of 10 to 15 birds were flushed repeatedly from the weeds along the margins of the banana patches.

Barn Owl (Tyto alba pratincola), Order Strigiformes, Family Tytontidae:

The first Barn Owls were imported from California and released on Hawaii island in 1958. Birds were released at Hauula, Oahu, on two different occasions. Seven birds were imported from the San Diego Zoo and released during September 1959; 11 additional owls were imported from the San Antonio Zoo, Texas, and released during October 1960. The Barn Owls, nocturnal in nature, were introduced in the hopes that they would prey upon the rats that were causing losses in sugarcane fields.

Melodious Laughing-thrush (Garrulax canorus), Order Passeriformes, Family Timaliidae:

This species, which is a babbler and not a thrush, was introduced to Hawaii from China or Formosa as a cage bird many years ago. A number obtained their freedom at the time of the great fire in the Oriental quarter of Honolulu in 1900, and took to the hills behind the city. No detailed study of this babbler has been made on Oahu, so that little is known about its distribution or abundance. It now occurs, however, in both the Waianae and the Koolau mountains. It seems to prefer the wetter areas where there are thickets and clumps of vegetation. The birds have a loud, attractive song, and they are more often heard than seen.

Red-vented Bulbul (Pycnonotus cafer), Order Passeriformes, Family Pycnonotiadae:

The source of these birds in Hawaii is unknown. Several birds were first reported on the Oahu Plantation at Waipahu in 1966 (Elepaio, 27:55); by June of the following year, birds were seen near Fort Shafter, in Kailua, and at the Bellows Air Force Station (Berger, 1981). The members of this family are included in the "prohibited entry" list of the State Department of Agriculture, but this species is now a very common bird. More than 1,100 Red-vested Bulbuls were counted on the Audubon Society's 1980 Christmas Count. This bulbul was the most observed species during the survey. Bulbuls are largely fruit eaters and often become pests in fruit-growing areas.

Shama (Copysychus malabaricus), Order Passeriformes, Family Turidae:

This attractive thrush was first released on Oahu by the Hui Manu in 1932 and later became established in the Tantalus region. Although no study has been made of the distribution and abundance of this thrush on Oahu, it is now widely distributed on both sides of the Koolau Range. The birds are noted both for their attractive plumage and for their beautiful singing. Shama thrushes typically prefer dense vegetation, and they are more often heard than seen. In areas frequented by people (for example Waimea Falls Park, Paradise Park), however, the birds often perch in full view. The Shama is found thoughout the slopes on the windward side of the Pali.

Japanese Bush Warbler (Cettia diphone cantans), Order Passeriformes, Family Sylviidae:

This warbler, which is native to Japan and Formosa, was first released on Oahu in 1929. No detailed study of this species has ever been made in Hawaii but it is now found in scattered areas in both the Waianae and the Koolau mountain ranges, where the birds prefer dense undergrowth in moderate to very wet areas.

Japanese White-eye (Zosterops japonicus), Order Passeriformes, Family Zosteropidae:

The Japanese White-eye was first imported from Japan to Oahu by the Territorial Board of Agriculture and Forestry in 1929. Later importations were made by the Hui Manu and by private individuals. The White-eye rivals the House Sparrow and the European Starling in North America as a successful exotic species, and the White-eye now is undoubtedly the most common passerine species in Hawaii. It is found from sea level to tree line (on Maui and Hawaii) and it is found in the driest and the wettest habitats in the Hawaiian Islands. White-eyes were widely observed throughout the project site.

Common Indian Myna (Acridotheres tristis), Order Passeriformes, Family Sturnidae:

The Common Indian Myna is native to Ceylon, India,

Nepal, adjacent regions and was introduced from India in 1865 by Dr. William Hillebrand. The Myna is abundant in lowland areas, being most common in residential and urban areas as well as in the vicinity of human habitation in rural areas.

Ricebird or Spotted Munia (Lonchura punctulata), Order Passeriformes, Family Ploceidae:

Ricebirds are common in any open areas where there are weed seeds or grains. Subsequently, the Ricebird has become a serious pest by eating the seeds of agricultural flora. A report by the Senate Committee on Ecology, Environment, and Recreation stated that Ricebirds and linnets caused a 30 to 50 percent loss in the sorghum fields at Kailua on Kauai in 1980.

House Sparrow (Passer domesticus), Order Passeriformes:

The House Sparrow, also called the English Sparrow, was first imported to Oahu in 1871 when nine birds were brought from New Zealand. The House Sparrow in North America became a serious pest and tens of thousands of dollars were spent attempting to control the population-without much success. The House Sparrow, however, apparently never became a serious pest in Hawaii; it is onmivorous in diet, eating weed seeds as well as insects and their larvae; therefore, they are at least partly beneficial in food habits.

Cardinal (Cardinalis cardinalis), Order Passeriformes, Family Fringillidae:

This is the Red Cardinal, Kentucky Cardinal, or Virginia Cardinal of the eastern part of North America. The Cardinal was released several times in Hawaii between 1929 and 1931. The cardinal is a common species in both urban and rural areas and in both wet and dry areas. The Cardinal was widely distributed in the project site.

House Finch (Carpodacus mexicanus frontalis), Order Passeriformes:

The House Finch was introduced to Oahu from California. It is sometimes called the Papayabird in Hawaii, and, incorrectly the "linnet." This is an abundant species in both urban and rural areas, and probably is the

second most common passerine bird in the Hawaiian Islands. Although House Finches do eat overripe papaya at times, the birds are primarily seed-eaters, hence their devastating effects on the experimental sorghum crops or on any other small grains. The House Finch does not inhabit dense forests but is common through grasslands.

2. Indigenous Species

Pacific Golden Plover (*Pluvialis dominica fulva*), Order Charadriiformes, Family Charadriidae:

This plover is a common winter resident on all of the Hawaiian Islands and is found from sea level to at least 10,000 feet elevation on Maui and Hawaii. This species inhabits pastures, golf courses, city lawns, cutover sugarcane fields, and other disturbed or weedy areas as long as there are open spaces.

No endemic mammals, amphibians, or reptiles were observed at the project site. Those species that were found, were introduced and considered serious pests to native birds, man, and his products. The following details a description of each respective species:

Roof rat or black rat (*Rattus rattus*):

This rat reached the Hawaiian Islands on sailing vessels during the 19th century. The roof rat is very common and is found from sea level well up into the mountains (as high as 9,800 feet on Haleakala, Maui). They are primarily nocturnal in habits and are serious predators of the eggs and young of tree-nesting birds in Hawaii.

Polynesian or Hawaiian rat (*Rattus exulans*):

The early Polynesians are presumed to have brought, inadvertently, this rat with them. The species is known to occur from sea level into the mountains. This rat occurs in both native and introduced forests, grassy gulches, and shrub-grown areas, and is primarily nocturnal in habits.

House mouse (*Mus musculus*):

The date of introduction of the house mouse to Hawaii is unknown, but it is said to have been common by 1825.

It can be found inhabiting almost every biotic community that occurs from sea level to at least 6,500 feet. It is ubiquitous around human habitation and is found in sugarcane fields, fallow fields, and in forests and scrubland in fairly wet areas.

Small Indian Mongoose (Herpestes auropunctatus):

The mongoose was first imported to the Hamakua Coast of Hawaii during September 1883, to combat rats in the sugarcane fields. They were imported to Oahu and other islands about 1888. The mongoose is an abundant pest on all of the islands today, and is found from sea level to the highest mountain peaks on Oahu. Being diurnal in habit, they are often seen crossing roads.

b) Impacts. No endangered birds, mammals, amphibians, or reptiles were found at the project sites. Moreover, the species observed were considered pests or potential pests to the existing agricultural practices and will continue to be to the proposed action. Impacts therefore, can not be considered significant.

In addition, grading and grubbing activities will undoubtedly force the wildlife to relocate to adjacent areas. However, in some instances, they will return to the project sites for food and shelter, thereby further minimizing any adverse impacts to them.

c) Mitigative Measures. None required.

D. Public Utilities and Facilities

1. Sewage Treatment and Disposal

a) Existing. There are several existing City 8-inch sewer mains located within the adjacent Keapuka Subdivision (Figure 9). The Kaneohe Sewage Treatment Plant is

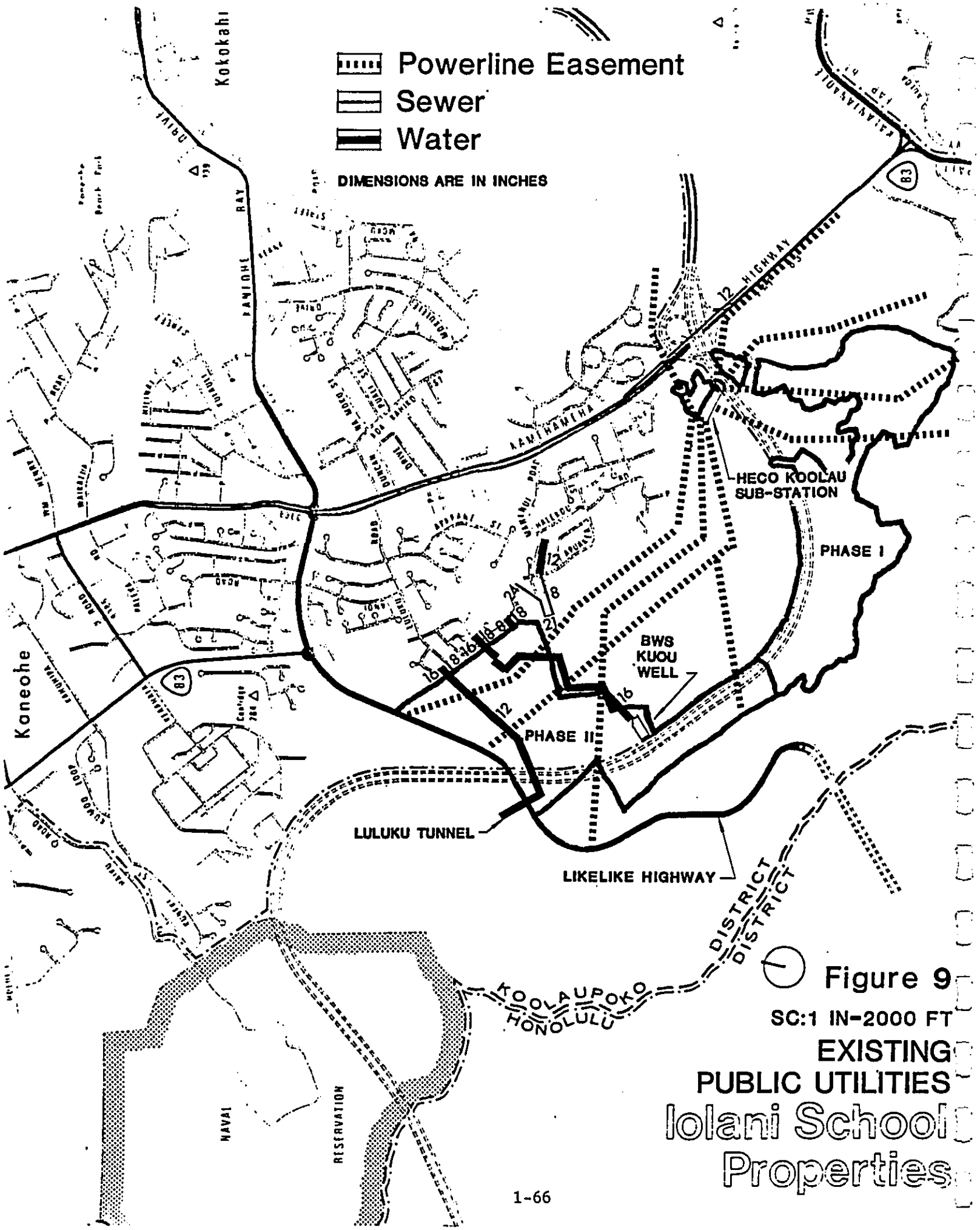


Figure 9

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EXISTING PUBLIC UTILITIES

Iolani School Properties

also located in the general vicinity and is operating under-capacity at 4.0 million gallons per day (mgd). The design peak sewage flow for the plant is 4.5 mgd.

b) Impacts. The demand for sewage treatment and disposal will increase proportionally to the implementation of the various phases of the proposed project. The total average sewage flow from the completed development of 971 units is estimated to be 388,400 gallons per day.

The sewage flow generated from Phase I (611 units) is estimated to be 244,400 gallons per day (gpd), while the demand from the 360 units in Phases IIA and IIB will be 144,000 gpd.

c) Mitigative Measures. As the physical size of the project is quite considerable, several alternative measures to accomodate the increased sewage flows need to bc assessed. Development of the property will require an upstream extension of the existing interceptor sewer main along Kamooalii Stream. The City and County of Honolulu Department of Public Works has indicated that the Kaneohe Sewage Treatment Plant (STP) is nearing its installed capacity of 4.5 mgd (4.35 mgd in 81-82 FY) and will not be able to accommodate flows from the proposed development. A one-plant or two-plant sewer system is presently being considered for the Kaneohe-Kailua Sewerage district under a study expected to be completed by the end of 1983. If a one-plant system is adopted, Kaneohe sewage will be treated at the Kailua STP in expanded facilities. If the two-plant will system is retained, the capacity of the Kaneohe Plant will be expanded. Construction at either the Kaneohe and/or Kailua plant is tentatively scheduled to begin in Fiscal 1984-85. Construction can take at

least two years to complete. If the existing facilities can not accommodate the proposed project, improvements will be made to increase capacity by the developer at his own expense.

There will therefore, be adequate and available sanitary sewer services to accomodate the projected estimated average flow from the total development.

In addition, since the total development of the project would be phased over several years, the projected estimated average flow and subsequent demands for sewer services would be gradual, thus providing time for the applicant to budget and acquire the necessary facilities.

2. Drainage

a) Existing. The stream-fed headwaters of Kamooalii Stream, the main tributary to Kaneohe Stream, originates near the 2,500 foot elevation. Five tributary most of which flow through or by the project sites converge into Kamooalii Stream, which then flow through the previously mentioned Kaneohe Flood Control Project. The Project consists of a 76-foot high, 2,200-foot long dam on Kamooalii Stream and 1,274-feet of channel improvements near the outlet to Kaneohe Bay. The dam maintains a permanent 26-acre pool with a maximum reservoir surface area of 152 acres. The dam is designed to control a flood with a peak flow of 15,000 cfs and a volume of 3,450 acre-feet, which is approximately 1-1/2 times the peak discharge (at that location on Kamooalii Stream) and approximately 2 times the volume of the greatest flood on record.

b) Impacts. It was estimated that storm runoff for the

1-year/1-hour frequency/duration storm event for post-development conditions is over 7 times greater than for pre-development conditions (Dugan, 1981). However, as the storm duration and recurrence interval increases, the difference reduces to 1.6:1 for the 100-year/24-hour storm event. The primary reason for the diminishing differences in runoff volume for pre- and post- development conditions is that soil permeability decreases as storm magnitude increases. With low intensity and short duration storm events, the existing land use allows significant percolation to occur (especially since over 70% of the project soils are rated well drained), and relatively little runoff is generated. However, as the storm intensity and duration increases, the ability of the soil to accept water decreases and greater runoff occurs, and the soil becomes more impermeable. Multi-storm events that tend to saturate the soil also decrease the percolation rate and thus, increase the amount of runoff.

As would be expected, the greatest calculated incremental storm runoff volume, 91.9 acre-ft., resulted from the 100-year/24-hour storm event, while the least incremental increase (28.6 acre-ft.) occured with the 1-year/1-hour event. (Dugan, 1981). The volume of the maximum event would be less than 3 percent of the maximum capacity of the Kaneohe Flood Control dam.

c) Mitigative Measures. Storm drainage runoff from the proposed project will be collected by catch basins located within the roadways conveyed by underground pipe system to be discharged into existing streams and the Kaneohe Flood Control Ponding Basin.

The project will increase government expenditures resulting from increased operation and municipal maintenance. However, operation and maintenance should not be significantly increased since the Interstate Highway H-3 will act as a permanent barrier between Kaneohe Dam and the proposed development. Since most of the improvements are proposed on the top of the ridges, it is anticipated that the increase of silt deposits to Kaneohe Dam will be minimized by retaining the surrounding vegetation and the implementation of erosion control measures.

All drainage improvements will be designed and constructed in conformance with the Drainage Standards of the City and County of Honolulu, and the applicable provisions of the Water Pollution Control Health Regulations, and Water Quality Standards, Department of Health.

3. Solid Waste Material

a) Existing. Solid waste is collected and disposed twice a week by the Department of Public Works, Division of Refuse Collection and Disposal. The present disposal site for the refuse is at the Kapaa Sanitary Landfill. A planned site at Kalaheo is expected to meet the requirements for future refuse disposal. This new site should be in operation within the next two years.

b) Impacts. The City's Division of Refuse Collection and Disposal has indicated that approximately 4.0 pounds of solid waste per person per day is generated on Oahu. The proposed project will increase existing population by 2,900 residents. Therefore, an estimated increase of 11,600 pounds or 5.8 tons of refuse per day will be generated.

The 1800 residents in Phase I will generate 3.6 tons of refuse, while the 1100 residents in Phases IIA and IIB will generate 2.2 tons of refuse.

c) Mitigative Measures. None required.

4. Potable Water

a) Existing. An existing 16-inch main from Kuou Well and 10-inch and 12-inch pipelines from Luluku Tunnel pass through the western portion of the subject property over easements finally connecting to the water system at Luluku Road (Figure 9). Portions of these transmission mains will need to be relocated along the proposed roadways of the project site.

b) Impacts. The proposed development of the project site will create an average demand of approximately 485,500 gallons per day to serve the projected population of 2,900 people.

The demand for water from the Phase I development of 611 units will be approximately 305,500 gpd, while the 360 units of Phases IIA and IIB will need 180,000 gpd.

However, since construction of the residential units will be completed incrementally, demand for water facilities will be on a phased schedule. This phasing will reduce impact on existing facilities, since the total demand for water will correspond with the schedule and not need to be accommodated at one time.

In regards to the project impacts to the existing and

proposed BWS wells, the proposed action will include an underground sewage system, which will minimize contamination of the ground-water basin. No improvements are proposed at the existing BWS well sites. The petitioner will coordinate this development with future well sites.

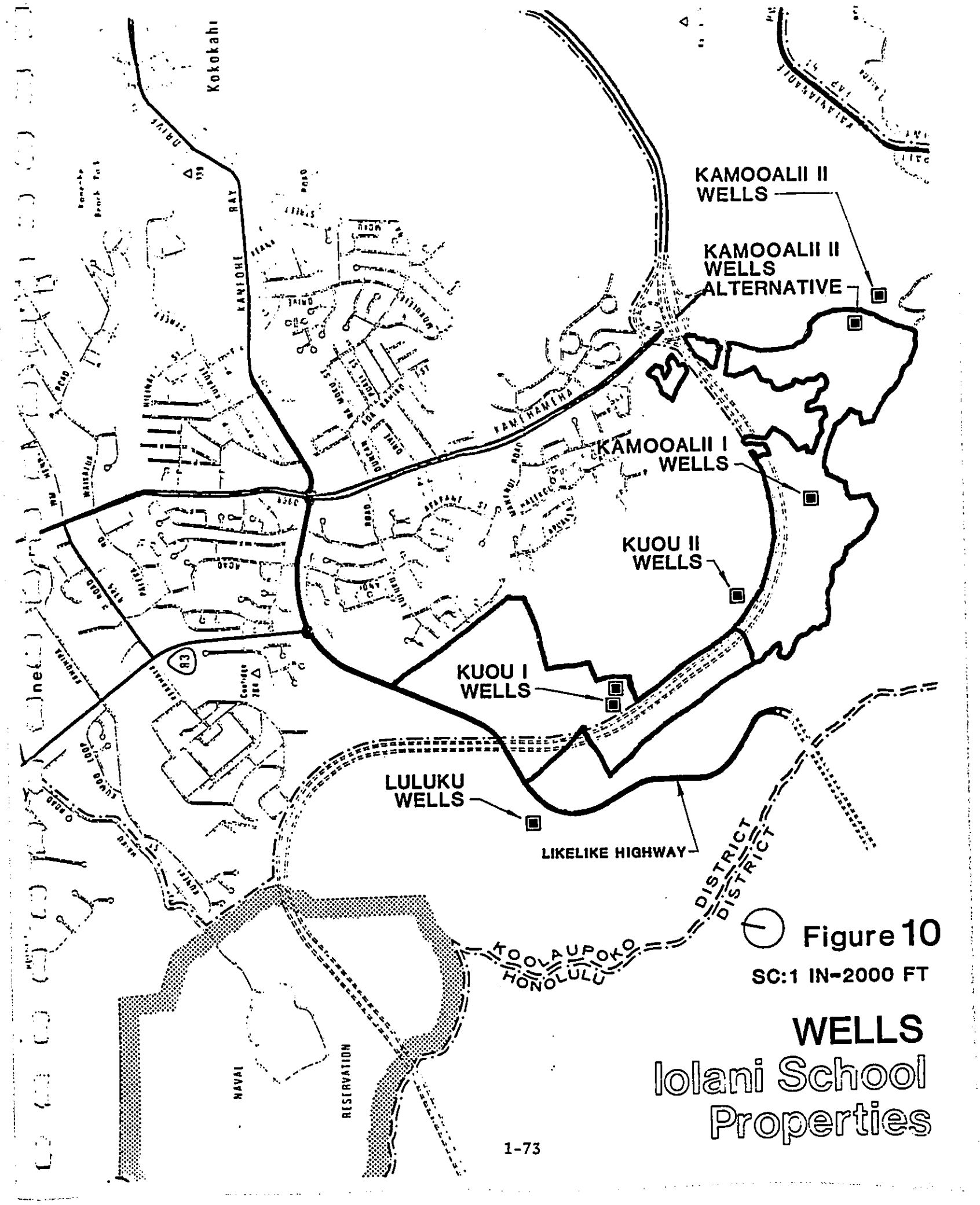
The BWS will not make advance water commitment for the project and will determine the availability of water when construction plans for the water service connections are submitted for BWS approval.

c) Mitigative Measures. The City and County of Honolulu Board of Water Supply has master planned well sites to be located within the vicinity of the proposed development (Figure 10). Therefore, the project will be provided with required water for domestic and fire protection use, including well sources and storage, as well as required pumps, pump station, transmission main, a 0.5 million gallon reservoir for Phase I, and a 0.3 million gallon reservoir for Phases IIA and IIB.

5. Transportation Services and Access

a) Existing. Three major highways provide access to the entire project site. These include the Pali, Likelike and Kamehameha Highways. Access to the project site is by Luluku Road, which traverses through the Keapuka Subdivision, and Kionaole Road, which is located on the northeastern boundary of the project site.

Existing traffic counts have been taken on Likelike Highway near the Wilson Tunnel. Total traffic measured 41,260 vehicles per day, with 20,320 vehicles per day travelling eastbound and 20,940 vehicles per day, in the westbound direction. Since the design capacity of Likelike Highway is 57,600 vehicles per hour,


KAMOOALII II WELLS
KAMOOALII II WELLS ALTERNATIVE
KAMOOALII I WELLS
KUOU II WELLS
KUOU I WELLS
LULUKU WELLS
LIKELIKE HIGHWAY
KAMEHAMEHA
KANEOHE BAY
Kokokahi
KOOLAUPOKO DISTRICT
HONOLULU DISTRICT
NAVAL RESERVATION
Figure 10
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WELLS
Iolani School Properties

this thoroughfare is currently operating under capacity at 16,340 vehicles per day.

Kamehameha Highway between Kionaole Road and the Kaneohe Bay Drive and Likelike Highway intersection presently has an average daily traffic flow of 24,660 vehicles. The total daily volume of existing traffic on Kamehameha Highway between Kionaole Road and Castle Junction at Pali and Kalanianaole Highway is 21,370 cars. The design capacity of Kamehameha Highway is 38,400 vehicles. Therefore, the remaining capacity varies from 13,740 to 17,030 vehicles per day.

b) Impacts. A traffic analysis "Access Study for the Proposed Kamooalii Development", Exhibit B, provided by phases, detailed discussions relating to increased traffic generation and adverse impacts resulting from these projected increases.

(1) Phase I

Phase I of the development will generate traffic of approximately 3,855 vehicles per day, based on the assumption that each unit will generate 6.31 external automobile trips.

Kamehameha Highway and Kionaole Road have adequate capacity to take care of 14.7 percent traffic increase generated from Phase I [3,855/(21,370 + 24,660) 2] of the development for 611 units during peak and off-peak hours.

(2) Phase II (Phases IIA and IIB)

The development of Phase II of the project will be

the subject of a separate traffic report and analysis at the time application is made for urbanization of 180.0 acres, as the proposed Interstate Highway H-3 bisects the property to a degree that connection by the originally proposed major circulatory road for this portion of the property to Kionaole Road and the remaining lands of Kamooalii in Phase I cannot be achieved. Therefore, it is only reasonable to assume that access from Phase II will be permitted onto Likelike Highway. This portion of Kamooalii also has access over and across Luluku Road and other streets within Keapuka Subdivision.

This portion of the report is submitted for informational purpose only in order to assess the traffic from an overall review of the development plan of the Kamooalii lands. It is assumed that access from Phase II will be available at a permitted point onto Likelike Highway. This will result in minimizing traffic impacts on the existing streets within the Keapuka Subdivision. For this traffic analysis, Phases IIA and IIB are combined as a single increment for future development.

Phase IIA will generate increased traffic of approximately 1,545 vehicles per day, again based on the assumption that each unit will generate 6.31 external automobile trips. Likelike Highway, which will provide primary access to Phase IIA, will be able to accomodate this projected increase of traffic, since the Highway currently maintains a design capacity in excess of existing traffic volume.

Phase IIB will generate increased traffic of 725 vehicles per day. It is anticipated that the Likelike

Highway will be able to handle this increase due to the excessive design capacities of this Highway.

The planned 360 units will generate a total of 2,270 vehicle trips per day or a 5.5 percent (2,270/41,260) increase in the existing traffic volume on Likelike Highway.

The existing peak-hour traffic count on Likelike Highway is approximately 3,000 vehicles per hour, which exceeds the Level of Service "C" for stable flow. Phase II of the proposed project, when constructed and completed in the distant future, will generate 230 cars during the peak hour. Accordingly, it would seem reasonable that the access point on Likelike Highway relocated on the realigned Likelike Highway to accommodate the traffic with a design intersection as shown on Figure 2 or an alternate that will not impact the major traffic flow on Likelike Highway, expecially since the 230 vehicles during the peak-hour generates approximately four cars per minute.

Since full occupancy of this portion of the project is estimated for completion by 1994 or thereabouts, an alternate intersection design may be considered, which will provide only right turns in and out of the property on the realigned Likelike Highway. The right turn only proposal has merits because the only traffic impact will occur during the PM peak. Since traffic will not be allowed to cross the median, the AM peak right turn movement will have no impact on the Likelike Highway.

c) Mitigative Measures. No widening improvements to increase

the capacities of the adjacent Likelike and Kamehameha Highways are anticipated since current design capacities are sufficient enough to accomodate all projected increased traffic volumes.

Existing city bus and transit services that are provided on Kamehameha and Likelike Highways will also assist to minimize projected traffic volumes. It is anticipated that the existing bus system may be extended to include the proposed development of Phases I, IIA, and IIB as the need arises. With adequate bus service provided for the proposed project, it is estimated that vehicles traveling to and from the project will be reduced by 10 or 15 percent, thereby minimizing traffic volumes and subsequent adverse impacts on the Likelike, Pali and Kamehameha Highways.

Although major improvements to the adjacent Highways to increase capacities are not necessary, minor improvements to facilitate better traffic movement has been suggested.

(1) Phase I

The relocation of the Kionaole Road and Kamehameha Highway junction to Kahiko Street is currently proposed as part of the Halekou Interchange improvements on H-3. Therefore, the design of this intersection will ensure that traffic on Kamehameha Highway will be clearly visible at a safe distance to drivers exiting Kionaole Road. Traffic signals will also be installed, if required or necessary.

(2) Phase II (Phases IIA and IIB)

For Phase IIA, an additional access will utilize Likelike Highway by way of a permitted existing

access point on the makai side with adequate deceleration and acceleration lanes designed and constructed to allow for merging traffic on and off Likelike Highway. This action will allow high speed traffic traveling on Likelike Highway safe access into the development and also traffic originating from the development safe access onto the Highway. Interim traffic signals will also be installed to permit traffic movement across the intersection of Likelike Highway and the major connector road in a safe and expeditous manner.

Finally, it should be noted that the proposed Interstate Highway H-3 alignment passes across portions of the subject property. The current status of the highway is as follows: On November 12, 1982, the Federal Highway Administration granted the State approval to complete the design and construction of the H-3. This action allowed the State to commence survey work for land appraisal.

Presently, construction of the Halekou Interchange has begun. Following the anticipated completion in early 1984, construction of the H-3 Highway section situated between Ho'omaluhia Park and the Iolani School Project is expected to commence.

If the project is implemented, the Highway will provide additional access to the project site and will reduce traffic volume on the other adjacent Highways.

Figure 11 shows access improvements being proposed for the project.

6. Telephone Services

a) Existing. Underground telephone systems can be

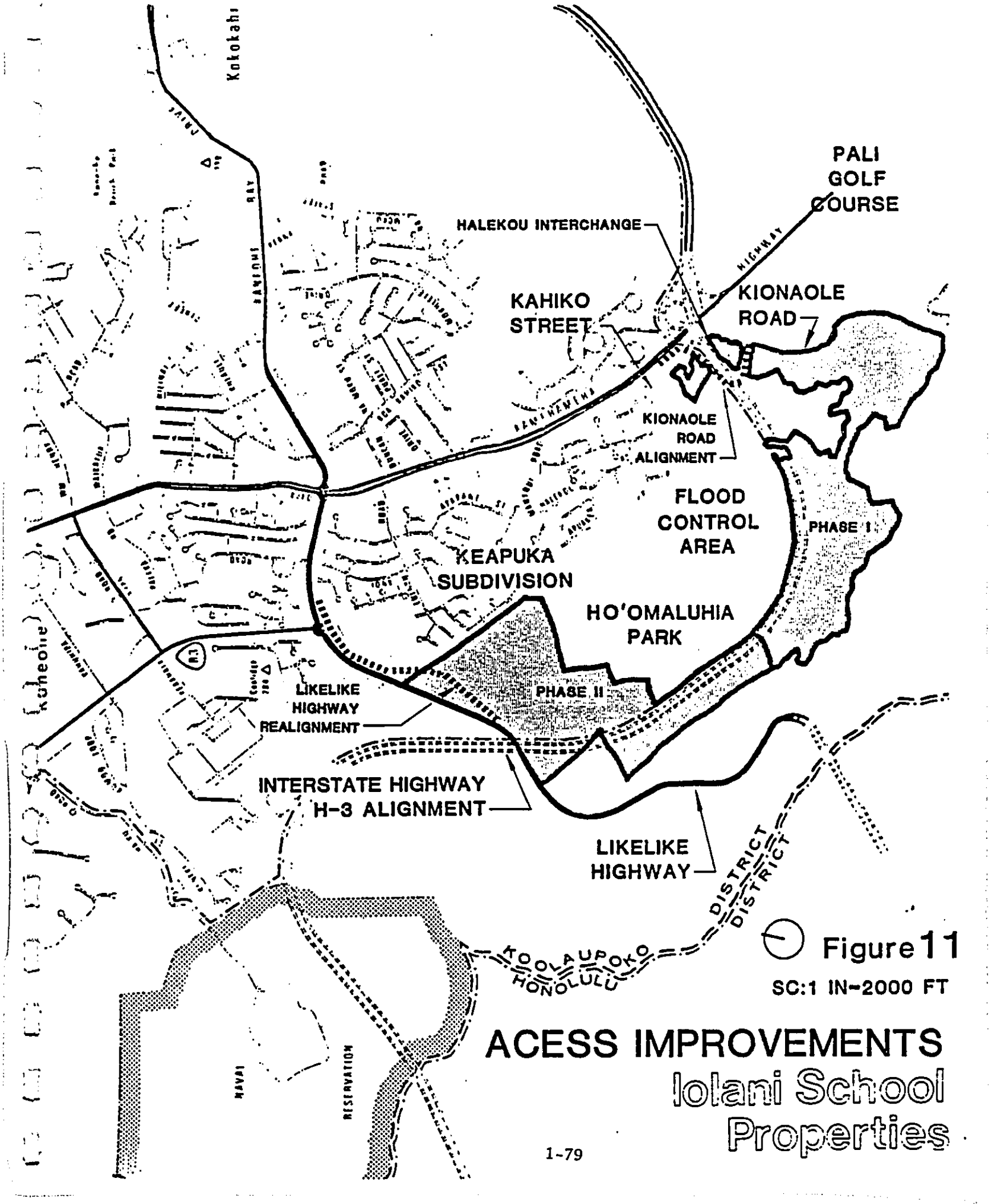

Figure 11

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ACESS IMPROVEMENTS

Iolani School Properties

found adjacent to the project sites and within the Keapuka Subdivision.

b) Impacts. Connections to telephone systems to service the proposed project can be provided.

c) Mitigative Measures. None required.

7. Electrical Services

a) Existing. Electrical systems can be found within and adjacent to the project sites, within the Keapuka Subdivision with primary electrical lines located above grade and secondary lines, below grade. Hawaiian Electric Co. (HECO) powerline easements are also located in the Ho'omaluhia Park site (See Figure 9).

b) Impacts. HECO has indicated that the distribution circuits in the area are currently inadequate to serve the proposed development. HECO's existing 12 kv circuits from the vicinity of Koolau Substation would require either overhead or underground extensions. Further, HECO would have to maintain services to existing customers in the area as well as provide new services to the proposed development.

c) Mitigative Measures. All high voltage transmission lines and proposed realignments will be identified and coordinated with HECO prior to any onsite work. This action will eliminate any adverse impact the transmission lines may have on the proposed project.

Depending on the future course of the proposed Hawaii Deep Water Cable project and subsequent development of Aniani Substation, at least two more 138 kv lines may be

required between Ko'olau Substation and Aniani Substation, and one additional 138 kv line may be required between Ko'olau Substation and Halawa Substation. These requirements may affect the need for future 138 kv and 46 kv easements in the vicinity of Ko'olau Substation.

D. Public Services and Facilities

1. Public Schools

a) Existing. Currently, the project area is served by public schools, including the Kaneohe/Kapunahala Elementary, King Intermediate, and Castle High Schools.

b) Impacts. In 1980, there were approximately .175 students enrolled in public schools for each person that resided on Oahu (Department of Planning and Economic Development, 1981). Assuming that the proposed project will increase population by 2,900 residents, it can be estimated that a demand of 508 potential public school students will result.

Table 3 presents the projected enrollment growth to be generated by the project.

c) Mitigative Measures. The Department of Education, in their letter of October 18, 1983 stated the following:

"The secondary schools have sufficient capacity to accommodate the projected enrollment increase as the project is to be phased in over the next 12 to 15 years. As the development abuts the service area assigned to Kaneohe and Kapunahala Elementary schools, the Windward District will be assigning the appropriate portions of the development to these two schools. The combined capacities of these two schools can accommodate the projected enrollment increase."

TABLE 3

PUBLIC EDUCATION FACILITIES

School	Grade	Approximate Enrollment
Kaneohe/Kapunahala Elementary	K-6	150-250
King Intermediate	7-8	50-80
Castle High School	9-12	70-130

Source: Department of Education, 1982

In addition, since the development will be phased over several years, demand on public educational facilities will be gradual, thus providing time for governmental services to budget and acquire the needed personnel and facilities.

2. Police Protection

a) Existing. The Honolulu Police Department currently provides service from the Kaneohe Substation. Response time to the project site will be approximately 2 minutes.

b) Impacts. Based on the present Oahu ratio of police employees per 1,000 persons, 12 additional police employees are needed to service the project sites.

c) Mitigative Measures. Since the development will be phased over several years, impact on police services and facilities will be gradual, thus, providing time for governmental services to budget and acquire the needed personnel and facilities.

3. Fire Protection

a) Existing. The Kaneohe Fire Station, located at 45-910 Kamehameha Highway, is the primary facility providing fire protection services to the project sites. Response time is approximately ±3 minutes. The existing Kahaluu, Kailua, and Aikahi and proposed Olomana Station can service as back-up to the Kaneohe Fire Station.

b) Impacts. Due to the emergency nature of fire protection, no additional fire stations or personnel will be required for this project.

c) Mitigative Measures. None required.

4. Health Facilities

a) Existing. Several medical and emergency care facilities are available on the Windward side. Kaiser Clinic is located within a few minutes from the project site to provide routine services. Ambulance service is located in Kaneohe to serve emergency-care patients and can transport them to Castle Memorial Hospital in Kailua, or to Kuakini Hospital or and Queen's Medical Center located in Honolulu.

b) Impacts. Minimal impact on medical services and facilities is foreseen.

c) Mitigative Measures. None required.

5. Recreational Facilities

a) Existing. A wide range of recreational opportunities already exist within the Kaneohe area. Regional parks, State parks, playgrounds, and recreational centers are located in the immediate vicinity of the project site and are easily accessible to the residents of the proposed project.

b) Impacts. The project's residents will be welcomed to fully utilize the regional recreational opportunities located adjacent to the project sites.

c) Mitigative Measures. The impact on the use of existing park and recreational facilities will be alleviated by inclusion of private park sites within the project in compliance with the City and County Park Dedication Ordinance No. 4621.

6. Commercial/Retail Facilities

a) Existing. Currently, the Kaneohe Bay Windward Mall

and Windward City Shopping Centers provide commercial and retail services to the Windward side.

b) Impacts. These facilities will be sufficient in satisfying all demands.

c) Mitigative Measures. None required.

7. Employment Centers

a) Existing. The proposed project is located approximately 9 1/2 miles from Honolulu, which will be the primary employment center for future residents of the project. Other major employment centers like Pearl Harbor, Honolulu International Airport, Hickam Air Base, Kaneohe Marine Base are readily accessible from the project area by way of major traffic routes.

b) Impacts. The proposed project is located within reasonable distance from all major employment centers. Therefore, no adverse impacts are anticipated.

c) Mitigative Measures. None required.

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2

A MORE COMPLETE ASSESSMENT OF THE IMPACT OF THE PROPOSED PROJECT ON FLOOD CONTROL, GROUNDWATER RECHARGE AND POTENTIAL POLLUTION BY INSECTICIDES USED AT THE PALI GOLF COURSE (AND FOR PHASE I WITH RESPECT TO GROUNDWATER RECHARGE) FOR PHASES II-A AND II-B OF THE PROPOSED PROJECT NEED TO BE PROVIDED.

2. "A more complete assessment of the impact of the proposed project on flood control, ground water recharge and potential pollution by insecticides used at the Pali Golf Course (and for Phase I with respect to ground water recharge) for Phases II-A and II-B of the proposed project need to be provided."

This item consists of three areas of concern: Flood control; Ground water recharge; and potential pollution from insecticides. We provide the impacts and mitigative measures for these areas of concern in the following sections.

a) Flood Control: The U.S. Army Corps of Engineers, after the 1969 floods, implemented and completed the Kaneohe Flood Control Project, which created a retention dam and reservoir at the headwaters on the Kamooalii tributary of Kaneohe Stream to provide flood protection for the Keapuka residential subdivision and surrounding urbanized areas in the Kaneohe region.

No specific flood control measures, other than that which may be prescribed by government agencies are planned for Phase II of the project. Storm runoff from the development area will be collected on-site by catch basins located in the roadways and conveyed in underground pipe systems to existing streams and to the Flood Control Ponding Basin at Ho'omaluhia Park.

b) Ground Water Recharge: Island Resources, Ltd. (Stephen P. Bowles) provided an analysis of the Luluku-Kamooalii Basin with particular reference to the proposed development project's impact on the ground water recharge capability. The study is referenced as Exhibit A. We extract the concluding paragraph:

"Based on the information contained in the 1969 U.S.G.S. report and the proposed location of the B.W.S. wells, it is doubtful that the proposed residential development would have any impact on the groundwater, other than an increase in demand. The existing and proposed B.W.S. well locations can be relocated in order to minimize any potential conflicts."

c) This addendum section deals with the subject of pesticide pollution on the total project site with particular emphasis on Phase I near the Pali Golf Course. Very briefly, the subject came to light in correspondence dated January 21, 1983 from the Department of Parks and Recreation, City & County of Honolulu, in their response to the EIS Preparation Notice (Exhibit C). Item #4 stated: "The Pali Golf Course is sprayed with insecticide and herbicide a minimum of one day per month. Since spraying is not restricted to days with little or no wind, fumes may have a detrimental impact on residents." Our response to this comment was inaccurate in the identification of the applicable State agency responsible for controlling air pollution via insecticide spraying. We have, through investigation, determined that it is the Department of Agriculture, Division of Plant Industry that regulates the use of chemical sprays to control pests and weeds.

We are providing the appropriate rules and regulations that administer the use and operating procedures for chemical spraying:

Chapter 66 Pesticides - Sections relative to the controlled use of chemical spraying application are listed as part of the regulatory authority of the Department of Agriculture. We provide the following sections which deal with the Certification of applicators, General standards for certification of commercial applicators, and Specific standards for certification of commercial applicators (Exhibit D).

1. Section 4-66-56: Certification of applicators.
(3) Category 3 ornamental and turf pest control and includes persons using or supervising the use of restricted use pesticides to control pests of ornamental trees, shrubs, flowers, and turf.

2. Section 4-66-57: General standards for certification of commercial applicators. (a) Competence in the use and handling of pesticides shall be determined by written examination and as appropriate, upon demonstration based upon standards which meet or exceed those set forth in 4-66-57 (b) and 4-66-58 and approved by the head. The examination shall include knowledge applicable to all commercial categories (core examination) and the other special knowledge specifically

applicable to the category (category examination), if any, into which the person is classified and to the pesticide or class of pesticides covered by the requested certification.

(b) Commercial applicators shall demonstrate appropriate knowledge based on examples from their particular category or subcategory in each of the following areas:

(1) An understanding of the general format and terminology of pesticide labels and labeling; an understanding of instructions, warnings, symbols, classification of the product, other information that may appear on the label, and the necessity for following label directions;

(2) An understanding of pesticide toxicity and hazard to man and common exposure routes; precautions necessary to guard against injury; need for and use of protective clothing and equipment; symptoms of pesticide poisoning; first aid to be followed in pesticide poisoning; and proper identification, storage, transport, handling, mixing procedures and disposal methods for pesticides and used pesticide containers, including precaution to be taken to prevent children from having access to pesticides and pesticide containers;

(3) An understanding of the potential environmental consequences of the use and misuse of restricted use pesticides, for example, the role of such factors as climatic conditions, types of terrain, soil and substrate, and the presence of various non-target organisms;

(4) The ability to identify pests and a knowledge of the importance of the biology of pests relevant to their areas of operations;

(5) A knowledge of the characteristics of various kinds of pesticides including types of formulations, compatibility, persistence, toxicity, hazard, and residues associated with use;

(6) A knowledge of the relative importance of pesticides, when they should and should not be used, and the factors which influence their effectiveness;

(7) A practical knowledge of type, maintenance, use, and calibration of equipment and an understanding of the advantages and limitations of various types of equipment. Additional knowledge of calibration shall be required of applicators using highly specialized equipment, such as aircraft;

(8) A practical understanding of how to apply pesticides in various formulations, such as dusts, wettable powders, emulsions, solutions, and gases, together with a knowledge

of application techniques. Because of the potential for greater impact of aerial application upon the environment, aerial applicators shall demonstrate special knowledge in such areas as drift potential, the effect of pesticide on non-target crops, wildlife and apiaries and human habitation; and techniques and formulations which reduce drift; and

(9) A knowledge of applicable federal and state laws and regulations.

3. Section 4-66-58: Specific standards for certification of commercial applicators. Ornamental and turf pest control operators should demonstrate knowledge of problems associated with the production and maintenance of ornamental trees, shrubs, plantings, and turf, including cognizance of potential phytotoxicity, drift, and persistence beyond the intended period of pest control. They shall demonstrate special knowledge of the hazards to humans, pets, and other domestic animals associated with the restricted use pesticides utilized in this category.

The cited sections from the Department of Agriculture's Rules and Regulations are clear and specific as to the standards and criteria established for the safe use of chemicals used as pesticides and herbicides. This is mandatory on all operators including the Department of Parks & Recreation when the Pali Golf Course is sprayed by County employees.

3. "More information on the impact of all phases of the proposed development on the sewage and drainage situation must be provided."

The following analysis of infrastructural systems required for Phase II is provided by the retained engineering consultant, Community Planning, Inc. The quantities listed in the analysis have been calculated by their office and reflect the current requirements of the City & County Department of Public Works for single-family residential subdivisions. There has been no discussion or review provided by government agencies since this Phase II analysis has not been designed beyond this extremely Preliminary stage of quantity computations. At the appropriate time when the landowner is prepared to proceed with this portion of the overall development plan, the reports developed by the engineering consultant would be sent to State and City agencies for their review and comment.

ANALYSIS OF INFRASTRUCTURAL SYSTEMS REQUIRED FOR PHASE II

Phase	Gross Area (Acres)	Benefited Area (Acres)	No. of Units
IIA	92.4	51.0	245
IIB	90.0	21.4	115
Total	182.4	72.4	360

Water System

The proposed development of Phase II will require approximately 180,000 gallons of water per day (average day demand) and a reservoir capacity requirement of approximately 0.3 mgd.

The proposed improvement is for the construction of a 0.3 m. g. reservoir at the 450-foot elevation. It is assumed that the reservoir will receive its water from the Luluku Tunnel and will be used to provide for the domestic consumption and fire protection of the proposed development. Therefore, the project

may also be provided with required well sources, pumps, pump station, transmission mains and access roads.

Besides the installation of a new pipeline system, varying in size from 6 inches to 12 inches, additional water improvements include the relocation of portions of the existing Board of Water Supply 10 and 16-inch water mains to the proposed roadway system.

The proposed 0.3 m. g. reservoir will provide water service to Phase II only and will not be interconnected with the proposed 0.5 m. g. reservoir for Phase I.

Sewer System

The construction of 360 new residential units in Phase II is expected to generate a sewerage flow of 144,000 gallons per day (average daily flow). The sewerage will be collected by a gravity conduit system consisting of vitrified clay pipes varying in diameter from 8 inches to 10 inches. All sewage will be transported to the existing City interceptor trunk main located along Kaneohe Stream. The City interceptor trunk main connects to the Kaneohe Sewage Treatment Plant (STP) which is nearing capacity. However, the Division of Wastewater Management, City and County Department of Public Works, is preparing a facility plan including master planning the Kaneohe-Kailua area.

The existing interceptor trunk main has the available capacity to accommodate the new sewage from both Phase I and II, and the facility plan of the Kaneohe STP could be expanded to include the subject areas.

Drainage System

The proposed development of Phase II involves the siting of residential units and the grading of the project area in a manner to preserve the two natural waterways that traverse through the site. Where proposed roadways cross over the existing waterways, reinforced concrete box culverts or steel plated arch culverts will be constructed to permit the continuous stream flow.

The proposed improvements include the construction of catch basins, grated inlets, drain manholes, outlet headwalls, and grouted rip-rap aprons together with the installation of reinforced concrete drainpipes.

During the grading operation, storm runoff and sediment deposits will be controlled by the construction of temporary grassed earth berms with lined spillways, grassed interceptor ditches and retention basins with filter outlets.

The general storm runoff pattern will be maintained during construction, and the proposed drainage system will be designed to discharge storm runoff flow into the existing natural waterways. All storm runoff will eventually outfall into the Ho'omaluhia Park Flood Control Area, which is adequate to accommodate discharge from the project area.

4

INFORMATION REGARDING THE SOCIAL AND ECONOMIC IMPACT OF THE ENTIRE DEVELOPMENT ON THE BANANA FARMERS ARE INADEQUATE AND MUST BE ADDRESSED MORE FULLY.

4. "Information regarding the social and economic impact of the entire development on the banana farmers are inadequate and must be addressed more fully".

We are providing for the review and comment by the State Land Use Commission and other interested parties, excerpts from the completed study prepared by Evaluation Research Consultants in December, 1981 which was included in the Environmental Impact Statement recently not accepted. These excerpts are presented in summary form and provide for the reviewer, the economic conditions presently in practice, as well as certain assumptions that are based on the farmers obtaining long-term leases from Iolani School. They are as follows:

1. Location is important since it is near to the Oahu market, giving it a 2¢/lb. advantage over growers on the Neighbor Islands.

2. The "Prime" lands are about .3% of the Prime Lands on Oahu and .7% of the "Other Important Agricultural Lands" on Oahu.

3. Given the current practices and yields, we estimate that about 60 people would be employed on a fulltime equivalent basis in cultivating, harvesting, ripening, and packing at this level of production. The employment and incomes generated in other parts of the State's economy result in a total impact of about $644,000 annually in terms of Gross Domestic Product and about 97 full time equivalent jobs.

4. Assuming that long-term leases were provided, the following assumptions can be made:

   (a) About $1.4 million worth of agricultural production annually would be realized.

(b) Approximately 120 full time equivalent employees would be required to achieve these production levels under current management practices. The expansion of banana production on the subject lands as just postulated would result in an increase by 70% in the State's total production of bananas.

5. Under long term lease conditions, about 40 families could earn a decent living by producing bananas on the subject lands.

6. The majority of the lands under discussion are classified in the "Prime" category and are presently planted in bananas of the Brazilian "Apple" variety. The fairly level portions (0-8% slope) provide for slow runoff and slight erosion factors and are suitable for selected fruits, vegetables, flowers, ornamentals and greenhouse floral and nursery crops. The steeper (10-25% slope) are harder to work and provide medium runoff and erosion factors. Land workability is difficult due to the slope. These lands could be used for greenhouse production of floral and ornamental crops, but the greenhouse construction costs would be high due to the need for extensive grading.

7. The Brazilian "Apple" banana is the major crop grown in this area at present. Approximately 90% of the State supply of Brazilian bananas are produced in this area. With the discovery of the banana stem borer in the Waimanalo banana growing area, the expansion of banana production in this district could become economically feasible.

Displacement of the farmers by the proposed Interstate Highway H-3 project and the Iolani project has jeopardized the position of the existing farmers to continue to cultivate and grow their crops.

It is pointed out now that "the State of Hawaii will attempt to assist the banana farmers in the relocation of the facilities and will attempt to

assist them in the acquisition of other lands for banana farming if they so desire." This is cited on pages 55 and 56 of the Department of Transportation, Federal Highway Administration, "Final Environmental Impact Statement Administrative Action, prepared August, 1972 for Interstate Route H-3, Halawa Interchange to Halekou Interchange Oahu, Hawaii (See Exhibit E)."

It is further pointed out in the memorandum dated May 6, 1983 (Exhibit F) from Community Planning, Inc. to Man Kwong Au of Iolani School, that the banana farm tenants are to be provided with replacement lands as shown on the Lease Map prepared by Community Planning, Inc. (See Figure 3, pg. 1-14). Au has subsequently disclosed to the Land Use Commission that "the School has offered the banana farmers the right to relocate to certain adjoining areas" (see letter of response to Luluku Banana farmers on page J-50).

5

MORE INFORMATION CONCERNING THE IMPACT OF THE PROPOSED DEVELOPMENT ON THE ARCHAEOLOGICAL SITES KNOWN TO EXIST ON THE SUBJECT PROPERTY MUST BE PROVIDED.

Draft: Letter dated May 27, 1983

5. "More information concerning the impact of the proposed development on the archaeological sites known to exist on the subject property must be provided."

The EIS prepared for the subject parcel as specified in the petition contained as "Appendix E," a brief letter identifying the scope and extent of effort undertaken to determine the location and significance of archaeological sites on the subject parcel. A more detailed archaeological study with a site map was previously filed with the petition in December, 1982 in the Environmental Assessment which described the total project area and the sites on the subject parcel. We are assuming that due to the brevity of the document/letter in the EIS, the feeling by reviewers of the EIS, that the material was not adequate in content.

Therefore, to meet the request of item #5, we are providing the <u>total site</u> archaeological study as prepared by Chiniago, Inc. and also a response letter by Mr. William Barrera (Chiniago, Inc.) to the Legal Aid Attorney representing the Hui Malama Aina O Koolau. We trust that both attachments are responsive to item #5.

project will also not affect views of the Koolau Mountain Range, since building heights of the proposed structures are limited and consistent with single-family dwelling units.

c) Mitigative Measures. None required.

5. Flood Hazards

a) Existing. The Kaneohe area has had a long history of intense rainstorms and frequent devastating floods. Since 1952, nine major floods have occurred causing considerable property damage and the loss of two lives.

b) Impacts. The U.S. Army Corps of Engineers, after the 1969 floods, implemented and completed the Kaneohe Flood Control Project, which created a retention dam and a reservoir at the headwaters of Kaneohe Stream, and channel imporovements to the stream outlet at Kaneohe Bay, to provide flood protection for the highly urbanized areas in the Kaneohe region. The project sites are therefore, protected from any subsequent flooding activity.

c) Mitigative Measures. None required.

6. Archaeological Sites

a) Existing. A literature search and walk-through reconnaissance survey was completed for the project site Iolani School Lands.

The literature search uncovered previous archaeological investigations in adjacent areas that were conducted in 1976, 1977, and 1982. These investigations included the 1976 Bernice P. Bishop Museum publication entitled

Archaeological Investigations in Upland Kaneohe, edited by Paul H. Rosendahl; the 1976 report entitled "Archaeological Reconnaissance Survey of the Windward Portion of Route H-3" by Paul Cleghorn and Elaine Rogers-Jourdane; the 1977 manuscript entitled "Archaeological Phase I Survey of the Windward Portion of Proposed Interstate H-3: Halekou Interchange to Windward Portal of Koolau Tunnel, Oahu", by Thomas Dye; and the "Archaeological Reconnaissance Survey for Route H-3 (Alternative A)", by Charles Streck. The Rosendahl volume reported the presence of four sites, consisting of terrace complexes, rockmounds, a stone alignment, a retaining wall, and an oven for manufacturing charcoal. The Cleghorn and Rogers-Jourdane report noted the discovery of two tentatively prehistoric sites, which consisted of human burials.

The following details a description of each archaeological site as provided by the Rosendahl and Dye reports:

Site 53: Stone and Concrete Oven for Charcoal Manufacture

This modern feature is an oval dome with stone lining in the inner walls and a concrete dome ceiling with an iron plate sandwiched between the concrete. The whole structure, except for the upper part of the dome, is dug into a slope. It measures 6.4 meters long, 3.6 meters wide, and 2.25 meters high to the apex of the dome. There is one opening measuring 1.55 meters by 60 cm and the wall thickness is built out to 55 cm here. The rest of the structure has a thickness of about 18 cm. At the back, opposite the entrance, is a small rectangular opening 20 cm wide by 15 cm high and going back 30 cm into the wall; this was probably the chimney. The sides are lined with uniformly round stones and some larger basal stones. From the floor to the concrete ceiling are six to eight layers of stones of single thickness. Above the walls on either side are

located three vent holes 12 cm in diameter. On the basis of large amounts of charcoal present on the floor and accounts of informants, it was verified that the function of this structure was a charcoal-making oven of recent historic origin.

Site 54: Large Terrace Complex

This site is the most extensive multiple-feature site found. At present six or more large, rock-wall-reinforced terrace areas can be seen. In addition, there are more than 10 other features that include smaller individual plots, terraces, platforms, and retaining walls.

Three Kamooalii tributaries flow through the complex, providing ample irrigation, and join at the lower margin of the complex. These streams divide the complex into two areas. One is a long, narrow strip defined on both sides by the stream gullies, and most of the smaller terraces are located here. On the opposite bank is a larger, somewhat higher, flat area with the larger terraces. Although purely hypothetical at this time, the locations of the smaller terraces which appear more suited for dry cultivation. It is quite possible that the upper reaches of this complex were destroyed during the construction of a jeep road that goes through there.

Site 56: Terrace Complex

This complex is comprised of four separate features situated on a flat at the base of a rise. They seem to be small terrace outlines with some disturbance.

Site 57: Terrace Complex

Probably associated with the Site 56 complex, this appears to be a large site, roughly in the shape of a quadrilaterial, with several interrelated and interconnected features. The outer perimeter measures 4.3 by 18.7 by 17.3 by 25.5 meters. This quadrilateral runs downward along the slope of the land and ends at the flat fronted by the old jeep road. Most of the features fall within the lower half of this area, which is covered by a grove of kukui and mountain apple (Eugenia mallaccensis) trees--sometimes also called Malay apple. The origin, date, and function of this site are unknown, but some of the features suggest agricultural forms.

Site 58: Possible Terrace and Two Rock Mounds or Piles

These features are located directly across the jeep road from Site 57, described above. An ill-defined alignment of stones 11 meters along with a width of 20 cm suggests a badly disturbed terrace. Two piles of small stones 1.65 meters apart and 1 meter from the stream bank are located 11.8 meters due S of this alignment. The larger pile measures 2 meters in diameter with a height of 25 cm, and the smaller measures 1.3 meters by 20 cm.

Site 59: Stone Alignment With Some Features

This site is probably a badly disturbed terrace border. Sporadic stones define two alignments, 3.8 and 6.5 meters long, respectively, with a width of about 15 cm. A mound of small stones lies in the middle of the longer alignment. A few other stones can be seen in a poorly defined alignment nearby.

Site 60: Retaining Wall

This is a poorly defined, discontinuous stone wall on the W bank of Kamooalii Stream at the inland margin of the first terracette above the stream. The wall is constructed of various-sized stones and is 60 cm (maximum) high.

Site 61: Stone and Concrete Oven for Charcoal Manufacture

This site is similar to Site 53, except that the dimensions are slightly smaller.

Site 62: Retaining Wall

This is an L-shaped retaining wall located 15 meters E of Site 61. Its perpendicular situation in relation to the stream suggests its being a terrace border. The longer portion of the wall (12.1 meters long) is oriented 110° W, but the remaining stonework measures only 7.6 meters in length. It is built of two layers of large, rectangular stones, 30 cm high, which slant into the higher earth bank. The other portion of the wall--2.7 meters long, 20 cm high, and 1 meter wide-shows a marked difference in construction, utilizing small stones.

Site 63: Terrace Complex

This complex--located across the stream from Site 62 and on a point of land defined by a sharp bend in the stream--is comprised of two separate, very crude features that indicate small terraces and stone-bordered plots.

Site 64: Enclosure and Platform

This site is located at the edge of a large kukui grove near several small grassy clearings. Four stone walls roughly define a four-sided structure measuring 30 cm high by 2.9, 2.4, 3.2, and 2.9 meters.

Attached to the exterior of the SE wall is a low (10 cm), rectangular platform 2.1 meters in length by 1 meter in width, which borders a depression or pit 50 cm square. Another stone platform, 35 cm in height and L-shaped, lies 3.5 meters from the NE wall. The base of the L, nearest the enclosure, measures 2.4 meters in length; the longer arm, oriented 30° E, measures 6.5 meters long, and both are 1.5 meters wide. Intact sections indicate a two-layer construction of stones. On the eastern side of the longer segment, 4.5 meters from the base of the L, is an indentation 80 cm square.

The size of this site and the probable association between the enclosure and the platform suggest a religious function rather than an agricultural or habitational one. Its cultural origin is probably Hawaiian.

Site 65: Ditch System

North of the kukui grove mentioned in the description of Site 64 is a steep embankment about 3 meters high, which divides this upper area from the lower flood plain created by the stream flowing below the eastern side of the grove. Located atop this embankment is a ditch 30 meters long, 2 meters wide, and 50 cm deep. It starts at the lower margin of the kukui grove near the stream and parallels the embankment until the steepness modifies to a gradual slope. The ditch fronts a natural flat terrace area W of the kukui grove.

Two possible walls located along the ditch on the extremities of this terrace suggest its possible agricultural function, in addition to the various taro and 'ape that grow in the ditch and throughout the whole terrace area as well.

Another smaller channel flows perpendicularly into the larger ditch about 10 meters from the latter's point of origin.

Site 68: Platform

This site is a small, crude, and deteriorated platform.

Site 71: Terrace and Platform

This series of four rectangular terraces and four platforms is on a small knoll just south of Likelike Highway. The two northernmost platforms are depressed in the center, and in the next-to-bottom terrace is a fine-grained basalt stone, set upright in the middle of the mauka wall. Overall dimensions are 16.15 meters along a-a, 6.15 meters wide at the N edge, with a rise of 2.65 meters from S to N for a slope of 16 percent.

The Streck document determined the possibility of the following two sites being located within the project boundaries:

Possible Site No. 1

Disturbed possible agricultural area.

Site 50-Oa-G5-78

Probable agricultural terraces and alignments and two basalt-lined depressions.

Figure 7 on page 1-49 presents the locations of these sites relative to the project area.

b) Impacts. Significant archaeological sites are situated in the project area. The proposed action then, may interrupt the respective surroundings of these sites.

c) Mitigative Measures. It is recommended that intensive archaeological surveys be conducted in all portions of the project site before any construction begins.

No construction will take place until adverse impacts on significant archaeological sites have been mitigated.

If any unknown sites are encountered during construction, the State Historic Preservation Officer will be notified.

C. Biological Considerations

1. Agricultural Significance

a) Existing. A literature search and walk-through survey, entitled A Botanical Survey of Iolani School Lands Proposed for Residential Development, Kaneohe-Kailua, Oahu, prepared by Winona P. Char, were completed for the project site.

While there were no studies found that dealt specifically with the entire proposed project area, a number of studies have been done on adjacent areas and portions of the project sites. The "Interstate Route H-3 Environmental Impact Statement", prepared by the Department of Transportation in 1974, provided brief descriptions of vegetation types, largely banana fields, that were present within parts of the project site. The "Supplemental Environmental Statement for Flood Control and Allied Purposes for the Kaneohe-Kailua Area, Oahu, Hawaii, prepared by the U.S. Army Corps of Engineers, in 1965, found that vegetation in the adjacent Ho'omaluhia Park Project, consisted largely of introduced species. The project area, except for the steeper slopes, had been under taro, rice, pineapple, sugar, or banana cultivation in the past.

CHINIAGO INC.
Archaeological Consulting

1040-B SMITH STREET • HONOLULU, HAWAII 96817 • TELEPHONE: (808) 521-2785

April 25, 1983

Mr. Fred Rodriguez
Environmental Communications Inc.
1152 Bishop Building
Room 407
Honolulu, Hawaii 96813

Dear Mr. Rodriguez:

This is in response to your request to review certain comments regarding archaeological work at the location of the 200+ acre Iolani School Project. While I agree that further survey work, including sub-surface testing, is required, I differ with the reviewers as to the appropriate scheduling of that work. It would be premature to conduct an intensive archaeological survey before the developer has any assurances that the project will meet with all of the necessary approvals. I feel that there will be sufficient time to do the fieldwork, and for the developer to make any necessary adjustments in the development plan necessitated by the results of the fieldwork, if the archaeological survey were to be completed no later than the time of submission of the re-zoning request to the City and County of Honolulu. I therefore recommend that you accept this approach as a self-imposed condition.

If you have any further questions, please feel free to contact me.

Sincerely yours.

William Barrera, Jr.
President

6

THE FULL IMPACT OF THE ENTIRE PROJECT ON THE SCENIC-VIEW CORRIDOR OF THE WINDWARD SIDE HAS NOT BEEN ADEQUATELY ADDRESSED AND MORE INFORMATION ON THIS MATTER MUST BE PROVIDED.

6. "The full impact of the entire project on the scenic-view corridor of the windward side has not been adequately addressed and more information on this matter must be provided."

The Department of Parks & Recreation, City & County of Honolulu was the most severe critic of the impact on the scenic-view corridor discussion (Exhibit G). Community Planning, Inc. prepared the scenic view corridor analysis which in narrative and visual cross section, depict the proposed project as it is envisioned by the applicant landowner.

IOLANI SCHOOL EIS - SCENIC-VIEW CORRIDOR ANALYSIS

The Iolani School project proposes a total residential use of 186 acres of their lands at Kamooalii. The area to be used for housing is only 49% of the total land area of 383.8 acres. The remaining areas will be kept in open space and the character will remain unchanged, except for a small portion to be improved for neighborhood parks.

The conceptual plan for residential development envisions a series of neighborhoods arranged in clusters. These are sited on those areas most suitable for residential development based on topography, access, soil conditions, and relationships to existing uses. Each cluster is surrounded by generous amounts of open space to retain the lush greenery of the environment.

Views of the proposed project area were analyzed in respect to public view sites. These view sites were found to be limited to the Pali Lookout at Nuuanu Pali State Park, at the summit of the Koolau Range. The project site is not visible from the Likelike Highway and Kamehameha Highway. The proposed residential development is also not visible from Ho'omaluhia Park as it is located below the proposed residential areas and will be obscured by mature vegetation and the proposed Interstate Highway H-3 alignment, which borders the park. The project is also not visible from Pali Golf Course because of the existing vegetation which obscures views toward the proposed residential areas.

The view from the Pali Lookout provides a panorama of the windward side and looks over the Iolani School lands. The view today allows one to see the Pali Golf Course, Ho'omaluhia Park, and the residential and commercial areas of Kaneohe. Highly visible are the residential subdivisions of Keapuka, Mahinui, Halekou, Pikoiloa, Parkway, Kapunahala and Puohala. Kaneohe Bay and the residential subdivisions along its shores are visible in the distance. This panorama thus provides a composite of urbanization, major parks, open space, with the foreground dominated by the vegetation on the Pali slopes.

The impacts of the proposed residential project have been analyzed by superimposing the proposed development on the existing view panorama (Exhibit H) and depiction of a typical cross section of the proposed development (Exhibit I).

The typical cross section shows the relationship of the proposed residential building types to the underlying topography of the site and to landscaping elements. The building types are single-family detached residential, duplex and townhouses. There is a mixture of one- and two-story buildings. Open space between residential clusters is dominated by mature vegetation which is higher than the proposed buildings and would, therefore, obscure their visibility. Residential landscaping will further enhance this effect so that tree forms will become a more dominant element visually than the buildings themselves.

The panoramic view, with the residential development super-imposed, provides a perspective of how the residential clusters will appear in the landscape. The proposed Interstate Highway H-3 is seen as a linear element between the residential clusters and Ho'omaluhia Park. The foreground portion of the view will be dominated by the vegetation on the Pali slopes.

The residential clusters of Phase I of the development will be visible from the Pali Lookout with the rooftops of residences as the primary feature. The rooftops would be seen intermittently behind mature trees and vegetation which surround each residential cluster. Landscape treatment on individual

lots and street trees will result in a further blending of the residences into the surrounding landscape. The separation of each cluster by open space will reduce the visibility of the total development and afford a blending of these new urban features into the open space and vegetation elements of the view.

Phase II (Phases IIA and IIB) of the proposed project are in the background portions of the panorama, beyond Ho'omaluhia Park and the dam, is a dominant feature in the view perspective. These residential portions of the project will appear as a contiguous extension of existing residential subdivisions located makai of the park.

With the inclusion of the proposed Kamooalii project of Iolani School, the panoramic view is altered primarily by the Phase I residential clusters, which are in the foreground. The visual presence of this type of preferred development will be softened by intervening open space and landscape materials. The other dominant elements of the view remain unchanged. These include the Ho'omaluhia Park and Pali Golf Course open space, the Koolau palis, and the urban form of the various existing Kaneohe residential subdivisions.

EXHIBITS

EXHIBIT A

ISLAND RESOURCES, LTD.
" Resource Management With Imagination"
Water • Land • Energy

STEPHEN P. BOWLES
President

TELEPHONE
885-4759

July 19, 1983

Mr. George Houghtailing
Community Planning, Inc.
700 Bishop Street
Honolulu, Hawaii

SUBJECT: GROUNDWATER HYDROLOGY WITHIN THE VICINITY OF LULUKU AND KAMOOALII STREAM, KANEOHE, OAHU - A SUMMARY

The proposed residential development of Iolani School (see Map A) is generally located within an area of groundwater discharge. Water development is presently limited to the two Kuou wells, located within Phase II B in the northern portion drainage basin.

In a 1969 study of the area, by the U.S. Geological Survey (Takasaki, Et.Al.,1969), detailed low flow measurements on all tributary streams are reported. Map B shows the locations of selected stream flow measurements. Exhibits I and II are taken from the 1969 report. As indicated in the U.S.G.S. report, the area below an elevation of 500 feet is best described as a groundwater discharge area at the present stage of groundwater development.

The Board of Water Supply is proposing a number of wells for the area (see Map C). Depending on the quantities of groundwater developed by the wells, portions of Luluku-Kamooalii basin may change from discharge to recharge systems. The extent of the reversal is dependent on the final location of wells and the quantity of water pumped.

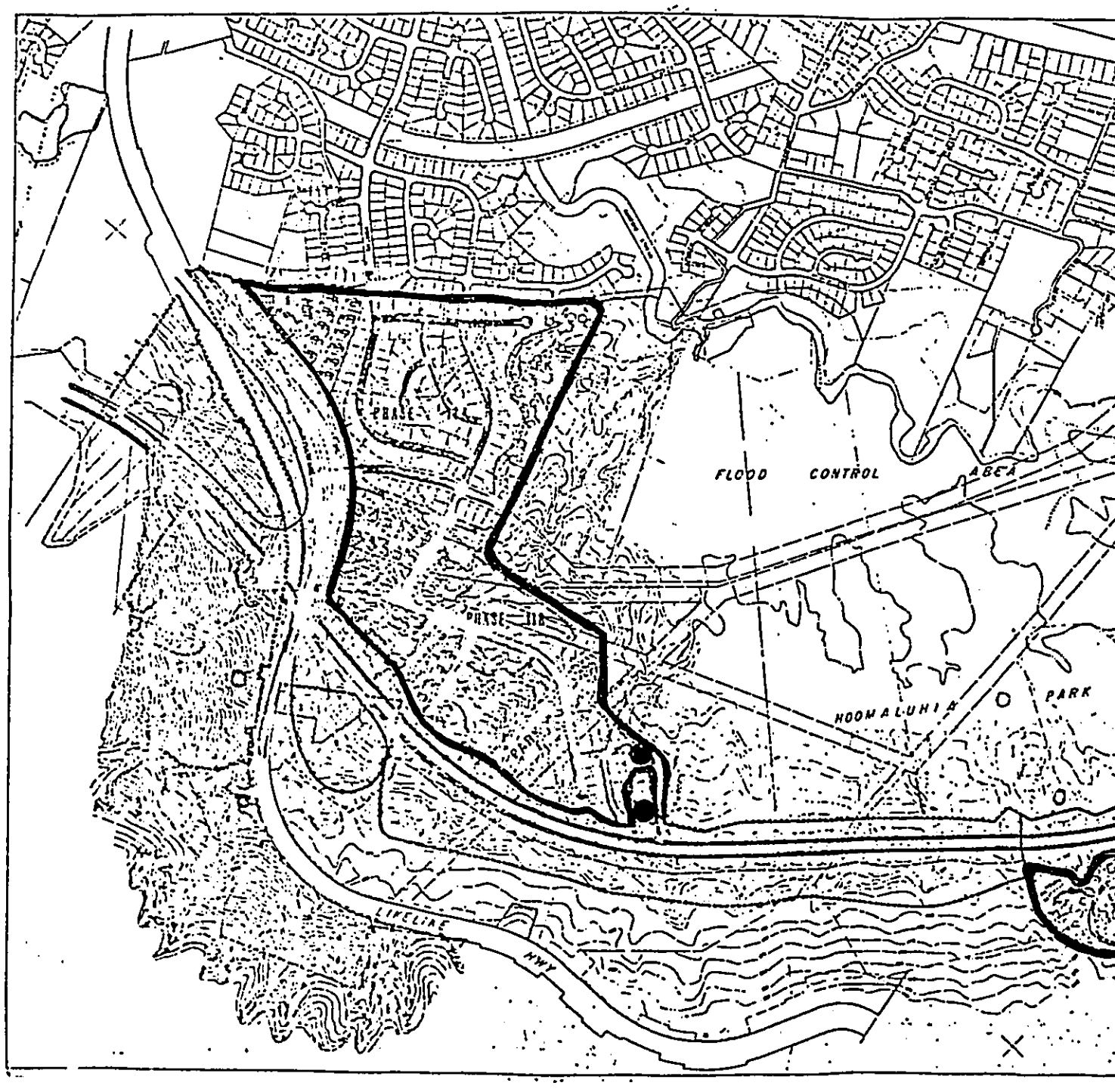
Based on the information contained in the 1969 U.S.G.S. report and the proposed location of B.W.S. wells, it is doubtful that the proposed residential development would have any impact on the groundwater, other than an increase in demand. The existing and proposed B.W.S. well locations can be relocated in order to minimize any potential conflicts.

Stephen P. Bowles

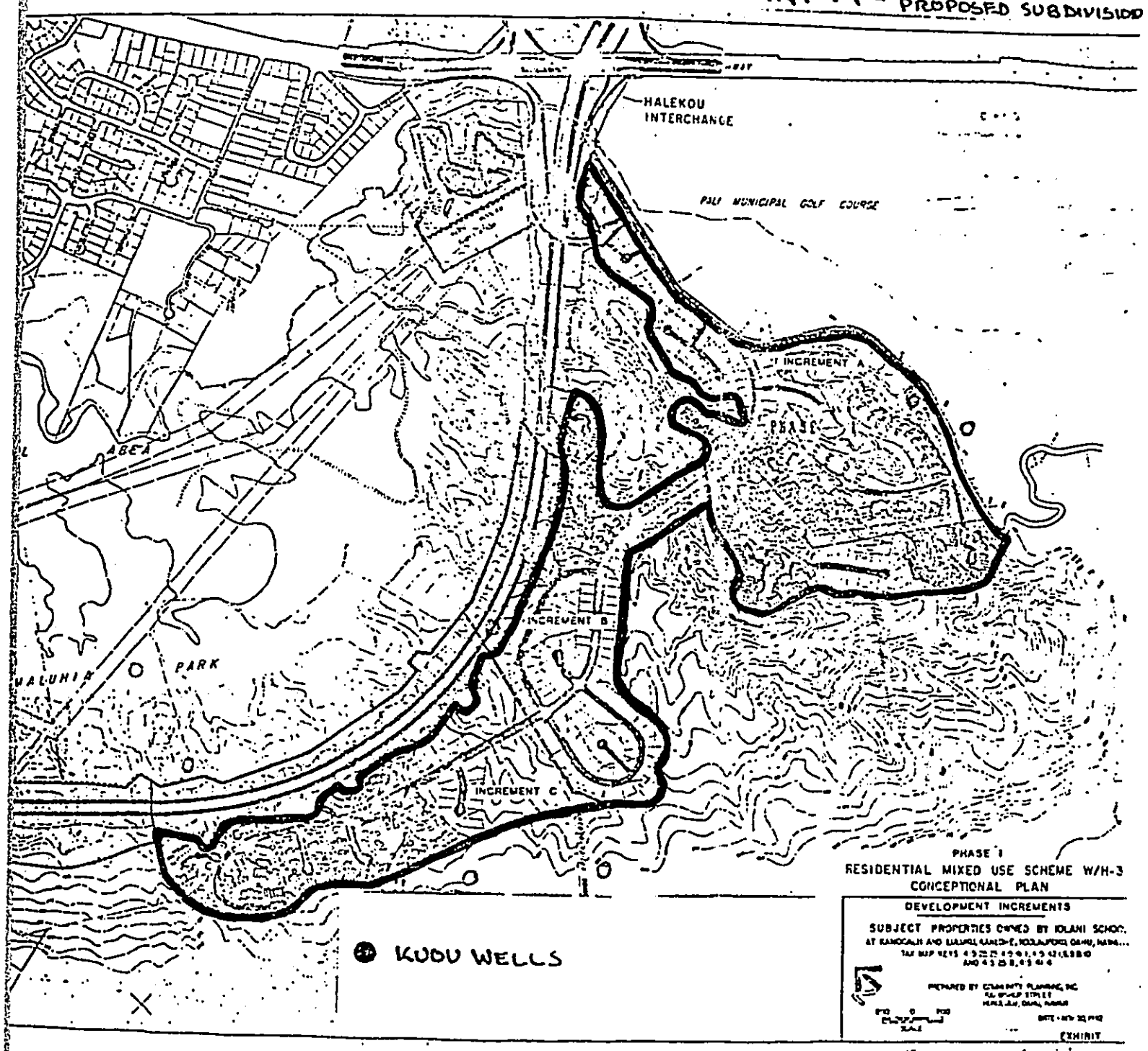
SELECTED REFERENCE

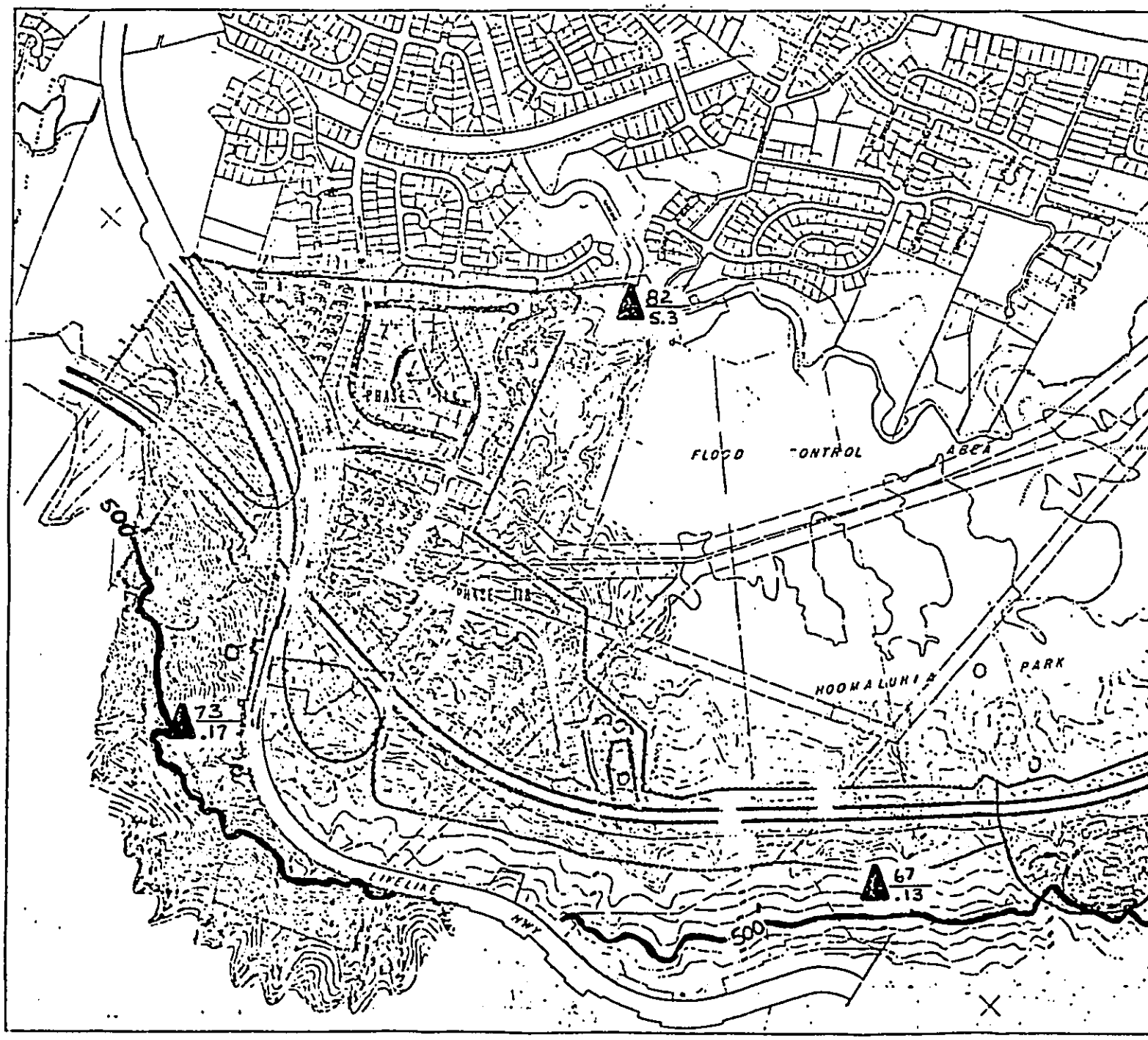
TAKASAKI, K.J.; HIRASHIMA, G.T., and LUBKE,E.R.; 1969; WATER RESOURCES OF WINDWARD OAHU, HAWAII; U.S. Geological Survey Water Supply Paper 1894.

P.O. Box 1656 • Kamuela, Hawaii 96743


FLOOD CONTROL AREA
HOOMALUHIA PARK
LIFELINE HWY

MAP A - PROPOSED SUBDIVISION

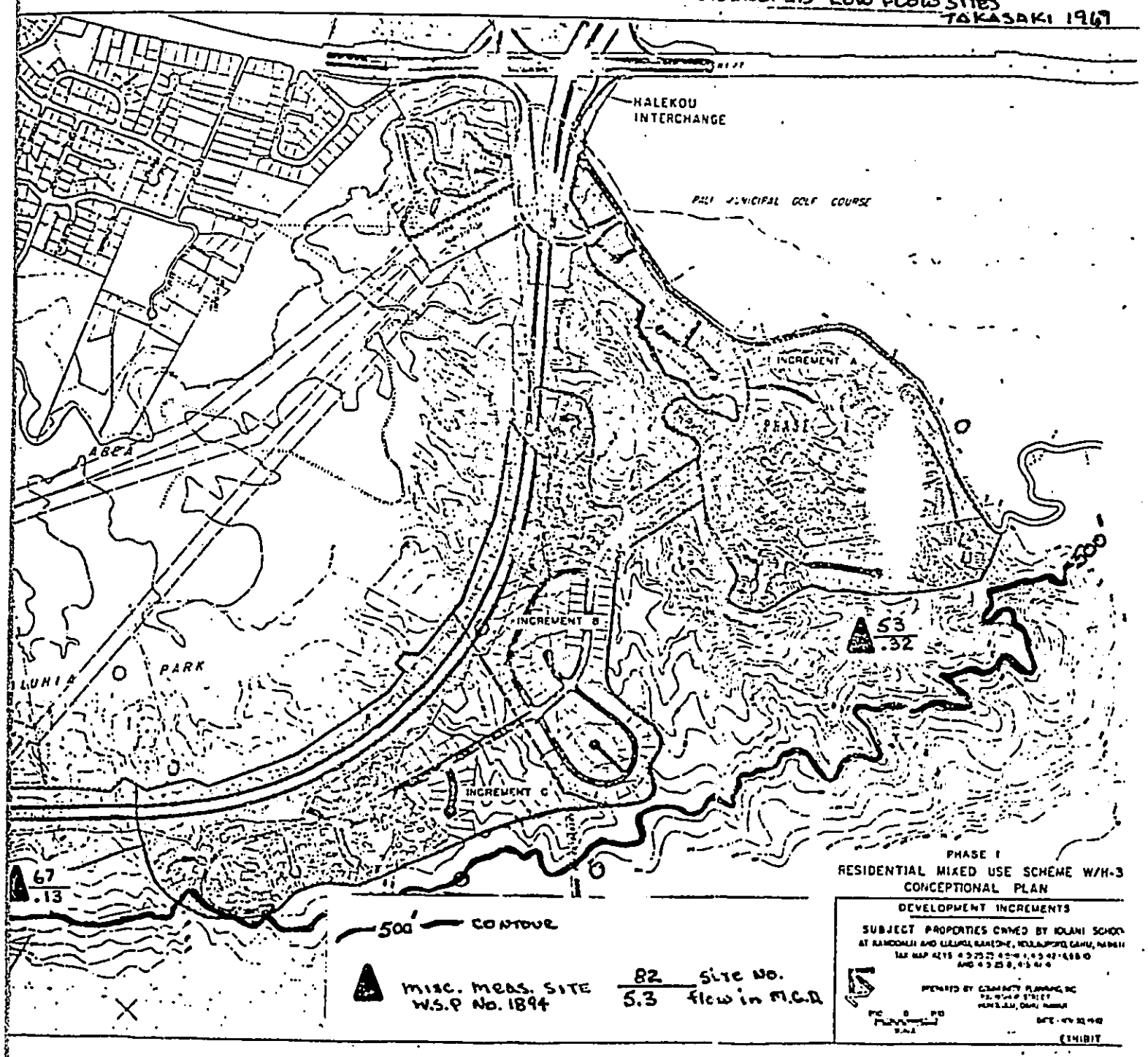




82
5.3
FLOOD CONTROL AREA
PHASE
HOOMALUHIA PARK
73
.17
67
.13
500
LIVELIKE HWY

MAP B

SELECTED LOW FLOW SITES
TAKASAKI 1969



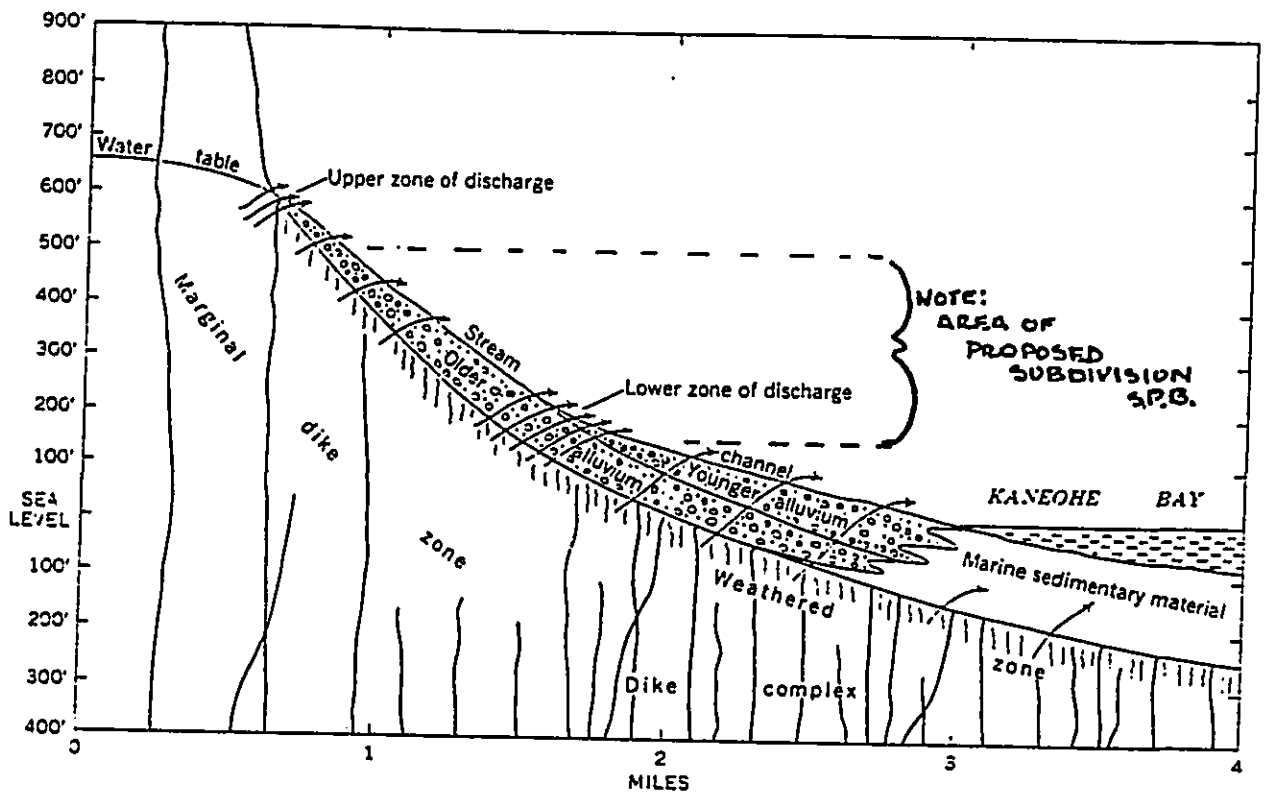


FIGURE 85.—Typical stream channel in Kaneohe area, showing positions of discharge zones.

FROM TAKASAKI, ET AL, 1969

EXHIBIT I

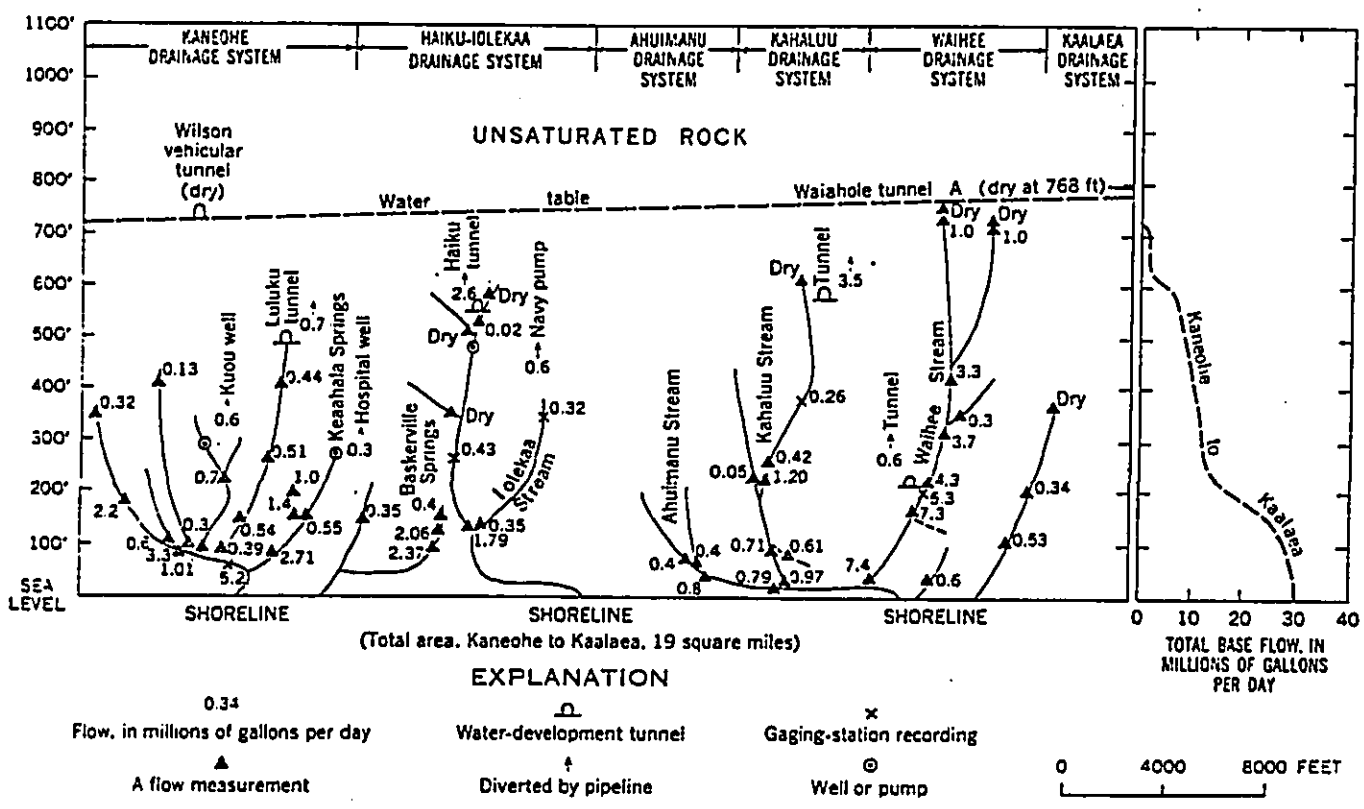
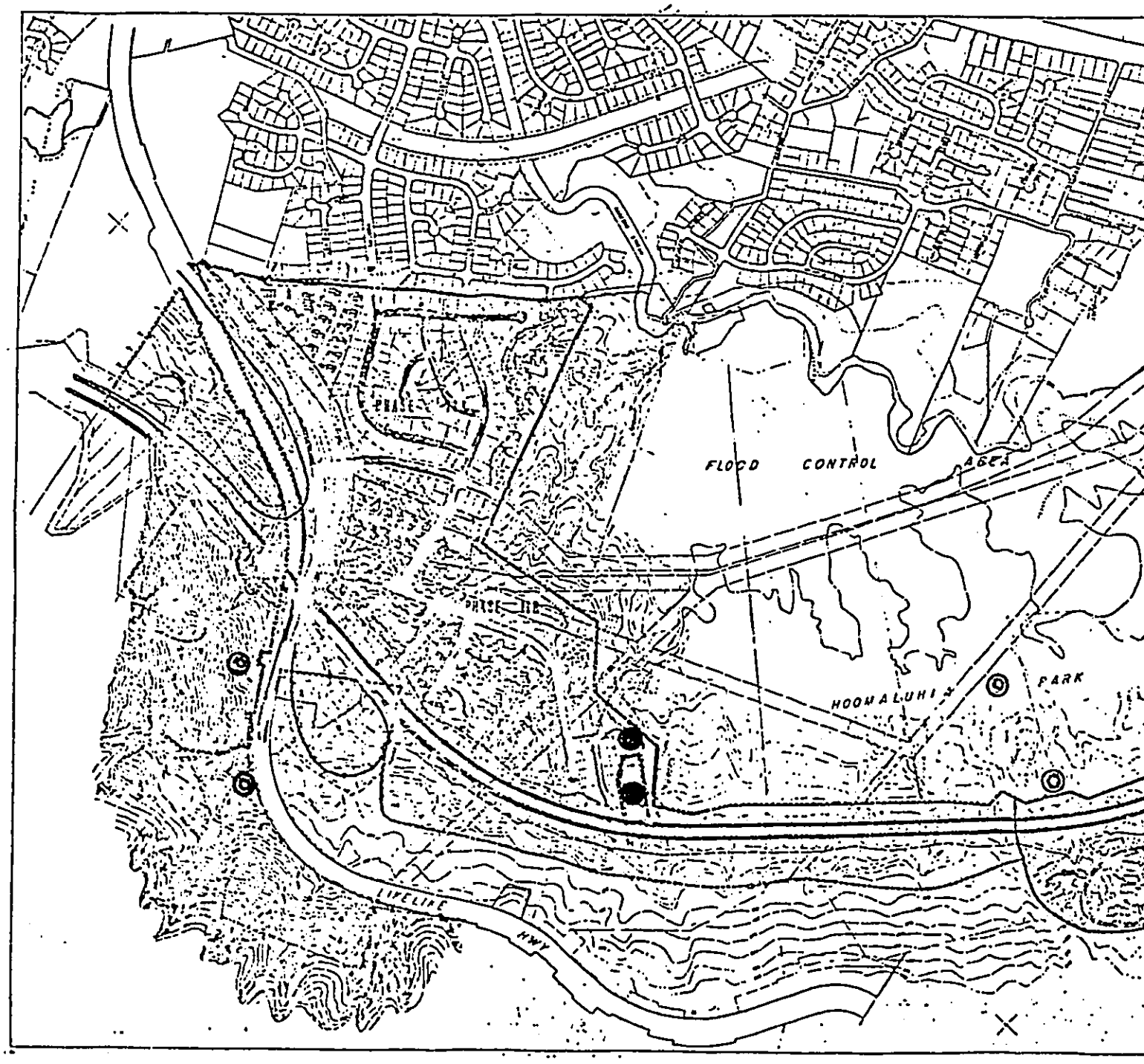


FIGURE 34.—Part of Kaneohe area, showing base-flow discharge of streams and tunnels and discharge of wells.

FROM TAKASAKI, ET AL, 1969

EXHIBIT II


FLOOD CONTROL AREA
PHASE III
PHASE IIB
HOOMALUHIA PARK
LIFELINE HWY

MAPC
PROPOSED & EXISTING WELLS
BWS

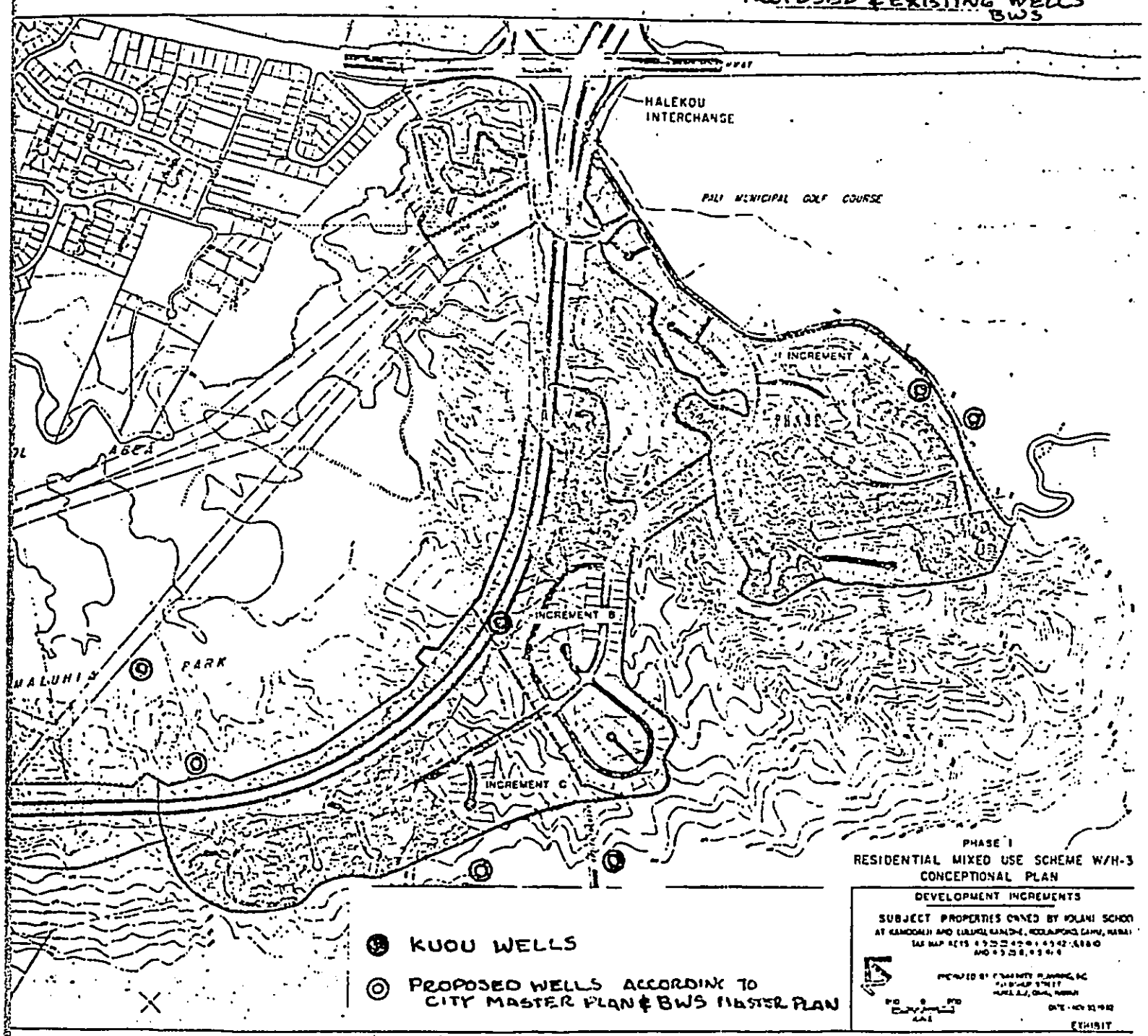


EXHIBIT B

ACCESS STUDY FOR THE
PROPOSED KAMOOALII DEVELOPMENT
KANEOHE, KOOLAUPOKO, OAHU, HAWAII
TAX MAP KEYS: 4-5-25: 23; 4-5-41: 1;
4-5-42: 1, 6, 8 AND 10
OWNER: IOLANI SCHOOL

PREPARED BY

COMMUNITY PLANNING, INC.
700 BISHOP STREET, SUITE 608
HONOLULU, HAWAII

FEBRUARY 1983 (REVISED)

I. PROJECT DESCRIPTION

Community Planning, Inc. has been authorized to prepare for Iolani School preliminary development plans for approximately 383.8 acres out of the total of 975.6 acres located at Kamooalii, Kaneohe. This analysis takes into consideration the topography of land the proposed right-of-way for the Interstate H-3 Highway, access roads, streams and gulches. Based on this study, it is determined that approximately 381.4 acres could be urbanized and 186.0 acres developed for residential and park uses. Included in the 383.8 acres are approximately 197.8 acres for roadways, drainageways, open space and right-of-way for the Interstate Highway H-3 as noted on Exhibit D. Approximately 971 units of mixed residential use, including single-family, duplex and townhouse units could be developed. The estimated population for this proposed development of 971 units is 2,900 people.

It is intended to use the land of the Kamooalii project to the maximum economic potential. This goal may be achieved by developing internal street patterns and external access roads which are in harmony with the traffic capacity of the ultimate street and highway network serving this project and adjacent areas.

However, the owner/developer visualizes that the overall development should be planned and geared to meet the immediate needs and long-term demand for housing, and the

time required for implementing the project proposes the development of the property in two phases with due consideration given to the fact that the construction of the Interstate Highway H-3 will become a reality in accordance with plans approved by the State Department of Transportation. Also, it should be noted on Exhibit D the H-3 Highway bisects the developable property of 383.8 acres so that Phase I of the development will have access over Kionaole Road onto Kamehameha Highway and for Phase II, access will be at a permitted point onto Likelike Highway and/or via Luluku Road within the Keapuka Subdivision.

Phase I

Phase I is the subject matter of the petition to the State Land Use Commission for urbanization at this time. Hence, the traffic analysis as submitted in this report deals with the boundary amendment of Phase I comprising an area of 201.4 acres from conservation to urban; and if so reclassified, the property will be developed for residential purposes. A total of 611 residences consisting of 259 single-family units, 82 duplex units and 270 townhouses are planned. Located alongside Pali Golf Course, Phase I of the project site also abuts a portion of the Ho'omaluhia Park. The land slopes generally from north to south and a majority of the area has slopes of under 20 percent. Those areas in excess of 20 percent slope are generally ridges and gulches which form natural drainage areas and open space.

II. PURPOSE OF REPORT

The purpose of this traffic study for Phase I includes:

A. The development of the traffic generating characteristics of the project based on the preliminary land use plans

B. The evaluation of access routes between the project and the existing and proposed network of streets, highways and major thoroughfares

C. The evaluation of the impact of the traffic generated by Phase I of the Kamooalii project upon the network of access road to the project

III. TRAFFIC ANALYSIS

Phase 1

A. Two major highways provide access to the project site. They are Kamehameha and Pali Highways. A service road off the Halekou Interchange on Interstate Highway H-3 will provide access to the subject property from Kamehameha Highway.

Under the program to develop Phase I containing 201.4 acres adjacent to the Pali Golf Course, Kionaole Road will serve as the primary access to Kamehameha Highway, the major traffic route serving the parcel of land proposed for development.

Under this phase of development, consideration is given to the proposed right-of-way for Interstate Highway H-3; but because the time for completion of the construction

is uncertain at this time, this analysis is based on assessing the traffic impact on the existing street and highway system.

An analysis was made of the traffic volume for Kamehameha between Halekou Road and Likelike Highway and Kaneohe Bay Drive, and Kamehameha Highway between Kionaole Road and Castle Junction to determine the impact the traffic from the Kamooalii development will have upon Kamehameha Highway.

1. Kamehameha Highway: Halekou Road to Likelike Highway-Kaneohe Bay Drive

   It is assumed that for this portion of the analysis, traffic originating from Phase I of the development of 611 units will use Kionaole Road as the major access to Kamehameha Highway.

   a. 24-Hour Projections

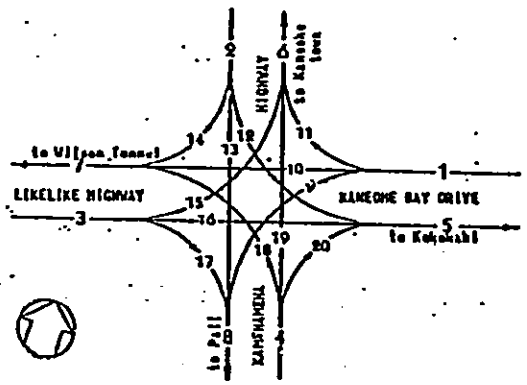
      The total existing average daily traffic volume on Kamehameha Highway between Kionaole Road and the Kaneohe Bay Drive-Likelike Highway intersection is 24,660 vehicles. This average count on Kamehameha Highway is based on volumes taken in 1979 and 1980 as noted below:

	Kamehameha Highway at Halekou Road			Kamehameha Highway at Likelike Highway and Kaneohe Bay Drive*		
	24 Hr	AM Peak	PM Peak	24 Hr	AM Peak	PM Peak
Northbound	11,560	360	1,180	14,690	1,100	1,390
Southbound	10,630	1,000	710	12,440	890	1,060
	22,190	1,360	1,890	27,130	2,370	2,320

Average = 24,660 vehicles per day

*See 1980 turning movement counts on Table I, page 5A.

TRAFFIC MOVEMENT COUNT
KAMEHAMEHA HIGHWAY AT LIKELIKE HIGHWAY AND KANEOHE BAY DRIVE
DECEMBER 1980



Movement	24-HR	AM Peak	PM Peak
1	12,387	1,107	804
2	14,272	1,211	863
3	14,029	798	1,457
4	14,685	1,096	1,394
5	13,645	962	1,092
6	14,209	797	1,504
7	15,078	1,567	860
8	12,441	886	1,062
9	2,117*	162	163
10	7,204*	774	398
11	3,066*	171	243
12	4,603*	337	281
13	6,651*	514	510
14	3,018*	360	72
15	2,892*	129	377
16	7,148*	459	691
17	3,989*	210	389
18	5,051*	433	390
19	8,078*	497	884
20	1,556*	166	120

*Projected

The design capacity of Kamehameha Highway, a 4-lane divided highway, for the section between Kionaole Road and the Kaneohe Bay Drive and Likelike Highway intersection is 38,400 vehicles per day (VPD), based on the premise that this type of roadway is capable of handling 800 vehicles per hour per lane for a 12-hour day under conditions of Level of Service "C" for stable flow. Kamehameha Highway now has an average daily traffic flow of 24,660 cars, the remaining existing capacity is 13,740 VPD (38,400 VPD - 24,660 VPD).

Based on a daily generation rate of 6.3 external trips per unit, the proposed 611 units of Phase I will generate some 3,855 daily vehicle trips from the Kamooalii development. Kamehameha Highway between Kionaole Road and Kaneohe Bay Drive-Likelike Highway can accommodate traffic for the planned 611 units and still have capacity for additional 9,885 vehicles per day (13,740 VPD - 3,855 VPD).

b. Peak Hour Projections

In order to adequately assess the impact of additional traffic generated from proposed 611 units of Phase I during the peak hour, the following projections are made. All peak hour trips are assumed to be headed in one direction, and 10 percent or 390 trips of the total daily traffic of

3,855 trips will be generated during the peak hour. The directional capacity of Kamehameha Highway is 1,600 vehicles per hour (VPH) based upon the design of 800 vehicles per hour per lane for two lanes under a Level of Service "C" for stable uninterrupted flow.

1) Kamehameha Highway and Kionaole Road Extension (Halekou Interchange Service Road) at Kahiko Street

When compared with the smaller peak hour traffic volume assignments for the year 2003 projected by the State Highways Division, the remaining traffic capacity of Kamehameha Highway at Kionaole Road Extension will increase as a result of the completion of Interstate Highway H-3.

a) AM Peak

-Northbound (toward Likelike Highway):

Existing volume = 360 VPH

Proposed volume = 390 VPH

Total = 750 VPH, which is less than design capacity of 1,600 VPH

State projection (year 2003) = 380 VPH

Proposed volume = 390 VPH

770 VPH < 1,600 VP

-Southbound (toward Pali Highway):

Existing volume = 1,000 VPH

Proposed volume = 390 VPH

Total = 1,390 VPH < 1,600 VPH

State Projection (year 2003) = 840 VPH

Proposed volume = 390 VPH

1,230 VPH < 1,600 VPH

b) PM Peak

-Northbound (from Pali Highway):

Existing volume = 1,180 VPH

Proposed volume = 390 VPH

Total = 1,570 VPH < 1,600 VPH

State projection (year 2003) = 840 VPH

Proposed volume = 390 VPH

1,230 VPH < 1,600 VPH

-Southbound (from Likelike Highway):

Existing volume = 710 VPH

Proposed volume = 390 VPH

Total 1,100 VPH < 1,600 VPH

State projection (year 2003) = 490 VPH

Proposed volume = 390 VPH

880 VPH < 1,600 VPH

It is estimated that cross traffic interruption for the above intersection will amount to 18 percent during the AM peak and 21 percent in the PM peak as a result of the

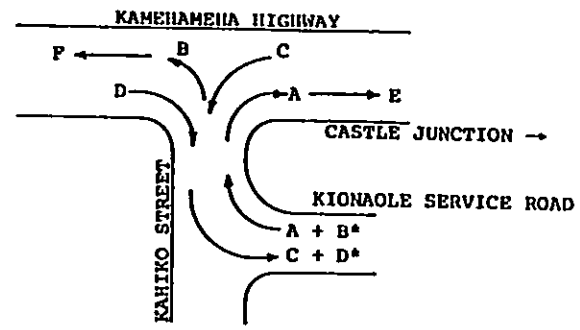
development of the subject property based upon existing traffic flow conditions. (See diagram on page 9A). This is based on the worst condition when the total cross traffic flow is in one direction, either northbound or southbound, although traffic flow is generally assigned directional percentages.

Full occupancy of the proposed development is estimated to be completed by the year 1991 or thereabouts. During this period, the need for traffic signals is not warranted. However, with the construction of the Halekou Interchange on Kamehameha Highway, it is projected that there will be a reduction in the traffic flow on Kamehameha Highway during the peak hour. This situation may affect the traffic movement through the subject intersection and may warrant the installation of a traffic signal in the future. Because of this uncertain condition, the traffic flow pattern must be monitored during the period the project is in progress until it attains full occupancy in 1991. For the next eight years, it may be safe to assume that no traffic signal is warranted to take care of the cross traffic at Kamehameha Highway and the Kionaole Service Road intersection.

It is recommended that the intersection at Kahiko Street should be redesigned to permit a minimum storage of four cars on the decelerating lane in the Kamehameha Highway median. Accordingly, the southbound acceleration lane should be widened to provide for four vehicles in order to create a better merging condition.

PEAK HOUR CROSS TRAFFIC ANALYSIS

KAMEHAMEHA HIGHWAY AND KIONAOLE SERVICE ROAD AT KAHIKO STREET



	A + B*	C + D*	E	F
AM PEAK	390	--	1390	750
PM PEAK	--	390	710	1180

*BASED ON ONE DIRECTIONAL FLOW

AM PEAK

CROSS TRAFFIC % = A + B/E + F
= 390/2140
= 18%

PM PEAK

CROSS TRAFFIC % = C + D/E + F
= 390/1890
= 21%

2) Kamehameha Highway at Kaneohe Bay Drive and Likelike Highway (south leg)

a) AM Peak (northbound)

Existing volume = 1,100 VPH

Proposed volume = 390 VPH

Total = 1,490 VPH < 1,600 VPH

b) PM Peak (southbound)

Existing volume = 1,060 VPH

Proposed volume = 390 VPH

Total = 1,450 VPH < 1,600 VPH

2. Kamehameha Highway: Kionaole Road to Castle Junction (Pali Highway)

It is also reasonable to assume that the traffic generated from the Kamoonlii project destined to Honolulu will use Kamehameha Highway south of Kionaole Road and Pali Highway at Castle Junction.

a. 24-Hour Projections

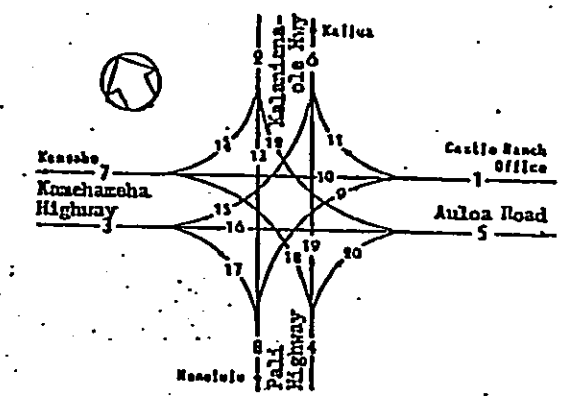
The total daily volume of traffic on Kamehameha Highway between Kionaole Road and Castle Junction at Pali and Kalanianaole Highways is 21,370 cars as noted below.* This volume is based on 1980 projections of 1977 counts.

Kamehameha Highway at
Pali Golf Course Near Castle Junction

	24 Hr	AM Peak	PM Peak
Outbound (Honolulu)	10,160	870	660
Inbound	11,210	440	1,140
	21,370	1,310	1,800

*See 1980 turning movement count projections at Castle Junction on Page II, page 10A.

TRAFFIC MOVEMENT COUNTS
KAMEHAMEHA HIGHWAY AT CASTLE JUNCTION*



Movement	24-HR	AM Peak	PM Peak
1	587	121	33
2	22,795	2,837	1,144
3	10,158	870	656
4	22,656	689	2,987
5	419	8	54
6	22,428	766	2,659
7	11,211	442	1,141
8	22,139	3,301	965
9	398	103	15
10	143	18	9
11	46	--	9
12	48	--	1
13	17,062	2,557	722
14	5,685	280	421
15	5,102	228	409
16	131	1	18
17	4,925	641	229
18	5,473	144	711
19	16,914	538	2,241
20	269	7	35

*1980 projection of 1977 counts

The capacity of this 4-lane section of Kamehameha Highway is 38,400 cars, based on the premise that this type of roadway is capable of handling 800 vehicles per hour per lane per 12-hour day under Level of Service "C" conditions for stable flow. The remaining capacity available to accommodate other developments is 17,030 VPD (38,400 VPD - 21,370 VPD).

Again, assuming that the total 611 units from Phase I of the Kamooalii project will use Kamehameha Highway south of Kionaole Road to Castle Junction and generate 3,855 VPD, it is concluded that Kamehameha Highway will accommodate the traffic generated from Phase I of the Kamooalii development and still have an additional average capacity of 11,530 vehicles ([17,030 VPD + 13,740 VPD ÷ 2] - 3,855 VPD) for further increments of the Kamooalii project.

b. Peak Hour Projections

All trips between Kionaole Road Extension and Castle Junction are assumed to be headed in one direction with 390 vehicles to be generated during the peak hour. The directional capacity of Kamehameha Highway is 1,600 vehicles per hour based on a design standard of 800 vehicles per hour per

lane for two lanes under a Level of Service "C" for stable, uninterrupted flow.

Kamehameha Highway at Castle Junction (north leg)

1) AM Peak (southbound to Pali Highway)

Existing volume =	870 VPH
Proposed volume =	390 VPH
Total =	1,260 VPH < 1,600 VPH
State Projection (year 2003) =	760 VPH
Proposed volume =	390 VPH
	1,050 VPH < 1,600 VPH

2) PM Peak (northbound to project)

Existing volume =	1,140 VPH
Proposed volume =	390 VPH
Total =	1,530 VPH < 1,600 VPH
State Projection (year 2003) =	1,130 VPH
Proposed volume =	390 VPH
	1,520 VPH < 1,600 VPH

The preferable route to service traffic from Phase I destined to Honolulu and/or Kailua is from Kionaole Road to Castle Junction and onto Pali or Kalanianaole Highway. Home-bound traffic will probably use Likelike Highway and Kaneohe Bay Drive. The above findings are substantiated by the fact that presently there is no medial opening at Kionaole Road and Kamehameha Highway and the

grade separation is adverse to accommodate traffic movement across the median of the divided highway. However, with the construction of the Halekou Interchange on H-3 as planned by the State Department of Transportation, Highways Division, there will be a medial opening connecting Kionaole Service Road Extension and Kamehameha Highway at Kahiko Street and permit traffic movement to flow in either direction on Kamehameha Highway.

3. Kionaole Road

Existing traffic volume on Kionaole Road is nominal. The design capacity for portion of the 2-lane Kionaole Road as it approaches the Halekou Interchange is estimated to be 7,200 VPD, based on the premise that this type of roadway is capable of handling 300 vehicles per hour per lane for a 12-hour day under conditions of Level of Service "C" for stable flow (300 V/H/L x 2L x 12 H/D). Therefore, Kionaole Road will have more than adequate capacity to handle the 3,855 vehicles generated from Phase I of the Kamooalii development (7,200 VPD - 3,855 VPD = 3,345 VPD).

When Kionaole Road is extended to Kamehameha Highway at Kahiko Street as part of the Halekou Interchange service road improvements, the design capacity of the 24-foot wide, 2-lane collector road will be able to accommodate any future increases in density from the project.

4. From current observations, it is noted that traffic congestion and delay are experienced by the automobile driver during the peak hours. This delay in traffic movement cannot be attributed to the design capacity as outlined herein. Traffic signal timing, accidents, slow moving vehicles, such as buses and trucks are, no doubt, the contributing factors of congestion and delay. Hence, the volume of traffic generated by the planned development of Iolani School lands at Kamooalii should not be considered a constraint to the proposed project.

B. Mass Transit

Presently, there are mass transit facilities provided by the City on the windward side of the island utilizing Kamehameha Highway and Likelike Highway. The existing bus system will be accessible for use by the proposed pro-project, and it is reasonable to assume that service will be expanded to meet the demand of the population increase in this area. With adequate bus service provided for this project, it is estimated that vehicle travel from the project will be reduced between 10 and 15 percent, thereby lessening the traffic volume impact onto Kamehameha and Likelike Highways.

Therefore, it may be assumed that a 10 percent of the 3,855 vehicles generated from Phase I or a 390 trip reduction in the number of vehicles generated will occur from the project with adequate transit service.

C. Conclusion

On the basis of the traffic projection and analysis developed in this report it may be concluded that: Kamehameha Highway and Kionaole Road have adequate capacity to take care of 14.7 percent traffic increase generated from Phase I (3,855/21,370 + 24,660 : 2) of the development for 611 units during peak and off-peak hours. The construction of the Halekou Interchange as planned by the State Department of Transportation, Highways Division, will improve the traffic flow from the project onto Kamehameha Highway.

Peak hour projections released by the State Highways Division for the year 2003 indicate a smaller traffic directional assignment for Kamehameha Highway at the intersection of Kionaole Road Extension and Kahiko Street due to use of the Interstate Highway H-3 by motorists destined to and from Honolulu and Leeward Oahu.

Therefore, the traffic volume generated from Phase I of the Kamooalii project can be accommodated by the existing network of streets and highways and not affect future plans for the improvement of traffic in the area by the construction of Interstate Highway H-3.

IV. PHASE II (PHASES IIA AND IIB)

The development of Phase II of the project will be the subject of a separate traffic report and analysis at the time application is made for urbanization of 180.0 acres, as the proposed Interstate Highway H-3 bisects the property to a degree that connections by the originally proposed major circulatory road (see Exhibit "C") for this portion of the property to Kionaole Road and the remaining lands of Kamooalii in Phase I cannot be achieved. Therefore, it is only reasonable to assume that access from Phase II will be permitted onto Likelike Highway. This portion of Kamooalii also has access over and across Luluku Road and other streets within Keapuka Subdivision. This portion of the report is submitted for informational purpose only in order to assess the traffic from an overall review of the development plan of the Kamooalii lands. It is assumed that access from Phase II will be available at a permitted point onto Likelike Highway. This will result in minimizing traffic impacts on the existing streets within the Keapuka Subdivision. For this traffic analysis, Phases IIA and IIB, as noted on Exhibit "D," are combined as a single increment for future development.

Existing traffic counts taken in 1980 on Likelike Highway in the vicinity of the portals of the Wilson Tunnel show a total volume of 41,260 VPD (east: 20,320 VPD + west: 20,940 VPD). The design capacity of Likelike Highway, a 4-lane divided highway, is 57,600 cars based on the premise that this type

of highway can accommodate 1,200 cars per hour per lane for a 12-hour period on a Level of Service "C."

Phase II which is located adjacent to the Keapuka Subdivision and Likelike Highway envisions the development of 182.4 acres for approximately 360 single-family, duplex and townhouse units. The proposed 360 units from the Phase II development will generate 2,270 daily vehicle trips based on 6.3 external vehicular trips per unit. Comparing the existing traffic count of 41,260 VPD and the design capacity of 57,600 VPD, it is noted that the remaining capacity on Likelike Highway is 16,340 VPD (57,600 VPD - 41,260 VPD). Therefore, it is concluded that the traffic generated from Phase II of the proposed development can be accommodated on Likelike Highway without impeding the main traffic flow, except perhaps during the peak hours when short delays will be incurred. The volume of traffic generated by the Kamooalii project is not large and will not create any unusual traffic problems.

From current observations, it is noted that traffic congestion and delay are experienced by the automobile driver during the peak hour. This delay in traffic movement cannot be atributed to the design capacity. Traffic signal timing, accidents, slow moving vehicles such as buses and trucks are no doubt the contributing factors for the delay. Hence, the volume of traffic generated by the planned development of Iolani School land at Kamooalii should not be considered a constraint to the proposed project.

Traffic volumes on Likelike Highway will continue to increase as development takes place in Windward Oahu. Construction of the H-3 highway will improve the level of transportation service for Windward Oahu and as such will not significantly affect the traffic assignment developed in this study. Therefore, it is safe to assume for Phase II that acceptable access can be developed from the project site to Likelike Highway with proper intersection design and regulatory control measures.

The planned 360 units will generate a total of 2,270 vehicle trips per day or a 5.5 percent (2,270/41,260) increase in the existing traffic volume on Likelike Highway.

Therefore, Phase II of the Kamooalii project of Iolani School as planned should not impact the street network surrounding the project area.

EXHIBIT C

(SEE ITEM NO. 4)

DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

EILEEN R. ANDERSON
MAYOR

EMIKO I. KUDO
DIRECTOR

SAM L. CARL
DEPUTY DIRECTOR

OSCAR K. ASAMINA
EXECUTIVE ASSISTANT

January 21, 1983

Mr. F. J. Rodriguez
Environmental Communications, Inc.
P. O. Box 536
Honolulu, Hawaii 96809

Dear Mr. Rodriguez:

SUBJECT: IOLANI SCHOOL PROPERTIES PROJECT

We have reviewed the EIS Preparation Notice and provide the following comments.

1. The construction of housing units will impair views from the Pali Lookout. The Pali Golf Course and Hoomaluhia Park were developed in their present locations to further enhance the views from one of the State's most strategic tourist destination areas.

2. Kamooalii Stream and Kuou Stream waters feed into the Hoomaluhia Park lake and wildlife pond. What impact will the housing project have on water quality? Increased runoff and siltation will occur and affect the water areas at Hoomaluhia Park.

3. The natural mountain and wilderness setting of Hoomaluhia Park will be affected by increased noise levels. The emittance of hydrocarbon will affect park users and inhabitants of the lake and wildlife pond.

4. The Pali Golf Course is sprayed with insecticide and herbicide a minimum of one day per month. Since spraying is not restricted to days with little or no wind, fumes may have a detrimental impact on residents.

Thank you for the opportunity to review the Preparation Notice.

Sincerely yours,

Emiko I. Kudo

(Mrs.) EMIKO I. KUDO, Director

EIK:vc

cc: Land Use Commission
Environmental Quality Commission

JAN 26 1983

EXHIBIT D

TITLE 4 DEPARTMENT OF AGRICULTURE

SUBTITLE 6 DIVISION OF PLANT INDUSTRY

CHAPTER 66

PESTICIDES

§4-66-1 Objectives
§4-66-2 Definitions
§4-66-3 Administration, enforcement and penalty
§4-66-4 Contents of the pesticide label; generally
§4-66-5 Label; name, brand, or trademark
§4-66-6 Label; name and address of producer, registrant or person for whom produced
§4-66-7 Label; net weight or measure of contents
§4-66-8 Label; product registration number
§4-66-9 Label; producing establishment registration number
§4-66-10 Label; ingredient statement; generally
§4-66-11 Label; position of ingredient statement
§4-66-12 Label; names to be used in ingredient statement
§4-66-13 Label; statements of percentages
§4-66-14 Label; accuracy of stated percentages
§4-66-15 Label; deterioration
§4-66-16 Label; inert ingredients
§4-66-17 Label; warnings and precautionary statements; generally
§4-66-18 Label; required front panel statements
§4-66-19 Label; other required warnings and precautionary statements
§4-66-20 Label; directions for use; generally
§4-66-21 Label; placement of directions for use
§4-66-22 Label; exceptions to requirement for directions for use
§4-66-23 Label; contents of directions for use
§4-66-24 Label; statement of use classification; generally
§4-66-25 Label; general use classification
§4-66-26 Label; restricted use classification
§4-66-27 Label; prominence and legibility
§4-66-28 Label; language to be used
§4-66-29 Label; placement
§4-66-30 Label; false or misleading statements
§4-66-31 Label; final printed form
§4-66-32 Restricted use pesticides
§4-66-33 Pesticide licensing; exceptions

(c) Reusable empty containers of pesticides shall not be used for purposes other than for refilling or repacking with the same pesticide; however, the head may prescribe and allow uses for other purposes should such containers be properly prepared.

(d) Unusable empty glass or metal restricted use pesticide containers shall be emptied, triple rinsed with an appropriate solvent, punctured or crushed unless otherwise directed by the label or the head.

(e) Pesticide containers shall be disposed of in an approved solid waste land fill or buried in the ground, covered with at least one foot of soil unless otherwise directed by the label or the head.

[Eff. JUL 13 1981] (Auth: HRS §§149A-19, 149A-33) (Imp: HRS §§149A-19, 149A-33)

§4-66-56 Certification of applicators. (a) Applicators applying restricted use pesticides shall be certified either as a commercial pesticide applicator or private pesticide applicator.

(b) Commercial pesticide applicators shall be further divided into categories and subcategories as follows:

(1) Category 1 concerns agricultural pest control and includes the following:

(A) A plant pest control category which includes persons using or supervising the use of restricted use pesticides in production of agricultural crops, including food not limited to feed grains, soybeans, forages, vegetables, small fruits, and trees and nuts, as well as non-crop agricultural lands;

(B) An animal pest control category which includes persons using or supervising the use of restricted use pesticides to control pests on animals including, but not limited to beef and dairy cattle, swine, sheep, horses, goats, poultry and livestock, and to premises on or in which animals are confined; and doctors of veterinary medicine engaged in the business of application for hire, publicly holding themselves out as pesticide applicators or engaged in large scale use of pesticides;

(2) Category 2 concerns forest pest control and includes persons using or supervising the use of restricted use pesticides in forests, forest nurseries, and forest seed producing areas;

(3) Category 3 concerns ornamental and turf pest control and includes persons using or super-

vising the use of restricted use pesticides to control pests of ornamental trees, shrubs, flowers and turf;

(4) Category 4 concerns seed treatment pest control and includes persons using or supervising the use of restricted use pesticides on seeds;

(5) Category 5 concerns aquatic pest control and includes persons using or supervising the use of restricted use pesticides purposefully applied to standing or running water, excluding applicators engaged in public health related activities included in §4-66-56(9);

(6) Category 6 concerns right-of-way pest control and includes persons using or supervising the use of restricted use pesticides in the maintenance of public roads, electric power lines, pipelines, railway rights-of-way or other similar areas;

(7) Category 7 concerns industrial, institutional, and structural pest control, for:

(A) Fumigation pest control, which includes persons using or supervising the use of restricted use pesticides to control termites and other pests in or around food handling establishments, human dwellings, institutions such as schools and hospitals, industrial sites such as warehouses, grain elevators, and any other structures and adjacent area, public or private; and for the protection of stores, processed or manufactured products, excluding commercial applicators in categories 8 and 9;

(B) Termite pest control, which includes persons using or supervising the use of restricted use pesticides other than by fumigation to control subterranean and drywood termites in or around human dwellings, institutions such as schools and hospitals, hotels, industrial sites, and any other structures and adjacent area, public or private;

(C) General pest control, which includes persons using or supervising the use of restricted use pesticides to control pests in or around food establishments, human dwellings, institutions such as schools, hospitals, industrial sites such as warehouses, grain elevators and any other structures and adjacent area, public or private; and for the protection of stored, processed or manufactured products;

§4-66-57 General standards for certification of commercial applicators. (a) Competence in the use and handling of pesticides shall be determined by written examination and as appropriate, upon demonstration based upon standards which meet or exceed those set forth in §§4-66-57(b) and 4-66-58 and approved by the head. The examination shall include knowledge applicable to all commercial categories (core examination) and the other special knowledge specifically applicable to the category (category examination), if any, into which the person is classified and to the pesticide or class of pesticides covered by the requested certification.

(b) Commercial applicators shall demonstrate appropriate knowledge based on examples from their particular category or subcategory in each of the following areas:

(1) An understanding of the general format and terminology of pesticide labels and labeling; an understanding of instructions, warnings, symbols, classification of the product, other information that may appear on the label, and the necessity for following label directions;

(2) An understanding of pesticide toxicity and hazard to man and common exposure routes; precautions necessary to guard against injury; need for and use of protective clothing and equipment; symptoms of pesticide poisoning; first aid to be followed in pesticide poisoning; and proper identification, storage, transport, handling, mixing procedures and disposal methods for pesticides and used pesticide containers including precaution to be taken to prevent children from having access to pesticides and pesticide containers;

(3) An understanding of the potential environmental consequences of the use and misuse of restricted use pesticides, for example, the role of such factors as climatic conditions, types of terrain, soil and substrate, and the presence of various non-target organisms;

(4) The ability to identify pests and a knowledge of the importance of the biology of pests relevant to their areas of operations;

(5) A knowledge of the characteristics of various kinds of pesticides including types of formulations, compatibility, persistence, toxicity, hazard and residues associated with use;

(6) A knowledge of the relative importance of pesticides, when they should and should not be used, and the factors which influence their effectiveness;

(7) A practical knowledge of type, maintenance, use, and calibration of equipment and an understanding of the advantages and limitations of various types of equipment. Additional knowledge of calibration shall be required of applicators using highly specialized equipment such as aircraft;

(8) A practical understanding of how to apply pesticides in various formulations, such as dusts, wettable powders, emulsions, solutions, and gases, together with a knowledge of application techniques. Because of the potential for greater impact or aerial applications upon the environment, aerial applicators shall demonstrate special knowledge in such areas as drift potential, the effect of pesticide on non-target crops, wildlife and apiaries and human habitation; and techniques and formulations which reduce drift; and

(9) A knowledge of applicable federal and state laws and regulations.

[Eff. JUL 13 1981] (Auth: HRS §149A-33, 40 CFR §171) (Imp: HRS §149A-33, 40 CFR §171)

§4-66-58 <u>Specific standards for certification of commercial applicators</u>. Commercial applicators shall demonstrate competence appropriate to their particular category or subcategory of certification as follows:

(1) For Agricultural pest control:

(A) Plant pest control applicators shall demonstrate knowledge of the crops grown and the specific pests on these crops on which they may be using restricted use pesticides. An operational knowledge is needed concerning soil and water problems, pre-harvest intervals, reentry intervals, phytotoxicity, and potentials for environmental contamination, non-target injury and community problems from the use of restricted use pesticides in agricultural areas; and

(B) Animal pest control applicators shall demonstrate knowledge of such animals and their associated pests. Special understanding is needed concerning

pesticide toxicity to host animals and the hazards associated with such factors as formulation, application techniques, age of animals, stress and extent of treatment;

(2) Forest pest control applicators should demonstrate knowledge of the extent and types of forests, forest nurseries, and seed production and pests involved. They should demonstrate special knowledge of the cyclic occurrence of certain pests, population dynamics, and the impact of biotic agents and their vulnerability to pesticide application. Because forest stands frequently include aquatic situations and harbor wildlife, the applicators shall demonstrate knowledge of control methods which will minimize the possibility of secondary problems. Proper use of specialized equipment must be demonstrated, especially as it may relate to meteorological factors and adjacent land use;

(3) Ornamental and turf pest control applicators should demonstrate knowledge of problems associated with the production and maintenance of ornamental trees, shrubs, plantings, and turf, including cognizance of potential phytotoxicity, drift, and persistence beyond the intended period of pest control. They shall demonstrate special knowledge of the hazards to humans, pets, and other domestic animals associated with the restricted use pesticides utilized in this category;

(4) Seed treatment applicators should demonstrate knowledge of types of seeds that require chemical protection against pests and special understanding of factors such as seed coloration and carriers and surface active agents which influence binding and may affect germination. They shall demonstrate knowledge of hazards associated with handling and misuse of treated seeds such as inadvertent introduction of treated seeds into food and feed use channels, as well as proper disposal of unused treated seeds;

(5) Aquatic pest control applicators should demonstrate special understanding of the secondary effects which can be caused by improper application rates, incorrect formulations, and faulty application of restricted use pesticides used in this category. Certified commercial applicators should demonstrate special awareness of the possibility

EXHIBIT E

DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

Prepared by

STATE HIGHWAYS DIVISION, DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

FINAL
ENVIRONMENTAL STATEMENT
ADMINISTRATIVE ACTION

for

INTERSTATE ROUTE H-3
HALAWA INTERCHANGE TO HALEKOU INTERCHANGE
OAHU, HAWAII

VOLUME I
ENVIRONMENTAL STATEMENT AND APPENDIX I, BIBLIOGRAPHY

encountered on the windward side. Where its three branches converge and enter the Kaneohe Interchange, some minor relocation may be required. In any case, complete precaution will be taken under the State's new specifications to prevent erosion and siltation either from the stream's banks or from any excavation or embankment areas in the vicinity.

All other water courses in this area drain to the reservoir area of the dam proposed by the Corps of Engineers. For all of these water courses and for all excavation and embankment slopes the new soil erosion and slope control planting specifications will apply.

G. Displacement of Families

No families reside within the right of way required for the construction of Interstate Route H-3 from the Halawa Interchange to the Halekou Interchange.

H. Business and Employment

The construction of Interstate Route H-3 displaces no businesses and, therefore, has no detrimental effect on employment.

I. Agriculture

Interstate Route H-3 will require some lands on the windward alignment presently utilized for the cultivation of bananas. Acquisition of these lands will be kept to a minimum. The State will attempt to assist the banana farmers in the relocation of their facilities and will attempt to assist them in the acquisition of

other lands for banana farming if they so desire.

It should be recognized that in order to establish the Kaneohe Reservoir Park, the Department of Parks and Recreation of the City and County of Honolulu must also acquire certain other lands presently devoted to banana production. Since present intentions are to construct the Kaneohe Reservoir, Kaneohe Reservoir Park and Interstate Route H-3 in conjunction with each other and at approximately the same time, it is anticipated that assistance to the banana farmers will require the cooperation of several agencies. The cooperation of the State Department of Land and Natural Resources and other interested agencies is proposed in the furnishing of assistance to the banana farmers.

J. Schools and Religious Institutions

No schools or religious institutions are within the highway alignment nor are there any within the vicinity of the highway except for Hawaii Loa College and Bethany Seminary of the Fathers of the Sacred Hearts. The windward portion of the highway was located during the planning phase so as to avoid conflicts with Hawaii Loa College, which was also then being planned. Hawaii Loa College has since opened its doors to students, and the construction of Interstate Route H-3 will provide almost direct access to the college from the leeward side of the island. It will be necessary to construct a retaining wall parallel to Route H-3 to prevent encroachment

EXHIBIT F

COMMUNITY PLANNING INC.

PLANNING & URBAN DESIGN
ENGINEERING
LAND SURVEYING
ENVIRONMENTAL STUDIES

May 6, 1983

MEMORANDUM TO: Man Kwong Au

FROM: George K. Houghtailing

SUBJECT: Relocation of Banana Lessees

The Interstate Highway H-3 alignment and the proposed Kamooalii residential development of Iolani School will affect the existing banana farm tenants. It is the intent of the owners to make available lands within the 30 percent slope for relocation of the farmers and to provide new leases.

A. Existing Banana Lessees

Phase I:

1. S. Sakamoto		4.5 acres
2. Honolulu Police Relief Association		8.7 acres
		13.2 acres
3. George W. Knowles (non-banana lessee)		8.9 acres

Phase II:

Total area banana lessees		220.7 acres
H-3 taking		- 62.4 acres
Remaining area after H-3 taking		158.3 acres
Area mauka of the H-3 not affected by Phase II development		- 61.1 acres
Leases affected by Phase II development represents		97.2 acres
Total leases affected by proposed residential development represents		110.4 acres
Phase I	13.2 acres	
Phase II	97.2 acres	

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B. Proposed Relocation Areas

1. Phase I Area (a) 15.5 Acres

This 15.5-acre area can be used for relocating Sakamoto and Honolulu Police Relief Association leases.

Other Areas Available for Relocation:

Phase I:

Area b	10.5 acres	
Area c	42.5 acres	
		53.0 acres

Area within forest reserve

Area d	39.5 acres	
Area e	3.0 acres	
Area f	1.0 acres	
		43.5 acres

Phase II (areas also within forest reserve outside of Phase II development)

Area a	9.5 acres	
Area b	4.0 acres	
		13.5 acres

Total areas possible for relocation of existing tenants 110.0 acres

The 110.0 acres could be made available for relocation of the farmers on 97.2 acres of the proposed development area in Phase II.

Note: The proposed relocation does not take into consideration the existing leased area of 62.4 acres taken by the Interstate Highway H-3. It is assumed that the farmers will be paid for damages to the crops. A further review of the lands above the 30 percent slope must be undertaken to determine whether additional areas could be made available to take care of the tenants affected by the H-3 taking.

No provisions made for relocating the George Knowles lease of 8.9 acres. It is possible to set aside lots in the proposed urban area for the continued use of his lease.

C. Problem

The proposed relocation area lies within the State Conservation District and forest reserve area and would require a Conservation District use permit for agricultural use to be obtained from the State Department of Land and Natural Resources.

Alternate: Reclassify Conservation District to agriculture for 125.5 acres (Phase I: 112.0 acres, Phase II: 13.5 acres). This would require a petition to be submitted to the State Land Use Commission.

Please feel free to call if you have further questions.

cc: Lincoln Ishida

EXHIBIT G

(SEE ITEM NO. 1)

DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

EILEEN R. ANDERSON
MAYOR

EMIKO I. KUDO
DIRECTOR

SAM L. CARL
DEPUTY DIRECTOR

OSCAR K. ASAMINA
EXECUTIVE ASSISTANT

January 21, 1983

Mr. F. J. Rodriguez
Environmental Communications, Inc.
P. O. Box 536
Honolulu, Hawaii 96809

Dear Mr. Rodriguez:

SUBJECT: IOLANI SCHOOL PROPERTIES PROJECT

We have reviewed the EIS Preparation Notice and provide the following comments.

1. The construction of housing units will impair views from the Pali Lookout. The Pali Golf Course and Hoomaluhia Park were developed in their present locations to further enhance the views from one of the State's most strategic tourist destination areas.

2. Kamooalii Stream and Kuou Stream waters feed into the Hoomaluhia Park lake and wildlife pond. What impact will the housing project have on water quality? Increased runoff and siltation will occur and affect the water areas at Hoomaluhia Park.

3. The natural mountain and wilderness setting of Hoomaluhia Park will be affected by increased noise levels. The emittance of hydrocarbon will affect park users and inhabitants of the lake and wildlife pond.

4. The Pali Golf Course is sprayed with insecticide and herbicide a minimum of one day per month. Since spraying is not restricted to days with little or no wind, fumes may have a detrimental impact on residents.

Thank you for the opportunity to review the Preparation Notice.

Sincerely yours,

Emiko I. Kudo

(Mrs.) EMIKO I. KUDO, Director

EIK:vc

cc: Land Use Commission
Environmental Quality Commission

JAN 26 1983

ENVIRONMENTAL
COMMUNICATIONS
INC.

F. J. RODRIGUEZ,
PRESIDENT

March 1, 1983

Mrs. Emiko I. Kudo, Director
Department of Parks and
Recreation
650 South King Street
Honolulu, Hawaii 96813

Dear Mrs. Kudo:

We are in receipt of your comments on the Iolani School EIS Preparation Notice. We would respond to the comments made in your letter dated January 21, 1983 in the following:

1. The residential project being proposed by Iolani School is consistent with adjacent residential subdivisions. There are no multi-family high- rise structures being considered. The view plane corridor from the Pali Lookout encompasses a vast area stretching beyond the proposed project site and does not constitute an impact of significance that would be attributed to high density land use patterns as found in the Primary Urban Center.

2. The petitioner anticipated the importance of the project's impact on the adjacent stream flow and a study was completed regarding this very concern. The study, entitled "Environmental Aspects of Stormwater Runoff," prepared by Dr. Gordon L. Dugan, states that the development should increase the nitrogen and phosphorus output, while the suspended solids should increase for the low frequency/duration storms and then decrease somewhat for the higher frequency/duration storms. Dugan states that the constituent loads should not be considered as absolute, but rather as trends. There will also be potential changes in the output of biocides and heavy metals. However, impacts to the adjacent streams are anticipated to be minimal because: biocides currently in use, that may potentially adversely affect water quality tend to breakdown more readily in comparison to the more lasting types of a few years ago. Lead concentrations originating from automobiles have been designed to only utilize unleaded gasoline, which would reduce the output of lead into the adjacent streams.

3. The proposed project will be in compliance with all applicable DOH regulations governing noise control. It is anticipated that levels should not exceed those currently being measured at the adjacent residential subdivision and from the proposed Interstate Highway H-3.

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4. The State Department of Health controls all chemical spraying. The proposed project will comply with all applicable DOH regulations governing air pollution control.

We appreciate your concerns and will address them more fully in the draft EIS currently under preparation. Thank you for your continuing interest.

Yours very truly,

F. J. Rodriguez

F. J. Rodriguez

FJR:ls

DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

EILEEN R. ANDERSON
MAYOR

EMIKO I. KUDO
DIRECTOR

SAM L. CARL
DEPUTY DIRECTOR

OSCAR K. ABAHINA
EXECUTIVE ASSISTANT

April 21, 1983

Mr. Gordon Furutani
Land Use Commission
Room 104, Old Federal Building
335 Merchant Street
Honolulu, Hawaii 96813

Dear Mr. Furutani:

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT
FOR THE PROPOSED IOLANI SCHOOL PROPERTIES PROJECT

We have reviewed the draft environmental impact statement and would like to reiterate our concerns.

1. Impairment of views from the Pali Lookout and the City parks.

   We are aware that no high-rise structures will be developed; however, the housing development is proposed on sloping ground and the houses on the higher ground will be just as visible as a high-rise from the Pali Golf Course and Ho'omaluhia Park. The housing development, which will be located between these two public park areas, will be an undesirable intrusion in the lush greenery of the area and will be highly visible from both the Pali Lookout and the City parks.

2. On page V-5, it is mentioned that impacts on water quality will be mitigated by adhering to governmental regulations. This will not reduce the increased surface water runoff and resultant pollution from debris, soil sludge, pesticides, herbicides and animal waste from entering and polluting the streams and pond which was developed for fishing and boating at Ho'omaluhia Park.

Ho'omaluhia Park was planned and developed as a mountain type park for camping, fishing, boating, picnicking and horseback riding away from the urban development. In fact, we started with a 37-acre park around the pond and gradually expanded it to 400+ acres to include all lands between the original

APR 25 1983

park and the proposed highway. This we had hoped would preclude any urban development in the area and maintain a forest and mountain atmosphere inasmuch as the lands mauka of the proposed highway is designated conservation. The highway planners were even forced to include noise and visual barriers in their plans although their plans were initiated before ours.

Thank you for the opportunity to review the draft EIS.

Sincerely yours,

Emiko I. Kudo

(Mrs.) EMIKO I. KUDO, Director

EIK:vc

cc: Mr. Fred Rodriguez

CORRECTION

THE PRECEDING DOCUMENT(S) HAS BEEN REPHOTOGRAPHED TO ASSURE LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING

DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

EILEEN R. ANDERSON
MAYOR

EMIKO I. KUDO
DIRECTOR

SAM L. CARL
DEPUTY DIRECTOR

OSCAR K. ASAMINA
EXECUTIVE ASSISTANT

April 21, 1983

Mr. Gordon Furutani
Land Use Commission
Room 104, Old Federal Building
335 Merchant Street
Honolulu, Hawaii 96813

Dear Mr. Furutani:

SUBJECT: DRAFT ENVIRONMENTAL IMPACT STATEMENT
FOR THE PROPOSED IOLANI SCHOOL PROPERTIES PROJECT

We have reviewed the draft environmental impact statement and would like to reiterate our concerns.

1. Impairment of views from the Pali Lookout and the City parks.

   We are aware that no high-rise structures will be developed; however, the housing development is proposed on sloping ground and the houses on the higher ground will be just as visible as a high-rise from the Pali Golf Course and Ho'omaluhia Park. The housing development, which will be located between these two public park areas, will be an undesirable intrusion in the lush greenery of the area and will be highly visible from both the Pali Lookout and the City parks.

2. On page V-5, it is mentioned that impacts on water quality will be mitigated by adhering to governmental regulations. This will not reduce the increased surface water runoff and resultant pollution from debris, soil sludge, pesticides, herbicides and animal waste from entering and polluting the streams and pond which was developed for fishing and boating at Ho'omaluhia Park.

Ho'omaluhia Park was planned and developed as a mountain type park for camping, fishing, boating, picnicking and horseback riding away from the urban development. In fact, we started with a 37-acre park around the pond and gradually expanded it to 400+ acres to include all lands between the original

APR 25 1983

park and the proposed highway. This we had hoped would preclude any urban development in the area and maintain a forest and mountain atmosphere inasmuch as the lands mauka of the proposed highway is designated conservation. The highway planners were even forced to include noise and visual barriers in their plans although their plans were initiated before ours.

Thank you for the opportunity to review the draft EIS.

Sincerely yours,

Emiko I. Kudo

(Mrs.) EMIKO I. KUDO, Director

EIK:vc

cc: Mr. Fred Rodriguez

ENVIRONMENTAL
COMMUNICATIONS
INC.

F. J. RODRIGUEZ,
PRESIDENT

May 6, 1983

Mrs. Emiko I. Kudo, Director
Department of Parks and Recreation
City & County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mrs. Kudo:

Thank you for your comments regarding the Iolani School Draft EIS. We would respond to your concerns in the following:

1. We share your concerns over the retention of scenic views from the Pali Lookout and Ho'omaluhia Park. However, since no multi-family high-rise structures are being considered and the proposed project is consistent with the adjacent residential subdivisions, makai views from the Pali Lookout and mauka views from the park, should remain unaffected. The low-rise nature of the proposed housing, preservation of mature vegetation, and residential landscaping will obscure the visibility of the project from distant views and maintain the "lush greenery" of the area. Makai views from the park should also be unobstructed since the project site lies mauka of the park. Further, it is anticipated that the proposed Interstate H-3 Highway represents more of a scenic obstruction due to its greater scale of development.

2. As was stated in our previous letter to your department, Dr. Gordon L. Dugan believed that though surface water runoff would increase, potential pollution problems should not significantly result. Further, it should be noted that the original intent of the pond was not for fishing or boating, but as a flood control basin. The proposed project then, would be consistent with the operational intent of the pond basin, since runoff would be directed into it.

In regards to maintaining a "forest and mountain atmosphere" in the area, may we reiterate that the project lies not between the park and the highway, but is located mauka of the highway. Secondly, please be aware that the project does not advocate urban sprawl and that the proposed action would be compatible and contiguous to existing residential subdivisions. Thirdly, the project design will provide more than required acreage of open space and landscaping, so as to enhance and maintain a forest and mountain atmosphere.

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Finally, it is our belief that irrespective of the project being implemented or not, the area would not possess a forest atmosphere, since a major highway would be traversing through it.

Thank you for your concerns on these matters.

Yours very truly,

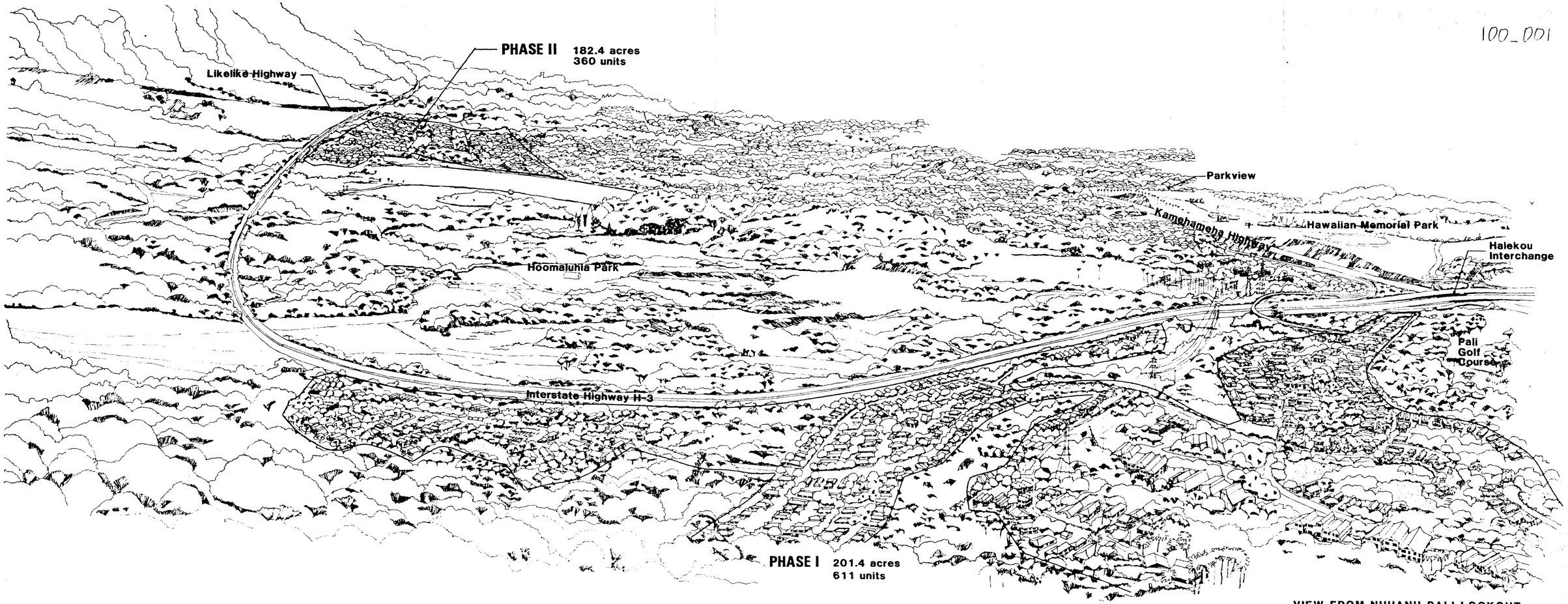
F. J. Rodriguez

F. J. Rodriguez

FJR:ls

EXHIBIT H

100_001



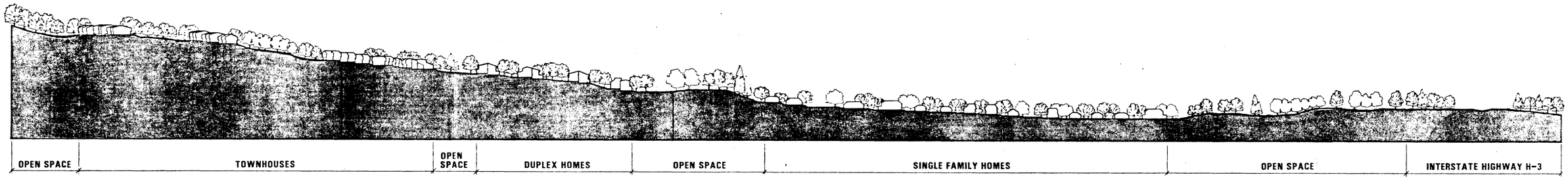
VIEW FROM NUUANU PALI LOOKOUT

KAMOOALII DEVELOPMENT IOLANI SCHOOL PROPERTIES

Exhibit H

EXHIBIT I

100_002



TYPICAL CROSS SECTION

KAMOOALII DEVELOPMENT
IOLANI SCHOOL PROPERTIES

Exhibit I

EXHIBIT J

J. ORGANIZATIONS AND PERSONS CONSULTED DURING REVIEW OF THE DRAFT EIS ADDENDUM AND REPRODUCTION OF COMMENTS AND RESPONSES MADE

The Draft EIS Addendum appeared in the EQC Bulletin of October 8, 1983.

A total of 32 letters were received in response to the Draft EIS Addendum. Table 4 identifies the parties to whom copies were sent, date of the letter, date received and response date.

Reduced, half-sized copies of the letters received and responses to the comments are provided in the following section.

CORRECTION

THE PRECEDING DOCUMENT(S) HAS BEEN REPHOTOGRAPHED TO ASSURE LEGIBILITY
SEE FRAME(S) IMMEDIATELY FOLLOWING

J. ORGANIZATIONS AND PERSONS CONSULTED DURING REVIEW OF THE DRAFT EIS ADDENDUM AND REPRODUCTION OF COMMENTS AND RESPONSES MADE

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Reduced, half-sized copies of the letters received and responses to the comments are provided in the following section.

TABLE 4
COMMENTS RECEIVED FOR IOLANI SCHOOL ENVIRONMENTAL IMPACT STATEMENT ADDENDUM

Organization	Date Received	Date of Letter	Date of Response
State Agencies			
1. OEQC	* 11/10/83	11/07/83	11/21/83
2. Dept. of Agriculture	10/24/83	10/18/83	11/21/83
3. Dept. of Accounting and General Services	10/17/83	10/14/83	NRN
4. Dept. of Defense	10/13/83	10/07/83	NRN
5. Dept. of Education	10/24/83	10/18/83	11/21/83
6. Dept. of Health	* 11/10/83	10/08/83	11/21/83
7. Dept. of Land and Natural Resources	* 11/17/83	11/14/83	
8. DLNR State Historic Preservation Officer	-	-	-
9. Dept. of Planning and Economic Development	* 11/10/83	11/07/83	11/21/83
10. DPED Library	-	-	-
11. Dept. of Social Services and Housing	-	-	-
12. Dept. of Transportation	11/08/83	11/02/83	11/21/83
13. State Archives	-	-	-
14. State Energy Office	-	-	-
15. Environmental Center	* 11/10/83	11/07/83	11/21/83
16. Water Resources Research Center	-	-	-
Federal			
1. 15th ABW/DEE, Hickam	10/14/83	10/12/83	NRN
2. Army-DAFE (Facilities Eng.-USASCH)	-	-	-
3. Navy	10/19/83	10/17/83	NRN
4. Soil Conservation Service	11/03/83	11/01/83	11/21/83
5. U.S. Army Corps of Engineers	11/04/83	11/01/83	11/21/83
6. U.S. Coast Guard	10/20/83	10/18/83	NRN
7. U.S. Fish and Wildlife Service	11/04/83	11/02/83	11/21/83
8. U.S. Geological Survey	* 11/10/83	11/04/83	NRN

TABLE 4
(continued)

Organizagion	Date Received	Date of Letter	Date of Response
City and County of Honolulu			
1. Board of Water Supply	10/31/83	10/24/83	11/21/83
2. Building Dept.	-	-	-
3. Dept. of Housing and Community Development	11/03/83	10/31/83	11/21/83
4. Dept. of General Planning **	11/17/83	11/07/83	11/21/83
5. Dept. of Land Utilization **	11/10/83	11/04/83	11/21/83
6. Dept. of Parks and Recreation *	11/08/83	11/07/83	11/21/83
7. Dept. of Public Works	10/24/83	10/18/83	11/21/83
8. Dept. of Transportation Services	-	-	-
9. Fire Dept.	10/26/83	10/25/83	11/21/83
10. Municipal Reference and Records Center	-	-	-
11. Police Dept.	10/20/83	10/18/83	-
Private Organizations			
1. American Lung Association	-	-	-
2. Hawaiian Electric Company	11/01/83	10/28/83	11/21/83
3. Office of Hawaiian Affairs	-	-	-
4. Luluku Banana Growers *	11/08/83	11/06/83	11/21/83
5. Legal Aid Society *	11/08/83	11/07/83	11/21/83
6. Sierra Club, Hawaii Chapter*	11/17/83	11/07/83	11/21/83
7. OMPO	11/03/83	11/01/83	11/21/83
8. Federal Highway Administration	-	-	-
9. Kaneohe Neighborhood Board No. 30	-	-	-
10. Kahaluu Neighborhood Board No. 29	11/03/83	11/07/83	11/21/83
11. Hawaii's Thousand Friends *	11/10/83	11/07/83	11/21/83

* Comment received beyond deadline date of November 7, 1983
** Carbon copy of comment has not been received
NRN No Response Needed

DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 15TH AIR BASE WING (PACAF)
HICKAM AIR FORCE BASE, HAWAII 96853

REPLY TO ATTN OF: DEEV (Mr Yamada, 449-1831)

12 OCT 1983

SUBJECT: Environmental Impact Statement Addendum for the Proposed Iolani School Properties Project

TO: Ms Jacqueline Parnell, Director
Office of Environmental Quality Control
550 Halekauwila Street, Room 301
Honolulu, HI 96813

1. This office has reviewed the subject EIS addendum and has no comment relative to the proposed project.

2. We greatly appreciate your cooperative efforts in keeping the Air Force apprised of your project and thank you for the opportunity to review the document. The EIS addendum is returned for your file.

ROBERT M. OKAZAKI
Chief, Engrg & Envmtl Plng Div
Directorate of Civil Engineering

1 Atch
EIS Addendum

cc: Mr Gordon Furutani wo Atch
Executive Officer
Land Use Commission
Room 104, Old Federal Building
335 Merchant Street
Honolulu, HI 96813

Mr Fred Rodriguez wo Atch
Environmental Communications, Inc
P. O. Box 536
Honolulu, HI 96809

NO RESPONSE NECESSARY

OCT 14 1983

HEADQUARTERS
NAVAL BASE PEARL HARBOR
BOX 110
PEARL HARBOR, HAWAII 96860

IN REPLY REFER TO:
002A:QLB:jam
Ser 2221

17 OCT 1983

Mr. Gordon Furutani, Executive Officer
Land Use Commission
Room 104, Old Federal Building
335 Merchant Street
Honolulu, Hawaii 96813

Dear Mr. Furutani:

Environmental Impact Statement (EIS)
Proposed Iolani School Properties Project

The EIS for the Proposed Iolani School Properties Project has been reviewed and the Navy has no comments to offer. As this command has no further use for the EIS, the EIS is being returned to the Environmental Quality Commission, by copy of this letter.

Thank you for the opportunity to review the EIS.

Sincerely,

M. M. DALLAM
CAPTAIN, CEC, U. S. NAVY
FACILITIES ENGINEER
BY DIRECTION OF THE COMMANDER

Enclosure

Copy to:
Mr. Fred Rodriguez, Environmental Communications, Inc.
Environmental Quality Commission

NO RESPONSE NECESSARY

OCT 19 1983

(dpl)

546-2861

11000
Serial 605
18 October 1983

Mr. Gordan Furutani
Executive Officer
Land Use Commission
Room 104, Old Federal Building
335 Merchant Street
Honolulu, Hawaii 96813

Dear Mr. Furutani:

The Fourteenth Coast Guard District has reviewed the EIS for the proposed Iolani School Properties Project and has no objection or constructive comments to offer at the present time.

Sincerely,

J. E. SCHWARTZ
Commander, U. S. Coast Guard
District Planning Officer
By direction of
Commander, Fourteenth Coast Guard District

Copy to: Environmental Communications, Inc.

NO RESPONSE NECESSARY

OCT 20 1983

COPY

United States Department of Agriculture
Soil Conservation Service

P.O. Box 50004
Honolulu, Hawaii
96850

November 1, 1983

Mr. Gordan Furutani
Executive Officer
Land Use Commission
Room 104, Old Federal Building
335 Merchant Street
Honolulu, HI 96813

Dear Mr. Furutani:

Subject: Addendum - Proposed Iolani School Properties Project
Kamoaalii, Koolaupoko, Kaneohe, Oahu

The above-mentioned statement has been reviewed as requested. All of our previous concerns have been addressed with the exception of one:

> Was the Hoomaluhia flood control structure designed to take care of the increased runoff and sedimentation because of conversion of conservation land to housing?

Thank you for the opportunity to review this document.

Sincerely,

FRANCIS C.H. LUM
State Conservationist

cc:
Mr. Fred Rodriguez
Environmental Communications, Inc.
P.O. Box 536
Honolulu, Hawaii 96809

The Soil Conservation Service is an agency of the Department of Agriculture

NOV - 3 1983

F. J. RODRIGUEZ,
PRESIDENT

ENVIRONMENTAL
COMMUNICATIONS
INC.

November 21, 1983

Mr. Francis C.H. Lum
State Conservationist
Soil Conservation Service
P.O. Box 50004
Honolulu, Hawaii 96850

Dear Mr. Lum:

Thank you for your comments dated November 1, 1983 on the EIS Addendum on the proposed Iolani School Project. We are confused slightly by your comments, since in your letter dated April 6, 1983 for the original EIS, your office had no comments to make. In response to your specific comment on the purpose of Ho'omaluhia Flood Control structure, the intent by the Corps of Engineers to design and construct this facility, was to protect the residential areas of Kaneohe from flood hazards. Conservation land use change requests are reviewed in the context that the flood control facility will function for additional residential sectors so long as these requested land use policy changes are compatible with the criteria used to measure these land use policy changes. The designation change takes advantage of the existing flood control facility. We refer you to Section D. Public Utilities and Facilities, Part 2, Drainage, where the capacity of Ho'omaluhia is discussed.

Thank you for your comments and continuing interest.

Very truly yours,

F. J. Rodriguez

F. J. Rodriguez

FJR:ls

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J-6

DEPARTMENT OF THE ARMY
PACIFIC OCEAN DIVISION, CORPS OF ENGINEERS
FT. SHAFTER, HAWAII 96858

REPLY TO ATTENTION OF

November 1, 1983

Mr. Gordon Furutani
Land Use Commission
Room 104, Old Federal Building
335 Merchant Street
Honolulu, Hawaii 96813

Dear Mr. Furutani:

Thank you for the opportunity to review and comment on the Addendum to the EIS for Iolani School Properties Project. The following comments are offered:

a. The sites for the proposed development increments are classified Zone D, or areas of undetermined but possible flood hazards, according to the Flood Insurance Study for Oahu prepared by the Federal Insurance Administration. The flood hazard map is attached as Enclosure 1. The Corps' flood control project, Kaneohe-Kailua Dam, as shown on the map protects only those areas downstream of the dam. Those areas are designated Zone C, or areas of minimal flooding. The proposed project sites, therefore, are not protected by the dam from any flooding activity.

b. Page 1-42. The statement is again made in this addendum that "the project sites are therefore, protected from any subsequent flood activity," by construction of the Kaneohe Flood Control Project. Again we state that the Iolani School project is upstream of the dam and consequently the project has no flood protection. Mitigative measures should be required for this project.

c. Page 3-2. A minimum drainage crossing size should be used to pass flood flows. The size of the box culverts or plated arch culverts should be " with the size used downstream in the proposed H-3 freeway drainage crossing.

Sincerely,

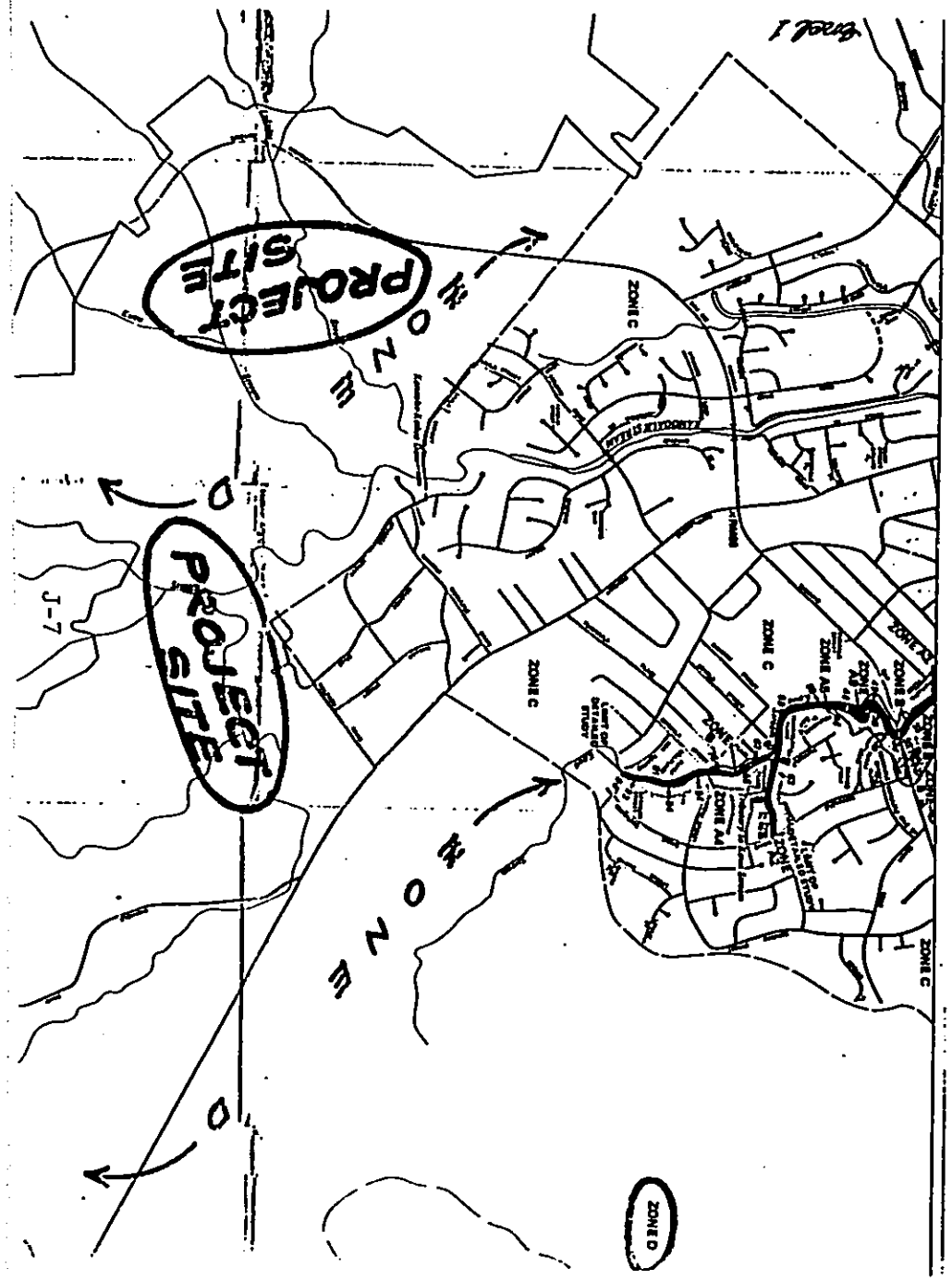
Kisuk Cheung
Chief, Engineering Division

Enclosure

Copy Furnished:

✓Mr. Fred Rodriguez
Environmental Communications Inc.
P. O. Box 536
Honolulu, Hawaii 96809

NOV - 4 1983



F. J. RODRIGUEZ,
PRESIDENT

ENVIRONMENTAL
COMMUNICATIONS
INC.

November 21, 1983

Mr. Kisuk Cheung
Chief, Engineering Division
Department of the Army
Pacific Ocean Division, Corps
of Engineers
Ft. Shafter, Hawaii 96858

Dear Mr. Cheung:

Thank you for your letter of November 1, 1983 on the Addendum EIS for the Iolani School project. We respond to your comments as follows:

1. We acknowledge the classification data of the project site as Zone D in accordance with the Flood Insurance Study for Oahu and also the fact that the proposed project is not protected from flood hazards by Ho'omaluhia.

2. We regret any misunderstanding in our statements made in the Addendum EIS and the original EIS of May, 1983 that the Ho'omaluhia Flood Control Facility would protect the Iolani School site. Our intent was to describe that runoff from our project would be directed to the tributaries flowing into Ho'omaluhia and thus, protect the existing residential sites from flooding attributable to the Iolani project. This mis-statement will be corrected in the Final EIS addendum.

3. The sizing of drainage box culverts will be addressed by the civil engineering firm retained to develop the utility systems. They will address the sizes in conformance with design code standards.

Thank you for your comments and continuing concerns.

Very truly yours,

F. J. Rodriguez

F. J. Rodriguez

FJR:ls

1152 BISHOP BUILDING, SUITE 407 • P. O. BOX 536 • HONOLULU, HAWAII 96809 • TELEPHONE (808) 521-8301

United States Department of the Interior

FISH AND WILDLIFE SERVICE
300 ALA MOANA BOULEVARD
P. O. BOX 50167
HONOLULU, HAWAII 96850

IN REPLY REFER TO:
ES
Room 6307

NOV 2 1983

Mr. Fred Rodriguez
Environmental Communications, Inc.
P. O. Box 536
Honolulu, Hawaii 96813

Re: Addendum EIS for Iolani School Properties Project

Dear Mr. Rodriguez:

The Service has reviewed the Addendum to the Environmental Impact Statement (EIS) for the Iolani School Properties Project. Again, the document has failed to adequately address Service concerns expressed in previous letters dated April 20 and June 6, 1983. Specifically, Endangered waterbird species, the Koloa (Anas wyvilliana), Hawaiian Coot (Fulica americana alai), and Hawaiian Gallinule (Gallinula chloropus sandvicensis) present in Ho'omaluhia wildlife pond and reservoir, which may be indirectly affected by the project, are still not identified in the appropriate sections of the Addendum. Predicted impacts on these species have not been fully discussed. Although some causes of environmental disturbances have been listed, the Addendum still fails to evaluate principal and secondary effects.

The mitigative measures discussed in the Addendum may not be sufficient and may result in a loss of wildlife habitat. Sedimentation has the potential to insidiously fill the Ho'omaluhia wildlife pond. In addition, the anticipated increase in Ho'omaluhia Park users and feral dogs and cats associated with the proposed urban development could affect nesting and/or roosting populations of waterbirds. The Service's recommended habitat protection and mitigative measures (our previous letters) have not been incorporated or addressed in the Addendum.

Specific Comments

1. Page 1-54, paragraph 4; Page 1-60, paragraph 3; Page 1-63, paragraph 2. The Service's previous comments stated that Koloa, Hawaiian Coot and Hawaiian Gallinule are Federally listed Endangered species which are present in the pond and reservoir adjacent to the project. Indirect project-related impacts on these Hawaiian waterbirds should be reevaluated. The proposed drainage system will discharge storm runoff from the project into existing streams and into the Ho'omaluhia reservoir (page 1-64). Hooleinaiwa Stream and its two tributaries, which traverse Phase I of the proposed project, feed into the Ho'omaluhia wildlife pond before entering the reservoir. The increased runoff due to the proposed urbanization will aggravate existing rapid fluxes in water surface elevation in the reservoir and pond which presently occur during storm conditions. Nesting waterbirds residing in the pond and reservoir could be seriously affected by high water levels. Long-term effects of silt-laden urban runoff upon fish and wildlife in the pond and reservoir should be discussed with regard to sedimentation, eutrophication, biocides, metals and petroleum products.

2. Page I-25, paragraph 1 and Page 1-40, paragraph 6. Enforcement of City and County ordinances have not been adequate in the past to prevent substantial sediment loads from entering adjacent waterways (Kaelepulu, Kawainui). The use of sediment basins and earth berms is encouraged; however, the Addendum lacks any indication of location, capacity and discharge sites for storage basins.

3. Page 1-33, paragraph 3. The EIS should include a statement indicating the contractor will use only water to control dust and will be restricted from using chemicals, waste oil or other petroleum products (our letter of April 20, your response of May 6).

The Service's Hawaiian Waterbirds Recovery Plan is presently being revised (it will include the Koloa). The present draft of this revised plan includes the Ho'omaluhia area amongst those habitats which the plan recommends be maintained. The recovery plan will likely suggest that the habitat qualities for waterbirds (in this case, Koloa, Coot, and Gallinule) be maintained through coordination between U. S. Fish and Wildlife Service, Hawaii Department of Land and Natural Resources and the land owner/manager.

We therefore reiterate our desire to see appropriate measures to minimize impacts upon fish and wildlife resources and water quality within Ho'omaluhia pond and reservoir in this Addendum. These issues and inconsistencies need to be addressed in an improved Addendum. The Service would like to meet with you to discuss these concerns. Our staff will be contacting you in the near future. We appreciate this opportunity to comment.

Sincerely yours,

William R. Kramer
Acting Project Leader
Office of Environmental Services

cc: LUC
OEQC
HDAR
HDF&W
ACOE
EPA, San Francisco
RD, FWS, Portland, OR (AHR)

CONSERVE AMERICA'S ENERGY

Save Energy and You Serve America!

NOV - 4 1983

F. J. RODRIGUEZ
PRESIDENT

ENVIRONMENTAL
COMMUNICATIONS
INC.

November 21, 1983

Mr. William R. Kramer
United States Department of
Interior
Fish and Wildlife Service
P.O. Box 50167
Honolulu, Hawaii 96850

Dear Mr. Kramer:

We are in receipt of your letter dated November 2, 1983 regarding the proposed Iolani School EIS Addendum. The comments made by your office emphasize the importance placed by your office on the functioning of the Ho'omaluhia Flood Facility as a wildlife habitat for endangered avifauna. It is not the intent of Iolani School to significantly impact this facility to the extent that is described in your letter. On the contrary, the petitioner is aware of the concerns expressed by agencies such as yours and has engaged the services of consultants to address these concerns.

Concerns regarding the protection and enhancement of wildlife habitat have been forwarded to the retained engineering consultant for their consideration during the design phase of the subject petition parcel (Phase I only). For this parcel, the impacts as outlined by your office are not considered to be as potentially damaging to the habitat since it is located to the east of the flood control facility. When the Petitioner seeks further land use designation changes for the Luluku and Kamooalii portions of their lands, there is the potential for impact on the wildlife habitats at Ho'omaluhia. It is prudent to consider these aspects of storm runoff volume and quality on the habitat in their proper context of implementation.

On the Specific Comments, we respond in the following:

1. Storm water volume increases attributable to the project's implementation were discussed in Dr. Gordon L. Dugan's study contained in the original EIS of May, 1983. Quoting from his study is the specific reference to storm water runoff volume increase, he states, "As would be expected, the greatest calculated incremental storm runoff volume, 73.4 acre-ft, resulted from the 100 year/24 hour storm event, while the least incremental increase (23.2 acre-ft) occured with the 1 year/1 hour event. The volume of the maximum event would be less than 3 percent of the maximum capacity of the new (makai) Kaneohe Flood Control Dam; however, only a portion of the storm water runoff from Area I is actually planned to be discharged into the water courses leading to the reservoir behind the dam." Further discussions on the effects of constituent loaded runoff are also discussed by Dr. Dugan in his study for the total project implementation. In his Summary and Conclusions, he is of the opinion that storm water runoff quality is more damaging from sediment loading than heavy metal values. We have not specific studies of the type that you feel are warranted, and again the petitioner is seeking approval for land use designation changes for only Phase I which is eastward

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of the Ho'omaluhia Flood Control Facility. These studies would be considered as vital on the basis that Phase IIA and IIB are implemented within the next 10-15 years.

2. We regret that your office is not totally satisfied with the enforcement of the City & County of Honolulu in enforcing drainage control ordinances. Your stated example of Kawainui Marsh is an excellent example of long delayed maintenance which has resulted in overgrowth of the marsh. It would be a monumental and costly project to conduct adequate maintenance dredging of the marsh to render it suitable for wildlife habitat. Dr. Andrew J. Berger has been clear in his position that until government is willing to expend the extensive dollars necessary to service these wetland areas, berms and retention basins are minimal in their ability to reduce storm water runoff from impacting these resources. Again, the retained engineering consultant is in the position to designate those storm water retention basins in accordance with the applicable ordinance that pertains to drainage control. We have not at this point, made those specific site locations.

3. This subject of controlling dust by chemical palliatives is well taken in view of the recent concerns of ground-water contamination by chemicals. This is not unreasonable and will be recommended to the contractor during the offsite construction phase.

In conclusion, your agency's concerns on the preservation and enhancement of wildlife habitat can be addressed when the Phase IIA and IIB portions of the total project are presented to the Land Use Commission for boundary changes. Thank you for your comments and continuing concerns.

Very truly yours,

F. J. Rodriguez

F. J. Rodriguez

FJR:ls

United States Department of the Interior

GEOLOGICAL SURVEY

Water Resources Division
P.O. Box 50166
Honolulu, Hawaii 96850

November 4, 1983

Mr. Gordan Furutani
Executive Officer
Land Use Commission
Room 104, Old Federal Building
335 Merchant Street
Honolulu, Hawaii 96813

RE: Proposed Iolani School
Properties Project
Environmental Impact Statement

Dear Mr. Furutani:

The U.S. Geological Survey, Water Resources Division, Hawaii District office staff has reviewed the above subject report. At this time, we have no comments to make.

We appreciate the opportunity in reviewing the above subject report.

Sincerely,

Stanley F. Kapustka
District Chief

cc: Fred Rodriguez, Environmental Communications, Inc.

NO RESPONSE NECESSARY

NOV - 8 1983

J-10

GEORGE R. ARIYOSHI
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF DEFENSE
OFFICE OF THE ADJUTANT GENERAL
3949 DIAMOND HEAD ROAD, HONOLULU, HAWAII 96816

ALEXIS T. LUM
MAJOR GENERAL
ADJUTANT GENERAL

DANIEL K. C. AU
COLONEL
DEPUTY ADJUTANT GENERAL

HIENG

7 OCT 1983

Mr. Gordan Furutani
Executive Officer
Land Use Commission
Room 104, Old Federal Building
335 Merchant Street
Honolulu, Hawaii 96813

Dear Mr. Furutani:

Proposed Iolani School
Properties Project
Kamooalii, Koolaupoko, Kaneohe, Oahu

We have received and reviewed the above subject addendum and have no comments to offer at this time.

Yours truly,

JERRY M. MATSUDA
Major, HANG
Contr & Engr Officer

cc: Mr. Fred Rodrigues/Env Comm., Inc.
Env. Quality Commission w/addendum

NO RESPONSE NECESSARY

OCT 13 1983

(P)1812.3

OCT 14 1983

Mr. Gordon Furutani
Executive Officer
Land Use Commission
Room 104, Old Federal Building
335 Merchant Street
Honolulu, Hawaii 96813

Dear Mr. Furutani:

Subject: Proposed Iolani School
Properties Project
Environmental Impact Statement

We have reviewed the subject environmental impact statement and have no comments to offer.

Thank you for the opportunity to review the environmental impact statement.

Very truly yours,

RIKIO NISHIOKA
State Public Works Engineer

NS:jm
cc: Mr. F. Rodriguez

NO RESPONSE NECESSARY

OCT 17 1983

J-11

GEORGE R. ARIYOSHI
GOVERNOR

JACK K. SUWA
CHAIRMAN, BOARD OF AGRICULTURE

SUZANNE D. PETERSON
DEPUTY TO THE CHAIRMAN

State of Hawaii
DEPARTMENT OF AGRICULTURE
1428 So. King Street
Honolulu, Hawaii 96814

Mailing Address:
P. O. Box 22159
Honolulu, Hawaii 96822

October 18, 1983

MEMORANDUM

To: Mr. Gordan Furutani, Executive Officer
State Land Use Commission

Subject: Addendum to the Environmental Impact Statement (EIS) for
Proposed Iolani School Properties Project
Iolani School
TMK: 4-5-25: Por. 23; 4-5-41: Por. 1;
4-5-42: Por. 1, 6, 8, and 10
Kaneohe, Oahu

The Department of Agriculture has reviewed the subject Addendum and offers the following comments.

According to the Addendum, the applicant is petitioning the State Land Use Commission to reclassify approximately 391.4 acres of land from the Conservation District to the Urban District for the development of 971 residential units in two phases.

Our comments are in the same order as the six (6) points raised by the State Land Use Commission and presented in the Addendum.

1. The EIS submitted by applicant is for only Phase I of a multi-phase development. In order for the EIS to be complete, it must address all phases of the proposed project (Phase II-A and II-B).

References to the Agricultural Lands of Importance to the State of Hawaii (ALISH) system and the Soil Conservation Service Soil Survey are correct (Addendum, pages 1-16, 1-25 to 28). We would like to add that the proposed project area of 383.8 acres has Land Study Bureau Overall Productivity Ratings of "C" and "E". By this method of classification, the property has fair to good productivity potential for vegetable, forage, grazing and orchard uses.

According to the Addendum, construction of the project will require the removal of approximately 110.4 acres of bananas (Addendum, page 1-13). We are aware that the H-3 alignment, which borders the housing project and crosses through it, will result in the removal of 62.4 acres of

"Support Hawaiian Agricultural Products"

OCT 24 1983

bananas (Addendum, page 1-13). We believe that the relocation/compensation efforts of the State Department of Transportation and the applicant should be coordinated.

The applicant proposes to lessen the impact of the termination of agricultural operations as a result of the proposed project by providing an equal amount of replacement lands for banana cultivation in the vicinity, and charging lease rents which are anticipated to be comparable with those at the time of relocation (Addendum, page 1-13). It should be especially noted that relocation costs are to be borne by the affected farmers (Addendum, page 1-13).

These are positive efforts at mitigating the irreversible loss of productive agricultural lands. However, there are several areas of concern that are unaddressed in the Addendum which may affect the establishment of economically viable banana farms on the replacement lands.

According to our analysis, much of the affected banana planted area is composed of lands classified as "Prime" or "Other Important" agricultural land according to the (ALISH) system. The Soil Conservation Service Soil Survey identifies the predominant soils under banana cultivation as Lolekaa silty clay (LoB, LoC, LoD) with 3 to 25 percent slopes and, Hanalei silty clay (HaB) with 2 to 6 percent slopes. These soils have crop capability classifications of IIe, IIIe, IVe and IIw, respectively. With the exception of IIw soils, the banana cultivated areas are susceptible to different degrees of erosion if the land is cultivated and not protected.

The banana cultivated land has Land Study Bureau Overall Productivity Potential ratings of mostly "C" with an "E" rating for lands closer to the Koolau mountains or in gulch areas. By this method of classification, the "C" lands have fair to good productivity potential for vegetable, forage, grazing, and orchards.

In our Memorandum to the State Land Use Commission dated April 13, 1983, we noted that Appendix G (The Agricultural Significance of the Lands in the Kamooalii, Kapalai, and Luluku Areas of Kaneohe, prepared by Evaluation Research Consultants, December, 1981) of the Draft EIS (March 1983) stated that "the site (is) one of the best locations currently being used for banana production in Hawaii". To our knowledge, the banana fields in the Phase II area comprise one of the largest contiguous areas in banana cultivation in the State.

An examination of the proposed lease relocation areas depicted on page 1-14, Figure 3 of the Addendum, indicates that they are not similar in quality to lands currently in cultivation. The replacement lands have less productive soils according to Soil Conservation Service Soil Survey and Land Study Bureau Overall Productivity Ratings, and ground slopes that are mostly in the 25 to 40 percent range. Page 4-2 of the Addendum notes that banana fields on "... steeper (10-25% slope) are harder to do work and provide medium runoff and erosion factors. Land workability is difficult due to the slope".

Lease rents for the replacement lands are anticipated by the applicant to be comparable to those charged for existing fields. However, the term of the new leases is not discussed. The length of lease term directly affects the quantity and quality of inputs and effort applied by the farmer to get production from his acreage.

Therefore, while it appears that the affected banana fields will be replaced on an acre-for-acre basis, the Addendum does not address whether the planting, growing and harvesting of bananas on this more steeply-sloped land is economically feasible.

2. A more complete assessment of the impact of the proposed project on flood control, groundwater recharge and potential pollution by insecticides used at the Pali Golf Course (and for Phase I with respect to groundwater recharge) for Phases II-A and II-B of the proposed project need to be provided.

We have no comments to offer.

3. More information on the impact of all phases of the proposed development on the sewage and drainage situation must be provided.

We have no comments to offer.

4. Information regarding the social and economic impact of the entire development on the banana farmers are inadequate and must be addressed more fully.

Excerpt 3 (Addendum, page 4-1) of this section provides estimated losses to banana production, income from fruit sales, and banana cultivation-related jobs as a result of the construction of the proposed project. Excerpts 4 and 5 provide employment estimates and production capabilities based on long-term leases, increased plantings in areas not used for banana cultivation, and use of some acreage to produce cut flowers and foliage plants (Addendum, pages 4-1 and 4-2). From the figures provided, we are of the opinion that the economic impact of the proposed project is indeed significant. (Note: It is difficult to fully comprehend the figures given in these excerpts without referring to Appendix G (The Agricultural Significance of the Lands in the Kamooalii, Kapalai, and Luluku Areas of Kaneohe) in the Draft EIS but not found in the Addendum. Appendix G should have been reproduced in the Addendum.)

This section does not clearly address the social costs of relocation, other than to include a statement indicating that specific replacement lands will be made available (Addendum, page 4-3). On page 1-13 of the Addendum, it is stated that relocation costs would be the responsibility of the farmers. What constitutes these relocation costs? Are there any dwellings to be moved and/or built? What about the provision of vehicular access to the replacement lands? Will utilities be available for use on these replacement lands?

To partially mitigate relocation costs, affected banana farmers could be allowed to prepare and plant bananas on the replacement fields (if economically feasible) some months before their existing operations must be brought to a halt. This is to accommodate the approximately one-year span between the planting of banana plants to the first fruiting.

Exhibit F of the Addendum points out that about one-half of the relocation lands lie within the State Conservation District and forest reserve area. Any proposed agricultural use of these lands would require a Conservation District Use Application from the State Department of Natural Resources. Who is the responsible party to apply for the proper permits? Inasmuch as permits of this nature require processing over a relatively long period of time before action is taken, the responsible party should file an application as soon as possible.

5. More information concerning the impact of the proposed development on the archaeological sites known to exist on the subject property must be provided.

We have no comments to offer.

6. The full impact of the entire project on the scenic-view corridor of the windward side has not been adequately addressed and more information on this matter must be provided.

We have no comments to offer.

Thank you for the opportunity to comment.

JACK K. SUWA
Chairman, Board of Agriculture

cc: Environmental Communications, Inc.
Luluku Banana Growers
OEQC

ENVIRONMENTAL
COMMUNICATIONS
INC.

F. J. RODRIGUEZ,
PRESIDENT

November 21, 1983

Mr. Jack K. Suwa, Chairman
Department of Agriculture
State of Hawaii
P.O. Box 22159
Honolulu, Hawaii 96822

Dear Mr. Suwa:

We are in receipt of your letter of October 18, 1983 regarding the Draft EIS Addendum for the Iolani School Properties Project. We would respond to your concerns in the following:

1. The information being provided by your office regarding the Land Study Bureau Overall Productivity Ratings will be incorporated in the report. The applicant will attempt to coordinate their relocation/compensation efforts with the Department of Transportation.

We are unable to provide you with the actual terms of the lease, since they are unknown at this present time, due to the uncertainty of the Phase II development schedule.

In regards to the economic feasibility of the planting, growing, and harvesting of bananas on the replacement lands, it was already previously stated that land would be harder to work and would provide medium runoff and erosion factors. These variables will minimize the economic feasibility of the plantings. However, it should be noted that the replacement lands presented in Figure 3 are only tentative and may be subject to change at a later time. The applicant will cooperate with the State efforts to relocate the farmers. Please be assured that the applicant will attempt to propose a working agreement that will be of mutual benefit to all parties involved.

2. No response necessary.

3. No response necessary.

4. Iolani School's position regarding the relocation of the farmers is discussed in a letter from the School to the Land Use Commission (see attached letter).

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Mr. Jack K. Suwa
Page 2
November 21, 1983

5. No response necessary.

6. No response necessary.

We appreciate your comments and continuing interest.

Very truly yours,

F. J. Rodriguez

F. J. Rodriguez

FJR:ls

IOLANI SCHOOL
HONOLULU, HAWAII 96814

OFFICE OF THE HEADMASTER

November 15, 1983

Mr. Gordon Y. Furutani
Land-Use Commission
Old Federal Building, Room 104
335 Merchant Street
Honolulu, Hawaii 96813

Dear Mr. Furutani:

The Luluku Banana Growers have recently commented on the Addendum to the Environmental Impact Statement filed by Iolani School. The School's primary concern at the present time is the subject matter of its petition before the Land Use Commission which is requesting the change to the Urban classification of 201.4 acres of its lands adjoining the Pali Golf Course. There are no relocation concerns in Phase I of the project with the exception of a 5-acre parcel, which was amicably discussed with the tenant.

The School has offered the banana farmers the right to relocate to certain adjoining areas. The School will cooperate with such farmers by assisting in acquiring all necessary permits, granting vehicular access to such lands, assisting in the location of public utilities to such areas and allowing a reasonable time to allow the farmers to prepare the land for planting.

Very truly yours,

Man Kwong Au
Vice Chairman
Iolani School Board of Governors

GEORGE R. ARIYOSHI
GOVERNOR

DR. DONNIS H. THOMPSON
SUPERINTENDENT

STATE OF HAWAII
DEPARTMENT OF EDUCATION
P. O. BOX 2360
HONOLULU, HAWAII 96804

OFFICE OF THE SUPERINTENDENT

October 18, 1983

LAND USE COMMISSION
STATE OF HAWAII
OCT 24 2 13 PM '83

Mr. Gordon Furutani
Executive Officer
Land Use Commission
335 Merchant Street, Rm. 104
Honolulu, HI 96813

Dear Mr. Furutani:

SUBJECT: Iolani School Properties
Addendum to EIS

Our review of the subject Addendum to the EIS indicates that the enrollment growth generated by the project will affect the following schools:

SCHOOL	GRADE	APPROXIMATE ENROLLMENT
Kaneohe/Kapunahala Elementary	K-6	150 - 250
King Intermediate	7-8	50 - 80
Castle High	9-12	70 - 130

The secondary schools have sufficient capacity to accommodate the projected enrollment increase as the project is to be phased in over the next 12 to 15 years. As the development abuts the service area assigned to Kaneohe and Kapunahala Elementary schools, the Windward District will be assigning the appropriate portions of the development to these two schools. The combined capacities of these two schools can accommodate the projected enrollment increase.

Should there be any questions, please contact Mr. Howard Lau at 737-5231.

Sincerely,

Donnis H. Thompson

Donnis H. Thompson
Superintendent of Education

DHT:HL:jl
cc: Mr. James Edington
Windward District

AN EQUAL OPPORTUNITY EMPLOYER

J-15

F. J. RODRIGUEZ,
PRESIDENT

ENVIRONMENTAL
COMMUNICATIONS
INC.

November 21, 1983

Ms. Donnis H. Thompson
Superintendent of Education
Department of Education
P.O. Box 2360
Honolulu, Hawaii 96804

Dear Ms. Thompson:

Thank you for your letter dated October 18, 1983 regarding the Iolani School Properties project. The data on approximate enrollment will be included in the Final EIS Addendum.

We appreciate your concerns and continuing interest.

Very truly yours,

F. J. Rodriguez

F. J. Rodriguez

FJR:ls

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OMPO

Oahu
Metropolitan
Planning
Organization

Suite 1509
1164 Bishop Street
Honolulu, Hawaii 96813
(808) 523 4178
(808) 548 2830

November 1, 1983

Mr. Gordon Furutani, Executive Officer
State Land Use Commission
Room 104, Old Federal Building
335 Merchant Street
Honolulu, Hawaii 96813

Subject: ENVIRONMENTAL IMPACT STATEMENT ADDENDUM:
IOLANI SCHOOL PROPERTIES PROJECT

Dear Mr. Furutani,

We have reviewed the EIS Addendum and wish to provide the following comments regarding transportation related impacts of the proposed project:

1. Since no change has been made in the EIS Addendum with regards to transportation impact assessment, our comments submitted to you on April 14, 1983 remain unchanged.

2. Access design from the project site to Likelike and Kamehameha Highways should be coordinated with the Department of Transportation to minimize the project's impact to the immediate transportation network.

Thank you for the opportunity to review the EIS Addendum. Should you have any questions regarding this matter, please feel free to contact me.

Sincerely,

Gordon G.W. Lum
Acting Executive Director

GGWL:do

cc: Mr. Fred Rodriguez
Environmental Communications, Inc.
P. O. Box 536
Honolulu, Hawaii 96809

Executive Committee
WELCOME FAWCETT
Chairman
MARILYN BORNHORST
Vice Chairman
CLIFFORD T UWAINE
Member
BRIAN T TANIGUCHI
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Senate Members
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DONNA AIKI KADO KIM
JOHN J MEDEIROS
DAVID H L YOSHIMURA

City Council Members
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DAVID KAHANU
TONY NARVAES
RUDY PACARRO

Acting Executive Director
Gordon G.W. Lum

NOV - 3 1983

ENVIRONMENTAL
COMMUNICATIONS
INC.

F. J. RODRIGUEZ,
PRESIDENT

November 21, 1983

Mr. Gordon G.W. Lum
Acting Executive Director
Oahu Metropolitan Planning
Organization, Suite 1509
1164 Bishop Street
Honolulu, Hawaii 96813

Dear Mr. Lum:

Thank you for your comments on the EIS Addendum on the proposed Iolani School project. We respond to your comments in the following:

1. We acknowledge that your comments of April 14, 1983 in the original EIS are still relevant. ("We have reviewed the above mentioned environmental impact statement with respect to transportation impacts, and found that the analysis used stringent assumptions (e.g. no directional split for peak hour traffic volume, no diversion to transit) and was still able to show traffic conditions at or better than level of service C. These assumptions and the analysis results would indicate that traffic impacts around the immediate project area are not a problem. OMPO has no other comments to offer.")

2. We concur with your recommendation that coordination with the State Department of Tranportation is essential to insure that minimal impact to the immediate transportation network is achieved.

Thank you for your comments and continuing interest.

Very truly yours,

F. J. Rodriguez

FJR:ls

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STP 8.9476

November 2, 1983

Mr. Gordan Furutani
Executive Officer
Land Use Commission
335 Merchant Street, Room 104
Honolulu, Hawaii 96813

Dear Mr. Furutani:

Addendum to EIS For Proposed Iolani School Properties Project;
Kamooalii, Koolaupoko, Kaneohe, Oahu

Thank you for the opportunity to review and comment on the subject document.

Our primary concern is the proposed additional access at Likelike Highway discussed in the Addendum. The access would result in a very hazardous traffic situation which would be totally unacceptable. More specifically, our comments regarding the access are as follows:

1. Page 1-8, Paragraph 1

   The existing access at Luluku Road is safer than the access proposed at Likelike Highway. Opposition by residents should not be the determining factor in deciding whether an additional access is warranted.

2. Page 1-9, Paragraph 2

   A 60-foot wide access as shown in Figure 2 will not be permitted because of operational conflicts with the merging traffic from the H-3 loop ramp in the Kaneohe direction.

3. Page 1-11, Item 1.6

   The Department will not permit the construction of this interchange.

4. Page 1-67, 69 Item 5.a,b

   The traffic assessment presented is misleading and inadequate. The capacity of a highway is not measured by the daily volume. The traffic capacity of the off-peak direction is meaningless, regardless of the amount of excess capacity the facility may have; just as meaningless as the excess capacity occurring at off-peak periods, such as between 9 PM and 5 AM.

   A proper analysis would disclose that Likelike Highway is carrying its maximum traffic volume in the peak direction during the peak period.

5. Page 1-70

   The assumption that access will be provided from Phase II to Likelike Highway is invalid. The Department will not permit this potentially hazardous traffic condition.

6. Page 1-72, Item (2)

   The additional access and installation of interim traffic signals discussed will not be permitted.

Additional comments include the following:

7. The Addendum does not reflect the Department's previous comments regarding an intersection analysis at the intersection of Kamehameha Highway and Kionaole Road and the mitigating measures required.

8. Page 4-2.3

   Comments should be restricted to the Iolani School Properties Project and its impact on the banana farmers. Commitments made by the State regarding the H-3 project serves only to confuse the issue. The discussion should be confined to Iolani's own commitments.

Very truly yours,

Kyoichi Hugashiohna
Director of Transportation

JT:ko

cc: Environmental Communications, Inc.
HWY-D, -PA, -DT

NOV - 8 1983

ENVIRONMENTAL
COMMUNICATIONS
INC.

F. J. RODRIGUEZ,
PRESIDENT

November 21, 1983

Mr. Ryokichi Higashionna, Director
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Higashionna:

We are in receipt of your letter of November 2, 1983 regarding the Iolani Schools Properties Project EIS Addendum. Your comments were forwarded directly to the Traffic Consultants and their responses, in their entirety, have been attached as follows.

Thank you for your interests and concerns.

Very truly yours,

F. J. Rodriguez

F. J. Rodriguez

FJR:ls

1152 BISHOP BUILDING SUITE 407 • P. O. BOX 536 • HONOLULU, HAWAII 96809 • TELEPHONE (808) 521-8361

COMMUNITY PLANNING INC.

PLANNING & URBAN DESIGN
ENGINEERING
LAND SURVEYING
ENVIRONMENTAL STUDIES

November 14, 1983

MEMORANDUM TO: Environmental Communications, Inc.

FROM: Community Planning, Inc.

SUBJECT: Response to Department of Transportation Comments to EIS Addendum dated November 2, 1983

We have reviewed the Department of Transportation's comments on the matter of additional access off Likelike Highway.

Item 1 states that Luluku Road would provide a safe means of access to Phase II and that the impact on residents should not be the determining factor in deciding whether an additional access is warranted. To make this a viable alternative, the adequacy of Luluku Road needs to be evaluated by the Department of Transportation, including the improvement costs required to serve the subject development in accordance with City and County standards. These costs should be considered as severance damages and just compensation made if the Likelike Highway access is deleted.

The Department of Transportation indicated in Items 2, 3, 5 and 6 that the proposed access off Likelike Highway to serve Phase II would result in a potentially hazardous traffic situation which would not be permitted. We believe that the problem is one of design. The State should have given due consideration to the fact that there was an existing access point off Likelike Highway serving the Kamooalii parcel and, therefore, made provisions in their plans to provide a replacement access point as part of the design to realign Likelike Highway.

If there is no replacement of the existing access point, then severance damages will result and just compensation should be considered. The access problem for Phase II has been compounded by the H-3 alignment passing through Iolani School lands. Phases I and II were connected in previous plans so that access was available from Phase II to Kionaole Road and Kamehameha Highway. This is no longer possible.

In response to Item 4, the existing peak-hour traffic count on Likelike Highway is approximately 3,000 vehicles per hour, which exceeds the Level of Service "C" for stable flow. Phase II of the proposed project, when constructed and completed in the distant future, will generate 230 cars during the peak hour. Accordingly, it would seem reasonable that the access point on Likelike Highway be relocated on the realigned Likelike Highway to

700 Bishop St., Suite 608 • Honolulu, Hawaii 96813-4177 • (808) 531-4252 • (808) 521-7491

accommodate the traffic with a design intersection as shown on Figure 2 of the EIS addendum or an alternate that will not impact the major traffic flow on Likelike Highway, especially since the 230 vehicles during the peak-hour generates approximately four cars per minute.

Since full occupancy of this portion of the project is estimated for completion by 1994 or thereabouts, an alternate intersection design may be considered, which will provide only right turns in and out of the property on the realigned Likelike Highway. The right turn only proposal has merits because the only traffic impact will occur during the PM peak. Since traffic will not be allowed to cross the median, the AM peak right turn movement will have no impact on the Likelike Highway. For the present, please understand that the petition deals with Phase I, for which favorable response to the traffic analysis has been received.

The Department of Transportation's comments per Item 7 on traffic assessment of the Kamehameha Highway and Kionaole Road intersection seem somewhat contradictory as related to Phase I of the project because the attached letter from their department dated April 26, 1983, states that the assessment provided was considered reasonable.

The recommendation to provide acceleration and deceleration lanes at the Kamehameha Highway and Kionaole Service Road intersection will be considered by the owner as a condition for approvals of the project.

The portion of existing Kionaole Road within the project boundary will be improved to City standards for a subdivision road.

With respect to Item 9, please be advised that the State's taking of lands for the H-3 affects 60± acres now cultivated in banana and the loss of that acreage is not due to plans of Iolani School for development. The State must accept the responsibility for damages to the affected farmers.

Iolani School will accept the responsibility for displacement of tenant farmers affected by the residential development plans, by providing relocation to other available sites on the property with long-term leases.

We wish to again stress the fact that the Department of Transportation has a definite responsibility to see that the lands of Kamooalii are not landlocked and that adequate access is provided with the taking of the lands for the construction of the H-3. It is generally accepted that if an existing access off a major highway is taken, then replacement of the access should be made.

J-19

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
BUTUNGUBUNI STREET
HONOLULU, HAWAII 96813

RYOKICHI HIGASHIWINA, P.E.
DIRECTOR

DEPUTY DIRECTORS
WAYNE J. YAMASAKI
JAMES B. McCORMACK
JONATHAN K. SHIMADA, P.E.

IN REPLY REFER TO

[illegible]
8.9006

April 26, 1983

Mr. Gordon Furutani
Land Use Commission
Room 104, Old Federal Building
335 Merchant Street
Honolulu, Hawaii 96813

Dear Mr. Furutani:

Proposed Iolani School Properties Project,
Environmental Impact Statement;
Kamooalii, Koolaupoko, Oahu

Thank you for the opportunity to review and comment on the subject document.

The traffic assessment presented in the report appears to be reasonable. We suggest that the recommended mitigating measures at the intersection of Kamehameha Highway and Kionaole Service Road (i.e. provision of accel/decel lanes) be a condition for granting of the land use change.

It should be noted that the portion of Kionaole Road which is 24 feet wide with 8 feet unpaved shoulders, between Kamehameha Highway and the Iolani properties, is below the City standards for a subdivision road.

Please be informed that the access issue to Likelike Highway from Phase II of the development has not been resolved and requires further coordination with our Department, Highways Division.

MAY 2 1983

Mr. Gordon Furutani
Page 2
April 26, 1983

STP 8.9006

Coordination is also required regarding the development's effect on the drainage system for Interstate Route H-3, as mentioned in Environmental Communications, Inc. letter to our Department. (See Section XII, letter of March 1, 1983, item 33.) The EIS should address this concern.

Very truly yours,

Ryokichi Higashionna
Director of Transportation

JT:gn

cc: Mr. Fred Rodriguez (ECI)
HWY-D, -PA, -PS

ENVIRONMENTAL
COMMUNICATIONS
INC.

F. J. RODRIGUEZ
PRESIDENT

May 6, 1983

Dr. Ryokichi Higashionna, Director
Department of Transportation
State of Hawaii
869 Punchbowl Street, 5th Floor
Honolulu, Hawaii 96813

Dear Dr. Higashionna:

Thank you for your comments of April 26, 1983 regarding the Iolani School Properties Project Draft EIS.

The recommendation to provide acceleration and deceleration lanes at the Kamehameha Highway and Kionaole Service Road intersection will be considered by the petitioner as a condition for approvals of the project.

The portion of existing Kionaole Road within the project boundary will be improved to City standards for a subdivision road.

The issue of access to Likelike Highway from Phase II of the development must be resolved at a later date by coordinating efforts with the State Highways Division.

Preparation of a drainage map appears premature at this stage of project implementation. Prior to the preparation of said map, the petitioner will contact the State Highways Division, to determine the design capacity of the H-3 crossings.

Thank you for your concerns on these matters.

Very truly yours,

F. J. Rodriguez

FJR:ls

cc: Ah Leong Kam

1132 BISHOP BUILDING, SUITE 407 • P O BOX 536 • HONOLULU HAWAII 96809 • TELEPHONE (808) 521-8301

GEORGE R. ARIYOSHI
GOVERNOR

Letitia N. Uyehara
Interim Director

TELEPHONE NO.
548-6915

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

November 7, 1983

Mr. Gordan Furutani
Executive Officer
Land Use Commission
Room 104, Old Federal Building
335 Merchant Street
Honolulu, Hawaii 96813

Dear Mr. Furutani:

Subject: Iolani School Properties Addendum

We have reviewed the addendum and offer the following comments:

1) Noise. We believe noise from the proposed H-3 highway will have a great effect upon your project. Although the 70 dBA contour may not extend beyond 100 feet from the highway right-of-way, that level may be greater than what most people are willing to tolerate on a daily basis.

2) Traffic. The project will not only add to the present heavy peak hour traffic, but will also disrupt traffic and limit throughput of Likelike and Kamehameha Highways. The interaction of traffic from the project and these highways should be discussed. Also we believe that a comparison of daily traffic loads with and without the project is grossly misleading, instead we suggest that peak traffic effects be addressed.

Thank you for the opportunity of reviewing the addendum.

Sincerely,

for Letitia N. Uyehara
Interim Director

cc: Environmental Communications, Inc.

NOV 1 0 1983

F. J. RODRIGUEZ
PRESIDENT

ENVIRONMENTAL
COMMUNICATIONS
INC.

1152 BISHOP BUILDING, SUITE 407 • P. O. BOX 536 • HONOLULU, HAWAII 96809 • TELEPHONE (808) 521-0341

November 21, 1983

Ms. Letitia N. Uyehara
Interim Director
Office of Environmental Quality
Control
550 Halekauwila Street, Room 301
Honolulu, Hawaii 96813

Dear Ms. Uyehara:

Thank you for your comments on the Iolani School Properties EIS Addendum. The comments which deal with Noise and Traffic are responded to as follows:

1. Noise. The vehicular noise from the proposed H-3 Highway is a subject that has been discussed in the State EIS document on the H-3 Highway. The borders which are allowed are such that vehicular noise should not be a significant impact consideration. Further, the subject parcel for the petition does not include the Phase IIA or IIB parcels; these areas were discussed only in compliance with the State Land Use Commission directive. The Phase I area is sufficiently away from the H-3 to prevent noise impacts from reaching the Phase I sectors.

2. Traffic

The existing peak-hour traffic count on Likelike Highway is approximately 3,000 vehicles per hour, which exceeds the Level of Service "C" for stable flow. Phase II of the proposed project, when constructed and completed in the distant future, will generate 230 cars during the peak hour. Accordingly, it would seem reasonable that the access point on Likelike Highway be relocated on the realigned Likelike Highway to accommodate the traffic with a design intersection as shown on Figure 2 of the EIS addendum or an alternate that will not impact the major traffic flow on Likelike Highway, especially since the 230 vehicles during the peak-hour generates approximately four cars per minute.

Since full occupancy of this portion of the project is estimated for completion of 1994 or thereabouts, an alternate intersection design may be considered, which will provide only right turns in and out of the property on the realigned Likelike Highway. The right turn only proposal has merits because the only traffic impact will occur during the PM peak.

Since traffic will not be allowed to cross the median, the AM peak right turn movement will have no impact on the Likelike Highway. For the present, please understand that the petition deals with Phase I, for which favorable response to the traffic analysis has been received.

Thank you for your comments and continuing concerns.

Very truly yours,

F. J. Rodriguez

F. J. Rodriguez

FJR:ls

University of Hawaii at Manoa

Environmental Center
Crawford 317 • 2550 Campus Road
Honolulu, Hawaii 96822
Telephone (808) 948-7361

November 7, 1983

RE:0392

LAND USE COMMISSION
STATE OF HAWAII
NOV 8 11 29 AM '83

Mr. Gordan Furutani
Land Use Commission
Department of Planning
and Economic Development
335 Merchant Street, Room 104
Honolulu, Hawaii 96813

Dear Mr. Furutani:

Draft Addendum to Environmental Impact Statement
Iolani School Properties Project
Kamooalii, Kaneohe, Koolaupoko, Oahu

We appreciate the opportunity to review to above mentioned document. We note that the State Land Use Commission determined that the original Revised EIS (dated May 1983) was inadequate in addressing six issues. This review, which is limited in response to two of the six identified inadequacies in the draft addendum, has been prepared with the assistance of Paul Ekern, Agronomy and Soil; Peter Flachsbart, Urban and Regional Planning; Matthew Spriggs, Anthropology; Jacquelin Miller, Mark Ingoglia, and Pamela Bahnsen, Environmental Center.

J-23

Impacts on groundwater and flood hazard

The second of the identified inadequacies of the original EIS related to information on the impacts of the proposed development on flood control, groundwater recharge, and potential pollution. Our comments on the response in the Addendum to this inadequacy are limited to the issues of groundwater recharge and groundwater quality and background information presented in the Addendum that relates to these issues.

Geology

The statement is made under "Topography" (p. 1-24) that : "Geologically, the entire area was created by the Koolau volcanic series and was of basaltic origin." Although the area is within that of the Koolau volcano, and is underlain at depth by Koolau volcanic series lava flows and dikes, the terrain has been shaped by extensive erosion and sedimentation, and the area is underlain directly by alluvium and perhaps members of the Honolulu volcanic series (Stearns, Geologic Map of Oahu, Hawaii Div. Hydrog. Bull. 2). The descriptions of the soils of the area (pp. 1-25 to 1-28) indicate that the Lolekaa and Hanalei series soils were developed on alluvium. The Kaneohe series soils were developed in part of

ash and cinders from the Honolulu volcanic series. There is in the addendum no map that would indicate the relationship of the proposed project sites to the geology or distribution of soils.

Hydrology

The statement is made under "Water Quality--Existing" (pp. 1-3 to 1-38) that a perched, near-surface water bearing stratum generally exists near the stream courses. That there is fairly shallow groundwater in the area is indicated by the fact that the streams of the area gain by groundwater discharge. This groundwater is, however, not restricted to a defined water-bearing stratum. It may possibly be perched in some very restricted part of the area, but it is not perched generally.

Groundwater quality

It is recognized (p. 1-40) that the condition of net groundwater discharge that pertains generally in the area may be altered to one of net groundwater recharge depending on the location of and draft from present and planned BWS wells. The statement there, in the discussion of the impact on flood control and groundwater recharge (p. 2-1), and in Appendix A, that it is doubtful that the proposed residential development would have any impact on the groundwater other than an increase in demand, may be based on an opinion that a) the reversal will not occur, an opinion that b) the depth from the surface to the aquifers that are and will be tapped by the BWS wells is too great for surface contamination to reach the aquifers, or both these opinions; but the Addendum does not clarify which opinion or opinions is the basis or provide further rationale. The further statement that "The existing and proposed BWS wells locations can be changed in order to minimize any potential conflicts" is one that should be checked with the BWS.

Groundwater recharge

There appears to be no evaluation in the Addendum of the effect of the proposed development on the rate of groundwater recharge, although it is recognized in the section on "Drainage" (p. 1-63) that the development will result in increased stormwater runoff and hence decreased infiltration.

Flood hazards

The Addendum, after noting the completion of the Corps of Engineers Kaneohe Flood Control Project states that "The project sites are therefore, protected from any subsequent flooding activity" (p. 1-42, 1-43). As pointed out by both the Environmental Center and the Corps of Engineers, the flood control project does not provide protection to parts of Phase I of the proposed Iolani Schools project. What parts of the total Iolani School project area are protected by the flood control project and what parts are still subject to flooding are not identified in the Addendum.

Impacts on Archaeological Sites

The fifth of the identified inadequacies of the original EIS related to the information that was provided concerning the impacts of the proposed development on the archaeological sites in the project area. That more information was needed was clearly stated in the May 27, 1983 letter of Mr. William Yuen, Chairman of the State Land Use Commission to Mr. Roy R. Takemoto of the Environmental Quality Commission.

No significant new information is included in the EIS addendum concerning the archaeological sites in the area or impacts on them. Archaeological concerns are addressed on pages 1-43 to 1-49 and 5-1 to 5-9. If these pages are compared with passages in the original EIS (pp. III-24 to III-28) almost word-for-word similarity will be noted. Additions are a one-line description of site 68 and an eight line description of site 71, neither of which are in the project area. The discussion of impacts and mitigative measures on page 1-48 adds very little to the corresponding discussion in the original EIS (pp. V-6 and VI-2), although the statement that, "The petitioner will ensure that no harm come to these sites" (p. V-6) has been deleted from the Addendum. Page 1-48 of the new document contains an undocumented statement that, "The remaining archaeological sites are either situated outside of the project boundaries or in areas proposed for open space." The only other site clearly marked on page 1-49 as occurring within the property is 50-0-G5-78. Is it this site which will be kept in an area of open space? In the archaeologist's report (Appendix E of the original EIS) it is noted that it is highly probable that site cluster 56-65 also extends into the project area. Will this area be part of the open space? That sites might be preserved as part of the development is appropriate. No details are given, however, of how the sites are to be protected from indirect impacts such as vandalism or how the resources are to be managed. Are they to be parts of parks? Unless a full archaeological survey is presented, how can the statement be made that all archaeological sites are in areas proposed for open space?

It appears that the literature search and "walk-through" archaeological reconnaissance (Appendix E of original EIS) is still the principal basis for the archaeological information presented and no detailed archaeological surveys such as were recommended by the archaeological consultant has been made. On the basis of the information provided, it is impossible for the Land Use Commission to take into account the archaeological impacts of the development proposed in the area that would be made possible by the requested land-use change. Furthermore, the owners of the property can have no sound basis for their claims that they will provide measures adequately mitigating the archaeological impacts because they can have no reliable estimate of the costs of those measures. We consider still that what is needed is a full archaeological survey of the complete project area, involving historical research and a consideration of the likelihood of subsurface remains, as was recommended in the UH Environmental Center's review of the original, rejected EIS.

Summary

In our opinion the Addendum has not remedied the identified inadequacies regarding impacts on groundwater and archaeological sites. It is stated on page 1-16 that "the Interim Statewide Land Use Guidance Policies...are utilized by the State Land Use Commission as criterion for their decision-making." One of these policies is that:

> Land use amendments shall be approved only as reasonably necessary to accommodate growth and development, provided there are no significant adverse effects upon agricultural, natural, environmental, recreational, scenic, historic, or other resources of the area. (p. 1-16)

It is inappropriate to judge that, "The project is consistent with this policy" when the hydrologic and historic and archaeological resources have not been adequately addressed in the EIS.

Yours truly,

Doak C. Cox
Director

cc: OEQC
Environmental Communications
Paul Ekern
Peter Flachsbart
Matthew Spriggs
Jacquelin Miller
Pamela Bahnsen
Mark Ingoglia

ENVIRONMENTAL
COMMUNICATIONS
INC.

F. J. RODRIGUEZ
PRESIDENT

November 21, 1983

Mr. Doak C. Cox, Director
Environmental Center
University of Hawaii
Crawford 317
2550 Campus Road
Honolulu, Hawaii 96822

Dear Mr. Cox:

We are in receipt of your letter of November 7, 1983 regarding the Iolani School Properties Draft EIS. We would respond to your comments in the following:

Impacts on Groundwater and Flood Hazard

Geology

The information provided by you on geology has been included in the Final EIS. The preparation of a soils map and soils study is a normal procedure in which a qualified soil engineering consultant is retained to take soil borings so that the site's specific soil conditions are known and the appropriate engineering measures for structural support can be undertaken. The soil study and map will be prepared at a more appropriate time.

Hydrology

The statement in question regarding the perched, near-surface water has been deleted from the Final EIS.

Groundwater Quality

In his response to the Board of Water Supply, dated November 14, 1983, Stephen P. Bowles, President of Island Resources, Ltd. stated the following:

"In general, urban developments may increase runoff. The conclusion that "it is doubtful that the proposed residential development would have any impact on the groundwater, other than increase demand" might be better stated as "significant impact". To conclude this statement to be untrue, is to ignore the facts presented clearly and concisely by Takasaki (1969)."

The petitioner will be negotiating with the BWS, in attempts of relocating the wells, at a more appropriate time. It is anticipated that the wells would be relocated, if necessary, outside the residential development area.

Groundwater Recharge

A more in-depth discussion on groundwater recharge has been included in the Final EIS in Section B. Environmental Considerations, Part 3. Water Quality, Sub-Part b) Impacts.

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Flood Hazards

The dam protects only those areas downstream of the dam. Those areas are designated Zone C, or areas of minimal flooding. Runoff from the proposed project would be directed to the tributaries flowing into Ho'omaluhia Park and thus, protect the existing residential sites from flooding.

Impacts on Archaeological Sites

The State Historic Preservation Officer in a letter dated April 12, 1983 stated: "A complete, intensive archaeological survey has never been conducted in the project area. The area is reported to contain an unknown number of prehistoric Hawaiian ruins. The environmental impact statement itself states that significant archaeological sites are situated within the project area and that the petitioner will ensure that no harm come to these sites. The statement also provides that no construction will take place until all adverse impacts on archaeological sites have been mitigated. The project description and maps in the environmental impact statement do not yet show which sites will be preserved and which sites will be studied scientifically prior to destruction. We recommend that where feasible sites slated for preservation be retained in the Conservation District. We also recommend that historic preservation measures be coordinated with our historic sites office, including plans to preserve or destroy archaeological sites, the study of sites prior to destruction, and distribution of all archaeological reports."

On the basis of this position by the designated Historic Preservation Officer for the State, we would maintain our basic position that at the appropriate time, these requirements as mandated by his letter, will be complied with in full. There will be no development taking place without approval from his office on this subject.

Summary

We believe by responding to the comments made in your letter, we now satisfy the Guidance Policy.

We thank you for your continuing interests.

Very truly yours,

F. J. Rodrigues

F. J. Rodrigues

FJR:ls

APR 1 2 1983

Mr. Gordon Furutani
Land Use Commission
Room 104, Old Federal Building
335 Merchant Street
Honolulu, Hawaii 96813

Dear Mr. Furutani:

We have reviewed the environmental impact statement for the Iolani School properties project, and have a few concerns to express:

Recreation Concerns:

The only identifiable recreation concern is for pedestrian access to Moanalua County Park and the pali foothills mauka of the proposed subdivision.

It is our understanding that the proposed H-3 highway will include pedestrian access from Moanalua County Park to the lands mauka. These access points should be coordinated with any subdivision plans. Access from the subdivision to undeveloped lands at the base of the pali should also be provided to connect to existing trails and provide access for recreation and emergency use.

Historic Sites Concerns:

A complete, intensive archaeological survey has never been conducted in the project area. The area is reported to contain an unknown number of prehistoric Hawaiian ruins.

The environmental impact statement itself states that significant archaeological sites are situated within the project area and that the petitioner will ensure that no harm come to these sites. The statement also provides that no construction will take place until all adverse impacts on archaeological sites have been mitigated. The project description and maps in the environmental impact statement do not yet show which sites will be preserved and which sites will be studied scientifically prior to destruction. We recommend that where feasible sites slated for preservation be retained in the Conservation District. We also recommend that historic preservation measures be coordinated with our historic sites office, including plans to preserve or destroy archaeological sites, the study of sites prior to destruction, and distribution of all archaeological reports.

APR 1 2 1983

Edaphic Concerns:

Slopes within the project area range from 0-20%. Gulches and ridges are to be left in their natural state; in other areas, minor excavation and grading are proposed. We suggest that appropriate erosion and sedimentation control measures be utilized to prevent or minimize degradation of adjacent streams and the Moanalua Park reservoir during and after construction.

Sincerely,

Susumu Ono
SUSUMU ONO
Chairman of the Board
and
State Historic Preservation Officer

cc: Environmental Communications, Inc.

DEPARTMENT OF PLANNING AND ECONOMIC DEVELOPMENT

GEORGE R. ARIYOSHI
Governor
Kent M. Keith
Director
John Pingree
Deputy Director

November 7, 1983

Ref. No. 8343

COPY

MEMORANDUM

TO: Mr. Gordan Furutani, Executive Officer
Land Use Commission

FROM: Kent M. Keith, Director

SUBJECT: EIS Addendum for the Proposed Iolani School Properties Project, Oahu

We have reviewed the subject addendum with respect to the adequacy with which the additional information responds to concerns expressed in our previous reviews.

Page 1-1. The requested use is for a "State Land Use Boundary Amendment, of 381.4 acres for Urban Use." The present petition before the State Land Use Commission is for approximately 201.4 acres only. The Petitioner should clarify whether it will be amending its present petition to the Commission for the entire project area, or whether it will still be petitioning initially for the 201.4 acres.

Page 1-4. The Petitioner assumes that because the Koolaupoko District represents 14 percent of the total Oahu population, that it also represents a 14 percent need of the total estimated dwelling unit need of Oahu. The basis for this assumption should be further substantiated. There may be a more significant housing need in other areas of the City and County and taking a straight percentage may be an oversimplification of the data.

The Petitioner's assumptions that there is a significant need for developable land may be misleading. Testimony of the City and County and Honolulu Department of General Planning has indicated that there are significant amounts of Urban lands in the Koolaupoko District which could be available for residential purposes. The Petitioner should address the need for additional developable land in terms of the existing supply of Urban, Development Plan and zoned lands which could be used for residential purposes.

Page 1-9. The Petitioner indicates that "A 60-foot wide major street connection to Phase IIA with access via Likolike Highway will be provided." It is our understanding that the State Department of Transportation has not approved this connection. Further clarification should be provided by the Petitioner with respect to whether such a connection will be permitted by the Department of Transportation particularly since it appears that this proposed connection, if not approved, would have a significant effect on the anticipated traffic impacts of the proposed development.

J-27

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Page 1-10. The Petitioner should clarify whether the estimated Phase I Sewer-Related Improvements include proposals for the expansion of the Kaneohe Sewage Treatment Plant. It is our understanding that the Petitioner will be required to make plant improvements at its own cost. If so, cost estimates for the plant improvements should be provided also.

The Petitioner should also indicate what Phase I off-site street improvements are included in the cost estimate of $14,982,000.

Page 1-11. The Petitioner should clarify whether any sewage related improvements will be required for Phase II.

Page 1-12. Relative to Phase I of the proposed development, the Petitioner states "This phase could be further separated into two increments of 305+ units each." Further clarification should be provided by the Petitioner with respect to where these two potential increments would be located (reflect on proposed development map), and the number of acres and type of units involved for each increment.

Page 1-13. The Petitioner indicates that banana production sites could be made available to the farmers by providing equal amounts of land in the vicinity of the project site. Further information should be provided by the Petitioner with respect to whether these lands would be of comparable suitability in terms of banana production with existing areas, and the proposedlease terms to be provided to the farmers. Also, whether the affected farmers have indicated their agreements to the proposal.

Pages 1-19 to 1-20. The Petitioner has not adequately addressed all the applicable policies of the Hawaii State Plan. Only policies relating to housing have been addressed. Other objectives, policies and Priority Directions such as those relative to the physical environment, facility systems, agriculture, and water resources, should also be addressed.

Page 1-40. The Petitioner states that based on information contained in a 1969 U.S.G.S. report and the proposed location of the Board of Water Supply wells in the area, that it is doubtful that the proposed development would have any impact on the groundwater. It is further stated that the existing and proposed Board of Water Supply well locations can be relocated in order to minimize any potential conflicts.

These statements raise questions as to whether the Petitioner has conducted any onsite percolation or other tests to determine the potential impacts on the groundwater of the area; whether the Board of Water Supply has agreed to the relocation of existing and proposed well sites; and, finally, the costs, impacts and feasibility of such relocations.

Page 1-41. Regarding visual impact of the proposed development, the Petitioner states, "The rooftops would be seen intermittently behind mature trees and vegetation which surround each residential cluster." We cannot agree with this statement. The proposed development would be highly visible

from the Pali Lookout area. From this location, looking down on the proposed development, it appears that impacts would be more significant than just "intermittently seen rooftops." The Petitioner should substantiate their conclusions with an analysis of view planes of the proposed development from various sites in the area.

Page 1-66. The Petitioner should clarify the proposed water source for the development. Earlier comments from the Board of Water Supply indicated that the Petitioner would be required to install its own water system, including source, storage and transmission facilities. The Petitioner's statements appear to indicate that water will now be obtained from the public water system.

Pages 5-7 to 5-9. The Petitioner recommends that intensive archaeological surveys be conducted in the project area and that adverse impacts on significant archaeological resources be mitigated prior to any construction. The Petitioner proposes that further surveys should be deferred until the applicant is assured that the project meets necessary approvals--but not later than the submission for a rezoning request. This should be discussed with the State Historic Preservation Office. In addition, we note that the Petitioner's preferred mitigating measure appears to apply only to the 200 acres of the first phase of the project. We believe that the scope of the EIS and any proposed mitigation should address the entire project area.

Thank you for the opportunity to comment on this document.

cc: Mr. Fred Rodriguez,
Environmental Communications, Inc.

F. J. RODRIGUEZ,
PRESIDENT

ENVIRONMENTAL
COMMUNICATIONS
INC.

November 21, 1983

Mr. Kent M. Keith, Director
Department of Planning and
Economic Development
P.O. Box 2359
Honolulu, Hawaii 96804

Dear Mr. Keith:

Thank you for your departmental comments on the Iolani School EIS Addendum. We will respond to the comments in the order listed.

1. Page 1-1. The petitioner is not amending the subject petition to include the entire Iolani lands of 383 acres. As described in the Introduction, the discussion in this Addendum is in compliance with a direct mandate from the Land Use Commission to provide data and analysis on the impacts of the entire project, since in their deliberations, it was felt that despite the subject petition being only for 201.4 acres, the impacts for the balance of the project would have to be discussed in their totality.

2. Page 1-4. The assumption made by the consultant that 14% of the Oahu population is represented by the Koolaupoko District and consequently can also be assumed to be the equivalent of the 40,000 dwelling units presently needed, is the best educated estimate, based on available data. We would not presume to dictate market demand for units in other sectors of Oahu since the demand criteria of price, location, size of units, etc. are a personal decision when buyers enter the marketplace. It is a straight line arithmetic assumption that has been made with existing data and we feel that it is the best available. The availability of existing Urban designated lands sufficient to meet the demands of dwelling units in the Koolaupoko District are technically correct in that there is in scattered parcels, adequate total acreage. What is not said is that many of these parcels are subject to development restrictions that range from terrain, inadequate utilities, ownership preference to leave the lands vacant at this time, and to achieve the economy of scale anticipated by Iolani School on one contiguous parcel, these scattered parcels would need to be consolidated both physically and financially.

3. Page 1-9. Presently, there is an access found on Likelike Highway which is deleted by the H-3 and Likelike realignment. The owners is requesting the relocation of the access point to the realigned Highway. To date, the question of providing access points has not been discussed. The development of Phase II, which affects the access point on Likelike Highway is planned for 1994 thereabouts. The actual petition before the State Land Use Commission deals with Phase I and does not have any effect on the access unto Likelike Highway.

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4. Page 1-10. As discussed in the original EIS for Phase I, (p. V-26) costs to the Kaneohe STP to accomodate flow from the Phase I will be provided at developer cost if City and County improvements are not in place when connections are scheduled. It is premature to determine the actual engineering costs for improvements at this time, since it is not determined if the actual improvements will be made in time by the City and County or if these costs will be at the expense of the developer seeking connections. The vagaries of inflation and cost escalation are also factors beyond the control of the developer to provide this data. There is no off-site street improvement cost for Phase I. Off-site costs are for water and sewer. The on-site cost, as related to street improvements and utilities, is $14,820,000 including engineering and contingencies. An additional $162,000 is for park improvements (see page 1-10 of the EIS Addendum).

5. Page 1-11. The engineering consultant has not determined whether or not there will be sewer related costs for Phase II since the timing for Phase II implementation is questionable in terms of when it will take place, if at all. Also, the government facilities would have been established in terms of capacity and adequacy based on flow demands predicated in the 1990s. The developer would abide by the same conditions that if plant facilities are not sufficient to accomodate the Phase II flows, costs to improve the Kaneohe plant would be at their expense.

6. Page 1-12. The request for specific information on location, acreage, and unit mix (two increments of 305 units each) is extremely premature at this point. Beyond the development plan site map presently provided, there is no specific location or unit mix plan developed at this time. As indicated in the Phase I development schedule, a total of 10 years is contemplated from this point to occupancy; further, there is a minimum of four years to achieve all governmental approvals and final construction drawings.

7. Page 1-13. The specific items requested are all being discussed during this review period and when they have been completed, the data will certainly be available to all parties concerned. Final decisions as to the future tenure, continued practice of banana cultivation on Iolani lands, the H-3 lands exchanges between State and Iolani School, are all under discussion and no decisions are available at this writing. Suffice be it to say that upon relocation, Iolani School will assist its tenants in every-way possible.

8. Page 1-19-20. The State Functional Plans on: Water Resources Development, Conservation Lands, and Agriculture will be included in the appropriate sections in the Final EIS Addendum.

9. Page 1-40. There have been no percolation tests conducted on behalf of the applicant to support the determinations made by the consultant retained to respond to ground water recharge comments. Costs and agreements with the Board of Water Supply have also not been determined at this time. These matters will be discussed and subject to approval by the Board of Water Supply when it is appropriate.

10. Page 1-41. An analysis of the visibility of the proposed residential development concluded that the panoramic view from the Pali Lookout would be influenced. Other public views, such as from Likelike Highway, Kamehameha Highway, and Ho'omaluhia Park, are not affected because the project will not be visible from these points.

A typical cross section of the site and a panoramic view from the Pali Lookout with the proposed development superimposed were prepared to illustrate the visual impact of the project.

The typical cross section (Exhibit I) shows that one and two story residential structures would be lower and partially obscured by site landscaping. When these plant materials mature, the vegetation will become the dominant feature when the project is seen from higher elevations. Further, since existing mature vegetation will be retained in open space areas, which make up 28% of the proposed project area, the visual impacts will be even more softened.

The view panorama diagram (Exhibit H) further illustrates this conclusion. The rooftops of residential structures will be seen from the lookout. However, they will be partially hidden behind mature tree masses which will remain and new residential landscaping. As these plant materials mature, the residential structures will become less visible.

The overall impact on the important public view from the Pali Lookout is alteration to the foreground portion of the panoramic view, where residential rooftops will be seen between trees and other vegetation. This conclusion is based on the panoramic view and construction exhibit, which are based on the proposed plans. If the panorama was drawn with the new residential landscaping matured, it would obscure the view of more of the rooftops now shown in the exhibit.

11. Page 1-66. The adequacy of available potable water for the project, with specific reference to Phase I (611 units) is scheduled to be coordinated with the Board of Water Supply schedule of Wells development within the Phase I project site. As described in the original EIS on pages V-24,25, the coordination of the project's implementation and the availability of water from the Board of Water Supply is contingent on timing for both schedules. The two divergent viewpoints of providing water at who's cost is subject to varying opinions. If schedules conflict, then connections will be subject to the Board of Water Supply requirements.

12. Page 5-7,9. The State Historic Preservation Officer in a letter dated April 12, 1983 stated: "A complete, intensive archaeological survey has never been conducted in the project area. The area is reported to contain an unknown number of prehistoric Hawaiian ruins. The environmental impact statement itself states that significant archaeological sites are situated within the project area and that the petitioner will ensure that no harm come to these sites. The statement also provides that no construction will take

place until all adverse impacts on archaeological sites have been mitigated. The project description and maps in the environmental impact statement do not yet show which sites will be preserved and which sites will be studied scientifically prior to destruction. We recommend that where feasible sites slated for preservation be retained in the Conservation District. We also recommend that historic preservation measures be coordinated with our historic sites office, including plans to preserve or destroy archaeological sites, the study of sites prior to destruction, and distribution of all archaeological reports."

On the basis of this position by the designated Historic Preservation Officer for the State, we would maintain our basic position that at the appropriate time, these requirements as mandated by his letter, will be complied with in full. There will be no development taking place without approval from his office on this subject.

Thank you for your comments and continuing interest.

Very truly yours,

F. J. Rodriguez

F. J. Rodriguez

FJR:ls

APR 12 1983

Mr. Gordon Furutani
Land Use Commission
Room 104, Old Federal Building
335 Merchant Street
Honolulu, Hawaii 96813

Dear Mr. Furutani:

We have reviewed the environmental impact statement for the Iolani School properties project, and have a few concerns to express:

Recreation Concerns:

The only identifiable recreation concern is for pedestrian access to Hoomaluhia County Park and the pali foothills mauka of the proposed subdivision.

It is our understanding that the proposed H-3 highway will include pedestrian access from Hoomaluhia County Park to the lands mauka. These access points should be coordinated with any subdivision plans. Access from the subdivision to undeveloped lands at the base of the pali should also be provided to connect to existing trails and provide access for recreation and emergency use.

Historic Sites Concerns:

A complete, intensive archaeological survey has never been conducted in the project area. The area is reported to contain an unknown number of prehistoric Hawaiian ruins.

The environmental impact statement itself states that significant archaeological sites are situated within the project area and that the petitioner will ensure that no harm come to these sites. The statement also provides that no construction will take place until all adverse impacts on archaeological sites have been mitigated. The project description and maps in the environmental impact statement do not yet show which sites will be preserved and which sites will be studied scientifically prior to destruction. We recommend that where feasible sites slated for preservation be retained in the Conservation District. We also recommend that historic preservation measures be coordinated with our historic sites office, including plans to preserve or destroy archaeological sites, the study of sites prior to destruction, and distribution of all archaeological reports.

APR 12 1983

Edaphic Concerns:

Slopes within the project area range from 0-20%. Gulches and ridges are to be left in their natural state; in other areas, minor excavation and grading are proposed. We suggest that appropriate erosion and sedimentation control measures be utilized to prevent or minimize degradation of adjacent streams and the Hoomaluhia Park reservoir during and after construction.

Sincerely,

Susumu Ono
SUSUMU ONO
Chairman of the Board
and
State Historic Preservation Officer

cc: Environmental Communications, Inc.

GEORGE R. ARIYOSHI
GOVERNOR OF HAWAII

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

CHARLES R. CLARK
DIRECTOR OF HEALTH

In reply, please refer to
EPHCD-SB

November 8, 1983

MEMORANDUM

To: Mr. Gordon Furutani, Executive Officer
Land Use Commission

From: Deputy Director for Environmental Health

Subject: Addendum to the Environmental Impact Statement (EIS) for Iolani School Properties Project, Kaneohe, Oahu

Thank you for allowing us to review and comment on the subject EIS addendum. The following comments should be considered:

Public Health Regulations, Chapters 44A and 44B, as stated on page 1-37, have been amended and are now referred to Title 11, Administrative Rules, Chapter 42, Vehicular Noise Control for Oahu, and Chapter 43, Community Noise Control for Oahu.

In designating areas for park usage, consideration should be given to separate these areas from residential units, in order that noise disturbances generated by park activities may be minimized.

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

MELVIN K. KOIZUMI

cc: OEQC
✓Mr. F. Rodriguez

NOV 10 1983

F. J. RODRIGUEZ,
PRESIDENT

ENVIRONMENTAL
COMMUNICATIONS
INC.

November 21, 1983

Mr. Melvin K. Koizumi
Department of Health
P.O. Box 3378
Honolulu, Hawaii 96801

Dear Mr. Koizumi:

Thank you for your letter dated November 8, 1983 on the EIS Addendum for Iolani School Properties Project. The comments made will be reflected in the Final EIS.

1. Amended titles for Noise Controls will be amended to reflect the current designation of Title 11, Chapter 42, Vehicular Noise Control for Oahu, and Chapter 43, Community Noise Control for Oahu.

2. The recommendation to separate park usage areas from residential areas is being provided to the land planning consultant for their review. Since the subject petition for Iolani School is for the Phase I (201.4 acres) and is separated from the Ho'omaluhia Flood Control Facility, by virture of the H-3 Interstate Highway alignment, we do not anticipate the problems on noises as envisioned by your office.

Thank you for your comments and continuing concern.

Very truly yours,

F. J. Rodriguez

FJR:ls

1153 BISHOP BUILDING SUITE 467 • P O BOX 536 • HONOLULU HAWAII 96809 • TELEPHONE (808) 531-8391

LF5-JS

October 13, 1983

Mr. Gordon Furutani
Executive Officer
Land Use Commission
Old Federal Building, Room 104
335 Merchant Street
Honolulu, Hawaii 96813

Dear Mr. Furutani:

We have reviewed the addendum to an environmental impact statement regarding the proposed Iolani School property project in Kamooalii, which was forwarded to us on October 4, 1983. Since the addendum raises no issues beyond those that were resolved in previous communications on this project, we have no comments on it.

However, because our major concern in this project is traffic flow and safety, we would still like to be kept informed of plans as they develop for connections between the development and existing roadways in the area. In particular, we would like to be kept informed of plans for the connection between the second phase of this project and Likelike Highway.

Sincerely,

DOUGLAS G. GIBB
Chief of Police

By

SHIGEMI [illegible]
Acting Assistant Chief
Administrative Bureau

cc: Mr. Fred Rodriguez
Environmental Communications Inc.
P. O. Box 536
Honolulu, Hawaii 96803

NO RESPONSE NECESSARY

OCT 20 1983

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

EILEEN R. ANDERSON
MAYOR

MICHAEL J. CHUN, Ph.D.
DIRECTOR AND CHIEF ENGINEER

MAURICE H. KAYA
DEPUTY DIRECTOR

ENV 83-361

October 18, 1983

Mr. Gordon Furutani
Executive Officer
Land Use Commission
Room 104, Old Federal Building
335 Merchant Street
Honolulu, Hawaii 96813

Dear Mr. Furutani:

Re: EIS Addendum for the Proposed Iolani School Properties Project, Koolaupoko, Oahu, Hawaii

We have reviewed the subject EIS Addendum and have the following comments.

1. We understand that the existing Kionaole Road from Kamehameha Highway to the proposed project will be a fully improved subdivision road.

2. The use of on-site sediment basins, earth berms, intercepting drains and other erosion control measures should be retained and maintained by the developer even after construction has been completed. This is our recommendation because a satisfactory solution for increased siltation and maintenance of Kaneohe Dam has still not been provided in the EIS.

3. There is one one (1) 24-inch interceptor sewer serving the tributary area (page 1-10).

4. The Kaneohe/Kailua Facility Plan which will incorporate a one-plant or two-plant sewer system will not be completed until the end of 1983 (page 1-62).

5. The minimum pipe size for residential development is 8-inch (page 3-2).

OCT 24 1983

6. Connections to any existing sewer will be permitted only after it has been ascertained that excess capacity exists. Sewers that have been found to be inadequate shall be relieved before the development is constructed.

He ke aloha pumehana,

for MICHAEL J. CHUN
Director and Chief Engineer

cc: Environmental Communications, Inc.
Engineering
Wastewater Management

ENVIRONMENTAL
COMMUNICATIONS
INC.

F. J. RODRIGUEZ,
PRESIDENT

November 21, 1983

Dr. Michael J. Chun
Director and Chief Engineer
Department of Public Works
City & County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Dr. Chun:

We are in receipt of your letter of October 18, 1983 regarding the Draft EIS Addendum for the Iolani School Properties Project. We would respond to your concerns in the following:

1. Kionaole Road will be improved in accordance with applicable standards and regulations.

2. Your recommendation regarding the continued retention and maintenance of the stated erosion control measures will be relayed to the contractor, upon his selection. We understand the problem relating to erosion and share your concerns in the control of it. Please be assured that all efforts will be made to minimize the impact of erosion to the area. Compliance with applicable building code regulations will be met.

3. We appreciate your indicating to us the existence of only one 24-inch interceptor sewer serving the tributary area. The EIS Addendum will be revised to indicate this information.

4. The EIS Addendum will be amended to indicate the completion of the Facility Plan by the end of 1983.

5. The EIS Addendum will be corrected to indicate that the minimum pipe size for residential developments is 8 inches.

6. Thank you for providing the information regarding connections to existing services. The applicant and contractor will be made aware of this information. We appreciate your comments and continuing interest.

Very truly yours,

F. J. Rodriguez

FJR:ls

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BOARD OF WATER SUPPLY
CITY AND COUNTY OF HONOLULU
630 SOUTH BERETANIA
HONOLULU, HAWAII 96843

COPY

FRANK F. ANDERSON, Mayor
YOSHIME H. FUJINAKA, Chairman
MILTON J. AGADER
MICHAEL J. CHUN
WALTER A. DODS, JR.
RYOICHI HIGASHIONNA
ERNEST A. WATARI

KAZU HAYASHIDA
Manager and Chief Engineer

October 24, 1983

Mr. Gordon Furutani
Executive Officer
Land Use Commission
Old Federal Building, Room 104
335 Merchant Street
Honolulu, Hawaii 96813

Dear Mr. Furutani:

Subject: Environmental Impact Statement (EIS) Addendum
For Proposed Iolani School Properties Project

We appreciate the opportunity to review the EIS addendum for the proposed project and have the following comments:

1. Page 1-16, Interim State-wide Land Use Guidance Policies, "a": The statement that "the project is consistent with this policy" should include back-up data especially how the loss of groundwater recharge will be mitigated.

2. Page 1-33, Mitigative Measures: The use of oil or suitable chemicals for controlling dust may have long-term effects on groundwater resources in the area and should be discussed.

3. Page 1-40, Impacts: The statement that "Depending on the quantities of groundwater developed by the wells, portions of Luluku-Kamooalii basin may change from discharge to recharge systems" is out of context.

4. Page 1-40, Impacts: The statement that "it is doubtful that the proposed residential development would have any impact on the groundwater, other than increase demand" is untrue. The consultant should include supporting data. Urban developments are known to increase run-off and decrease recharge potential. As mentioned in the original EIS, "the proposed grading and ultimate

development will create impervious surfaces that will reduce soil absorption activity." The Board of Water Supply (BWS) considers all areas receiving more than 50 inches of rainfall annually as prime groundwater recharge areas. We, therefore, anticipate a reduction in recharge will occur.

5. Page 1-40, Impacts: We do not agree with the statement that "the existing and proposed BWS well locations can be relocated to minimize any potential conflicts." If the developer proposes to pursue this alternative, then the statement should be supported by addressing the following:

   a. Possible relocation sites and potential water yields,

   b. Impact of the relocation on our water distribution system,

   c. The cost of relocating sites and necessary system improvements including who will incur the cost,

   d. Acceptance by the BWS of any proposed relocation.

7. Page 3-1, Water System: The proposed reservoirs must be compatible with our system, unless the developer plans to maintain and operate a private water system.

8. An over-all water system master plan must be submitted to us for review and approval.

If you have any questions, please contact Lawrence Whang at 527-6138.

Very truly yours,

KAZU HAYASHIDA
Manager and Chief Engineer

cc: Environmental Communications, Inc.

OCT 31 1983

Pure Water ... man's greatest need - use it wisely

ENVIRONMENTAL
COMMUNICATIONS
INC.

F. J. RODRIGUEZ,
PRESIDENT

November 21, 1983

Mr. Kazu Hayashida
Manager and Chief Engineer
Board of Water Supply
630 South Beretania Street
Honolulu, Hawaii 96843

Dear Mr. Hayashida:

We are in receipt of your comments regarding the Iolani School Properties project EIS Addendum. Your concerns were forwarded directly to Stephen P. Bowles, President of Island Resurces, Ltd. His response, dated November 14, 1983 and attached to this letter, was utilized in answering your concerns.

1. As noted in the crossection (Appendix A) showing typical stream channels, the proposed development overlies the marginal dike zone. While there undoubtedly is percolation during rainy periods, the vast majority of rainfall within the subdivision area either runs off directly or percolates in a shallow path to discharge in surrounding streams.

   The evidence of such hydrologic behavior is quite conclusive as presented in Takasaki, Et Al, 1969.

2. An in-depth discussion of the impacts of oils and other chemicals on water quality was included in the original EIS on page V-10 and V-12.

3. As indicated by the maps and crossection in Appendix A of the EIS Addendum, the proposed subdivision lies within the discharge zone of the drainage basin. Recharge to the area results from precipitation falling inland of the discharge zone.

   In this specific circumstance, there is no factual evidence to conclude that "urban developments are known to increase run-off and decrease recharge potential." The key word in the previous quote is "potential." While there may be potential for recharge, there is no available evidence from which to conclude that significant recharge occurs within the boundaries of the proposed subdivision.

4. In general, urban developments may increase runoff. The conclusion that "it is doubtful that the proposed residential development would have any impact on the groundwater, other than increase demand" might be better stated as "significant impact". To conclude this statement to be untrue, is to ignore the facts presented clearly and concisely by Takasaki (1969).

5. The petitioner will be negotiating with the BWS, in attempts of relocating the wells, at a more appropriate time. It is anticipated that the wells would be relocated, if necessary, outside the residential development area.

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6&7. Upon completion, the overall water system master plan will be submitted to your office for review and approval. Please be assured that the plan will be compatible with your systems.

Thank you for your continuing interests.

Very truly yours,

F. J. Rodriguez

F. J. Rodriguez

FJR:ls

ISLAND RESOURCES, LTD.
"Resource Management With Imagination"
Water • Land • Energy

STEPHEN P. BOWLES
President

TELEPHONE
885-4799

November 14, 1983

Mr. George Houghtailing
Community Planning, Inc.
700 Bishop Street
Honolulu, Hawaii 96813

Dear Mr. Houghtailing:

As per your request of October 31, 1983, I have the following comments regarding the BWS comments of October 24, 1983:

ITEM 1

As noted in the crossection (Appendix A) showing typical stream channels, the proposed development overlies the marginal dike zone. While there undoubtedly is percolation during rainy periods, the vast majority of rainfall within the subdivision area either runs off directly or percolates in a shallow path to discharge in surrounding streams.

The evidence of such hydrologic behavior is quite conclusive as presented in Takasaki, Et Al, 1969.

ITEM 3

The BWS concludes that the quote referred to is out of context. The statement is correct, but may be out of context in the E.I.A.

ITEM 4

In general, urban developments may increase runoff. The conclusion that "it is doubtful that the proposed residential development would have any impact on the groundwater, other than increase demand" might be better stated as "significant impact". To conclude this statement to be untrue, is to ignore the facts presented clearly and concisely by Takasaki (1969).

As indicated by the maps and crossection in Appendix A of the E.I.A., the proposed subdivision lies within the discharge zone of the drainage basin. Recharge to the area results from precipitation falling inland of the discharge zone.

In this specific circumstance, there is no factual evidence to conclude that "urban developments are known to increase run-off and decrease recharge potential." The key word in the previous quote is "potential." While there may be potential for recharge, there is no available evidence from which to conclude that significant recharge occurs within the boundaries of the proposed subdivision.

Stephen P. Bowles

P.O. Box 1656 • Kamuela, Hawaii 96743

RECEIVED NOV 14 1983

FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU
1455 S. BERETANIA STREET, ROOM 305
HONOLULU, HAWAII 96814

EILEEN R. ANDERSON
MAYOR

MELVIN M. NOMAKA
FIRE CHIEF

THOMAS C. BLONDIN
FIRE DEPUTY CHIEF

October 25, 1983

Mr. Gordon Furutani
Executive Officer
Land Use Commission
Room 104, Old Federal Bldg.
333 Merchant Street
Honolulu, Hawaii 96813

SUBJECT: Proposed Iolani School Properties Project

Dear Mr. Furutani:

Thank you for the opportunity to review and comment on the subject project.

Fire protective services provided primarily by the Kaneohe Fire Station with supportive services from the Kailua, Aikahi and the proposed Olomana Fire Stations are adequate.

Very truly yours,

MELVIN M. NOMAKA,
Fire Chief

MMN:ct/MSKW

cc: Mr. Fred Rodriguez
Environmental Communications, Inc.

OCT 26 1983

F. J. RODRIGUEZ
PRESIDENT

ENVIRONMENTAL
COMMUNICATIONS
INC.

November 21, 1983

Chief Melvin M. Nonaka
Honolulu Fire Department
City & County of Honolulu
1455 S. Beretania Street, Room 305
Honolulu, Hawaii 96814

Dear Chief Nonaka:

Thank you for your letter dated October 25, 1983 regarding the Iolani School Properties project. We appreciate your indicating to us the adequacy of the fire stations that would service the project.

Very truly yours,

F. J. Rodriguez

F. J. Rodrigues

FJR:ls

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DEPARTMENT OF HOUSING AND COMMUNITY DEVELOPMENT
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813
PHONE 523-4181

EILEEN R. ANDERSON
MAYOR

JOSEPH K. CONANT
DIRECTOR

CHARLES K. TORIGOE
DEPUTY DIRECTOR

October 31, 1983

Mr. Gordon Furutani
Executive Officer
Land Use Commission
Room 104, Old Federal Building
335 Merchant Street
Honolulu, Hawaii 96813

Dear Mr. Furutani:

Subject: Environmental Impact Statement Addendum
Proposed Iolani School Properties Project
Location: Kamooalii, Koolaupoko, Kaneohe, Oahu

In reviewing the subject addendum to the Iolani School Properties project at Kamooalii, Kaneohe, we note that the applicant has stated that his project is aimed at low- and moderate-income families but does not specify prices for the housing units. Clarification on this point is needed.

We note also that these lands are not designated for residential use under the City's Development Plan for the Koolaupoko area.

We will retain the EIS Addendum for our files.

Sincerely,

JOSEPH K. CONANT

cc: Mr. Fred Rodriquez
Environmental Communications, Inc.
P. O. Box 536
Honolulu, Hawaii 96809

NOV - 3 1983

ENVIRONMENTAL
COMMUNICATIONS
INC.

F. J. RODRIGUEZ,
PRESIDENT

November 21, 1983

Mr. Joseph K. Conant, Director
Department of Housing and
Community Development
City & County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Conant:

Thank you for your comments on the EIS Addendum on the proposed Iolani School project. Responding to your specific comments we answer in the following:

1. Prices for the housing units were not specified in the EIS addendum since it is not certain as to the extent of development beyond Phase I that the landowner will pursue. We did however, in the original EIS state on page II-11, specify the range of prices that could be anticipated contingent on extent of time for land use policy processing, financing availability, and condition of the market. Inflation escalation factors have not been considered so these prices specified in the original EIS should not be taken as firm prices. For the record, the price ranges quoted were: $63,000 for townhouses, and up to $111,000 for single-family homes.

2. You are correct in the statement that the lands under consideration are not appropriately designated for residential use in the Development Plans for the area.

Thank you for your comments and continuing interest.

Very truly yours,

F. J. Rodriguez

F. J. Rodriguez

FJR:ls

1152 BISHOP BUILDING SUITE 407 • P O BOX 536 • HONOLULU HAWAII 96809 • TELEPHONE (808) 521 8361

DEPARTMENT OF LAND UTILIZATION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813 • (808) 523-4432

EILEEN R. ANDERSON
MAYOR

MICHAEL M. MELROY
DIRECTOR

ROBERT B. JONES
DEPUTY DIRECTOR

LU10/83-5695(SH)

November 4, 1983

LAND USE COMMISSION
STATE OF HAWAII
NOV 8 11 33 AM '83

Mr. Gordan Furutani, Executive Officer
Department of Planning & Economic Development
State of Hawaii, Land Use Commission
Room 104, Old Federal Building
335 Merchant Street
Honolulu, Hawaii 96813

Dear Mr. Furutani:

Comments to Environmental Impact Statement Addendum
Proposed Iolani School Properties Project
Kamoopalii, Koolaupoko, Kaneohe, Oahu

We have reviewed the above and offer the following comments:

1. Reference: Page 1-4.

   Comment: The justification for the number of dwelling units that need to be developed in the Koolaupoko District is not entirely logical. Just because the Koolaupoko District contains 14% of Oahu's population, does not mean that 14% of Oahu's dwelling unit deficiency is required in that district. It could be much less or more; therefore, the demand figure of 2060 dwelling units is speculative at best.

2. Reference: Page 1-16.

   Comment: The discussion of ALISH lands is somewhat misleading. The total prime and other important agricultural lands encompasses about 322 acres. This amount of agricultural land is substantial when compared with the total project site area of 383.8 acres, or about 84%.

3. Reference: Page 1-23.

   Comment: The term "non-conforming" is used incorrectly. The proposed action is inconsistent with the Development Plan. A land use is non-conforming if it was in existence prior to the passage of a law, is currently in existence, and is contrary to that law.

4. Reference: Pages 1-66, 1-67.

   Comment: Will the implementation of the proposed project affect the recharge or water quality of the wells proposed in the vicinity of the project site? Was the purpose of these proposed wells to serve the residential development proposed for this project? BWS comments should be provided in this regard.

5. General Comment: As we stated in our comments of April 22, 1983, the primary question here is not if the environmental impacts of the proposed project can be mitigated (it seems that they ultimately can be mitigated). The primary question is the appropriateness of this project in this location, especially in light of the fact that the State Land Use boundary, City Development Plan, and zoning designations must be changed before this project can be constructed.

If there are any further questions, please contact Sampson Mar of our staff at 527-5038.

Very truly yours,

MICHAEL H. McELROY
Director of Land Utilization

MHM:sl

ENVIRONMENTAL
COMMUNICATIONS
INC.

F. J. RODRIGUEZ,
PRESIDENT

November 21, 1983

Mr. Michael McElroy, Director
Department of Land Utilization
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. McElroy:

We are in receipt of your letter of November 4, 1983 regarding the EIS Addendum for the Iolani School Properties Project and would respond to your concerns in the following:

1. The assumption made by the consultant that 14% of the Oahu population is represented by the Koolaupoko District and consequently can also be assumed to be the equivalent of the 40,000 dwelling units presently needed, is the best educated estimate, based on available data. We would not presume to dictate market demand for units in other sectors of Oahu since the demand criteria of price, location, size of units, etc. are a personal decision when buyers enter the marktiplace. It is a straight line arithmetic assumption that has been made with existing data and we feel that it is the best available. The availability of existing Urban designated lands sufficient to meet the demands of dwelling units in the Koolaupoko District are technically correct in that there is in scattered parcels, adequate total acreage. What is not said is not that many of these parcels are subject to development restrictions that range from terrain, inadequate utilities, ownership preference to leave the lands vacant at this time, and to achieve the economy of scale anticipated by Iolani School on one contiguous parcel, these scattered parcels would need to be consolidated both physically and financially.

2. We believe your discussion of on-site proportions of prime and other important agricultural lands is misleading. The EIS Addendum fully discloses the amount of prime and other important agricultural lands comprising the project; however, truly valid impacts can not be formulated unless analyses are discussed on a larger scale (i.e. Oahu's total). If discussions related strictly to the scale being offered by your department, the full impact of the project could not be known.

3. The term "inconsistent" has now replaced the word "non-conforming."

4. In his response to the Board of Water Supply, dated November 14, 1983, Stephen P. Bowles, President of Island Resources, Ltd. stated the following:

   "In general, urban developments may increase runoff. The conclusion that "it is doubtful that the proposed residential development would have any impact on the groundwater, other than increase demand" might be better stated as "significant impact". To conclude this statement to be untrue, is to ignore the facts presented clearly and concisely by Takasaki (1969).

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As indicated by the maps and crossection in Appendix A of the EIS Addendum, the proposed subdivision lies within the discharge zone of the drainage basin. Recharge to the area results from precipitation falling inland of the discharge zone. In this specific circumstance, there is no factual evidence to conclude that "urban developments are known to increase run-off and decrease recharge potential." The key word in the previous quote is "potential." While there may be potential for recharge, there is no available evidence from which to conclude that significant recharge occurs within the boundaries of the proposed subdivision."

The BWS has reviewed the EIS Addendum and their comments have been included in the report.

A more in-depth discussion on groundwater recharge has been included in the Final EIS Addendum in Section B. Environmental Consideration, Part 3. Water Quality, Sub-part b) Impacts.

5. The petitioner believes this project is appropriate for this site, in spite of the fact that the State Land Use Boundary, Development Plan, and Zoning designations must be changed. The petitioner believes there is a genuine demand for affordable housing in the Kaneohe and Koolaupoko area and this more than offsets the time and efforts needed to amend all regulatory constraints.

Thank you for your continuing interests.

Very truly yours,

F. J. Rodriguez

FJR:ls

DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

EILEEN R. ANDERSON
MAYOR

ROBERT K. MASUDA
DIRECTOR

SAM L. CARL
DEPUTY DIRECTOR

OSCAR K. ABAHINA
EXECUTIVE ASSISTANT

November 7, 1983

Mr. Gordon Furutani
Executive Officer
Land Use Commission
335 Merchant Street, Room 104
Honolulu, Hawaii 96813

Dear Mr. Furutani:

SUBJECT: IOLANI SCHOOL PROPERTIES PROJECT ADDENDUM
TO THE ENVIRONMENTAL IMPACT STATEMENT

We have reviewed the addendum to the EIS for the subject project and are still concerned about the visual and pollution impacts of the project on Hoomaluhia Park. We are especially concerned with the negative visual impacts of those parts of the Phase I and Phase IIB projects which are immediately mauka of proposed H-3 Highway and on the foothills of the Pali.

Hoomaluhia began as a 37-acre recreational site within the Kaneohe Flood Control Project area to increase the benefits to the community and make the project viable and justifiable for Federal participation. Later the park was expanded beyond the flood control area to 75 acres in order to develop recreational facilities in areas that will not be flooded. A 26-acre permanent pond was also added specifically for fishing and boating although it is not required for flood control purposes and it does not add to the flood control storage capacity. This is in direct contradiction to a statement by Mr. F. J. Rodriguez of Environmental Communications Inc. in a letter dated May 6, 1983 to our Department.

As the park project jelled into a botanical and mountain camping area, it became evident that it was necessary to preserve the total ecology of the surrounding area. Inasmuch as the planning for the proposed H-3 Highway began long before the park plans, we accepted that proposal subject to it being screened for visual and noise pollution. Further, it was decided that the park boundaries should be expanded to include all of the land between the proposed highway boundary and the flood control project for a total of 210 acres. This, we had hoped, would preclude any further urbanization of the

drainage basin since the land mauka of the proposed highway was designated agriculture and conservation.

Together with the 210+ acres of the flood control area which became part of the park, the total park area is over 420 acres. The Corps of Engineers, recognizing the need to maintain the ecology surrounding the mountain-type park, approved and participated in 50 percent cost sharing for acquisition of the recreational land which cost over $4.6 million. The State Department of Transportation, also recognizing the potential negative impacts of their project, has programmed over $600,000 to specifically build mounds in those areas that the highway could be exposed to view from Hoomaluhia and to heavily landscape along the highway. This will serve as visual and sound barriers. They have also studied alternate highway corridors which would have been higher up on the foothills of the Pali but concurred with our recommendations to keep as low a profile as possible.

Looking at matured low-rise hillside developments in Honolulu, such as Saint Louis Heights, Wilhelmina Rise and Waialae Iki, we cannot agree with Mr. Rodriguez's statement that "mauka views from the park should remain unaffected." Even if the project includes low-rise development and mature trees, the houses, the streets and the street lights will be highly visible in a development located on slopes from approximately 150-foot to 500-foot elevations as shown on Exhibit I of the EIS Addendum.

A field inspection of any stream abutting urbanized areas on this island will prove that we can expect heavy pollution of the streams along and downstream of a residential development. Any residential development in the drainage basin above Hoomaluhia will substantially increase household and automotive debris and chemicals flowing into the 26-acre pond at Hoomaluhia. There will also be a tremendous increase in the silt flowing into the pond with a resultant added cost to the City for removal of the sediment. The highway will have very strict controls to stop silt from flowing downstream during construction; and after the landscaping matures, there will be no additional earthwork along the highway. Whereas siltation is not nearly as well controlled during residential development and individual yard projects in landscaping, gardening and other construction projects which produce a lot of silt, continues throughout the life of the development.

The pond was planned to be used for recreational programs while camping at Hoomaluhia which would include fishing, boating and possibly even swimming. We have discussed with the State Fish and Game Division the possibility of annually stocking the pond with game fish. Another area which would be polluted by upstream development is the wildlife sanctuary located just above the pond.

We are, therefore, very concerned about some of the assumptions and statements made in the EIS Addendum for the proposed Iolani School properties project which may not be correct.

Thank you for the opportunity to review the EIS addendum.

Sincerely yours,

(Mrs.) EMIKO I. KUDO, Director

EIK:vc

cc: [redacted]
DLNR
Corps of Engineers

ENVIRONMENTAL
COMMUNICATIONS
INC.

F. J. RODRIGUEZ,
PRESIDENT

November 21, 1983

Mrs. Emiko Kudo
Department of Parks and
Recreation
City & County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mrs. Kudo:

Thank you for your letter dated November 7, 1983 on the Iolani School Properties Addendum EIS. The concerns expressed by your department on the visual and aesthetic impacts that would be attributed to the Iolani School project have been reviewed by the retained consultants responsible for the design concepts described in the addendum document.

1. We stand corrected on the statement made in our May 6, 1983 letter describing the function of the Flood Control project as being protective of the Iolani School project. We did not complete the statement in content and amend that to say: "Runoff from our project would be directed to the tributaries flowing into Ho'omaluhia and thus, protect the existing residential sites from flooding due to the Iolani project." This mis-statement will be corrected in the Final EIS addendum.

2. The historical summary of Ho'omaluhia's development, initially as a flood control project, and subsequently as a botanical and mountain camping area has been informative and we appreciate the comments on this subject. We would concur with your department in their efforts to enhance this aspect of the facility and respect the efforts made to retain the integrity of the secondary uses. It is felt that this is the appropriate time to point out that Iolani School, as the petitioner in the proceedings presently before the State Land Use Commission, are requesting favorable consideration for the 201 acres nearest the Pali Golf Course, and not the entire project as described in the Environmental Assessment filed in December, 1982 with the Land Use Commission. This parcel is farthest away from the Ho'omaluhia facility and would not create the conflicts as described in your comments regarding visual and sound impacts. Landscaping to reduce impacts of noise and urban residential infringement are also available to the development of the initial land parcel under petition. Iolani School does not intend to design or develop a residential subdivision that would result in the type of land use that would negatively degrade the Ho'omaluhia facility.

3. The cross section provided in Exhibit I was not intended to give the reviewer the feeling that the residential subdivision would not be visible. On the contrary, the plan as envisioned by the planning consultant, indicates that there will be minimal impact due to the project. It would

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not be comparable to the "do nothing" alternative which would retain the existing conditions, with only Interstate Highway H-3 as the sole visual intrusion.

4. There is no question that in residential subdivisions, whose individual lots back up on existing streams, the indiscriminate dumping of yard trash, bulky items, and solid waste refuse in general is abominable. This is unfortunately, a sad commentary on the habits of the residents who are the offenders in question. There are no perennial streams in the project area which will be affected by the residential development. Drainage patterns will also be designed to meet applicable City & County standards for engineering drainage systems. The development of sedimentation basins are also being reviewed.

In general, Iolani School shares your department's concerns over the impacts that could curtail or degrade future development of Ho'omaluhia as more than a flood control facility. These concerns are not felt to be insurmountable that cooperation between Iolani School and the governmental entities responsible for operation and future park planning cannot coordinate their common goals.

Thank you for your letter and please be assured that the subject matter was greatly appreciated. Thank you for your continuing interest.

Very truly yours,

F. J. Rodriguez

F. J. Rodriguez

FJR:ls

CORRECTION

THE PRECEDING DOCUMENT(S) HAS BEEN REPHOTOGRAPHED TO ASSURE LEGIBILITY
SEE FRAME(S) IMMEDIATELY FOLLOWING

ENVIRONMENTAL
COMMUNICATIONS
INC.

F. J. RODRIGUEZ,
PRESIDENT

November 21, 1983

Mrs. Emiko Kudo
Department of Parks and
Recreation
City & County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mrs. Kudo:

Thank you for your letter dated November 7, 1983 on the Iolani School Properties Addendum EIS. The concerns expressed by your department on the visual and aesthetic impacts that would be attributed to the Iolani School project have been reviewed by the retained consultants responsible for the design concepts described in the addendum document.

1. We stand corrected on the statement made in our May 6, 1983 letter describing the function of the Flood Control project as being protective of the Iolani School project. We did not complete the statement in content and amend that to say: "Runoff from our project would be directed to the tributaries flowing into Ho'omaluhia and thus, protect the existing residential sites from flooding due to the Iolani project." This mis-statement will be corrected in the Final EIS addendum.

2. The historical summary of Ho'omaluhia's development, initially as a flood control project, and subsequently as a botanical and mountain camping area has been informative and we appreciate the comments on this subject. We would concur with your department in their efforts to enhance this aspect of the facility and respect the efforts made to retain the integrity of the secondary uses. It is felt that this is the appropriate time to point out that Iolani School, as the petitioner in the proceedings presently before the State Land Use Commission, are requesting favorable consideration for the 201 acres nearest the Pali Golf Course, and not the entire project as described in the Environmental Assessment filed in December, 1982 with the Land Use Commission. This parcel is farthest away from the Ho'omaluhia facility and would not create the conflicts as described in your comments regarding visual and sound impacts. Landscaping to reduce impacts of noise and urban residential infringement are also available to the development of the initial land parcel under petition. Iolani School does not intend to design or develop a residential subdivision that would result in the type of land use that would negatively degrade the Ho'omaluhia facility.

3. The cross section provided in Exhibit I was not intended to give the reviewer the feeling that the residential subdivision would not be visible. On the contrary, the plan as envisioned by the planning consultant, indicates that there will be minimal impact due to the project. It would

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not be comparable to the "do nothing" alternative which would retain the existing conditions, with only Interstate Highway H-3 as the sole visual intrusion.

4. There is no question that in residential subdivisions, whose individual lots back up on existing streams, the indiscriminate dumping of yard trash, bulky items, and solid waste refuse in general is abominable. This is unfortunately, a sad commentary on the habits of the residents who are the offenders in question. There are no perennial streams in the project area which will be affected by the residential development. Drainage patterns will also be designed to meet applicable City & County standards for engineering drainage systems. The development of sedimentation basins are also being reviewed.

In general, Iolani School shares your department's concerns over the impacts that could curtail or degrade future development of Ho'omaluhia as more than a flood control facility. These concerns are not felt to be insurmountable that cooperation between Iolani School and the governmental entities responsible for operation and future park planning cannot coordinate their common goals.

Thank you for your letter and please be assured that the subject matter was greatly appreciated. Thank you for your continuing interest.

Very truly yours,

F. J. Rodrigues

F. J. Rodrigues

FJR:ls

DEPARTMENT OF GENERAL PLANNING
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

EILEEN R. ANDERSON
MAYOR

WILLARD T. CHOW
CHIEF PLANNING OFFICER

RALPH PORTMORE
DEPUTY CHIEF PLANNING OFFICER

November 7, 1983

DGP10/83-8845

LAND USE COMMISSION
STATE OF HAWAII
NOV 8 11 29 AM '83

Mr. Gordan Furutani
Executive Officer
Land Use Commission
Room 104, Old Federal Building
335 Merchant Street
Honolulu, Hawaii 96813

Dear Mr. Furutani:

EIS Addendum for Proposed
Iolani School Properties Project

Our comments are as follows.

Need for Project and Relationship to Development Plan

The statement of objective (page 1-4) concludes that there exists a significant need for developable lands for the purpose of accommodating current and projected market conditions for housing.

The Koolaupoko Development Plan recognizes the need to provide for additional developable lands in the future and accordingly designates the locations and the land amount to accommodate planned population growth. Additionally, land use proposals currently under consideration could further increase land capacity for another 4,000 residents over the current Development Plan capacity, all in presently designated State Urban areas. Thus, we can only conclude that the EIS statement is contrary to land use policies as expressed in the Development Plan which indicates sufficient residential lands up to the year 2000 without encroaching into preservation areas.

In view of the above, EIS discussion should subtantiate the need for an additional 971 dwelling units in State Conservation areas. Stated differently, the EIS addendum should indicate why it is necessary to rezone these lands from Conservation to Urban use when the expected increase in population can be accommodated on lands already designated for Urban uses.

Affordable Housing

Page 1-18, item e, states "The aim is 'affordable housing' and if necessary the petitioner has stated that at least ten percent of the proposed dwelling units will be targeted to lower income buyers and/or offered to State and County housing agencies on a cost plus basis."

A commitment is mentioned without the type of written and binding mechanism to accomplish the commitment between applicant and State/City housing agencies. This additional information should be provided.

There is considerable disagreement as to what is considered "affordable housing." To minimize this, the EIS addendum should indicate what sales prices are deemed affordable based on latest available family income data.

Sewage Treatment

Page 1-60, item D, states "The Kaneohe Sewage Treatment Plant is also located in the general vicinity and is operating under-capacity at 4.0 million gallons per day (mgd). The design peak sewage flow for the plant is 4.5 mgd."

The impact on sewage treatment and disposal, however, addresses subsequent increases in sewage flow related only to the proposed project. Discussions may also be needed to address the cumulative flows from the Kaneohe/Kailua service area with and without the proposed project to determine adequacy/inadequacy of the wastewater system. While there may be additional STP capacity, the remaining capacity of the present and expanded STPs may already be committed to other areas already designated for residential use on the DP.

Fiscal Impacts

Page 1-64, item c, states "The project will increase government expenditures resulting from increased operation and municipal maintenance." This item should provide further elaboration in terms of type of expenditures, amount, period of time, etc. Also, the EIS should relate costs of required City services to expected real property tax revenues from this proposed project area.

Drainage

According to page 1-63, item 2, five tributary streams, most of which flow through or by the project sites, converge into Kamooalii Stream, which then flows through the Kaneohe Flood Control Project. Also, it was estimated that stream runoff for the one-year/one-hour frequency/duration storm event for post development is over seven times greater than for pre-development conditions. In view of the preceding information, the following concerns arise:

Is the flood control ponding basin of sufficient size to handle the cumulative runoff likely to materialize?

Would the drainage surge pose any hazards to present residents directly behind the dam, as well as developments downstream of the dam?

Water Recharge and BWS Wells

What are the effects on water recharge?

The EIS makes a statement on page 2-1, item b, that "Based on the information contained in the 1969 U.S.G.S. report and the proposed location of the B.W.S. well, it is doubtful that the proposed residential development would have any impact on the groundwater, other than an increase in demand."

However, there is no substantiation of the above statement. Were these measurements taken or estimates of recharge loss made?

Figure 3 shows the location of the proposed project in relation to the Kuou Wells of the Board of Water Supply. A portion of the proposed project is directly mauka of the wells and in the groundwater recharge area.

With contamination of wells in Central Oahu, the proposed wells on the windward side of the island are of greater importance. BWS plans to drill additional wells in the area below the proposed development. The impact of the project on groundwater recharge is highly critical and should be discussed.

Transportation

The EIS addendum states:

> "A 60-foot wide major street connection to Phase IIA with access via Likelike Highway will be provided" (p. I-9).

The EIS addendum should show where the proposed major street connection is proposed, the grades (it is steep above the existing development) and geometrics. Figure 2 shows a possible connection, but is not clear enough.

Whether access will be permitted by the State Department of Transportation should be indicated. This cannot be assumed, as indicated in the EIS addendum (p. I-70, par. 1 & 2).

Sincerely,

Ralph Kawamoto

RALPH KAWAMOTO
Planner

APPROVED:

Ralph Portmore
for WILLARD T. CHOW

ENVIRONMENTAL
COMMUNICATIONS
INC.

F. J. RODRIGUEZ,
PRESIDENT

November 21, 1983

Mr. Willard T. Chow
Chief Planning Officer
Department of General Planning
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Chow:

We are in receipt of your letter of November 7, 1983 regarding the Ioiani School Properties Project EIS Addendum and would respond to your comments in the following:

Need for Project and Relationship to Development Plan

The availability of existing Urban designated lands sufficient to meet the demands of dwelling units in the Koolaupoko District are technically correct in that there is in scattered parcels, adequate total acreage. What is not said is that many of these parcels are subject to development restrictions that range from terrain, inadequate utilities, ownership preference to leave the lands vacant at this time, and to achieve the economy of scale anticipated by Ioiani School on one contiguous parcel, these scattered parcels would need to be consolidated both physically and financially.

Affordable Housing

In light of the fact that the petitioner has not secured amendments to the State Land Use Boundary, Development Plan, and zoning designations, it appears that a written and binding commitment, requested by you, is extremely premature at this time. At a more appropriate time, the Petitioner will be in negotiations with the State and County Housing Departments so that an agreement of mutual benefit could be reached.

Prices for the housing units were not specified in the EIS Addendum since it is not certain as to the extent of development beyond Phase I that the landowner will pursue. We did however, in the original EIS state on page II-11, specify the range of prices that could be anticipated contingent on extent of time for land use policy processing, financing availability, and condition of the market. Inflation escalation factors have not been considered so these prices specified in the original EIS should not be taken as firm prices. For the record, the price ranges quoted were: $63,000 for townhouses, and up to $111,000 for single-family homes.

Sewage Treatment

The engineering consultant has not determined whether or not there will be sewer

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related costs for Phase II since the timing for Phase II implementation is questionable in terms of when it will take place. Also, the government facilities would have been established in terms of capacity and adequacy based on flow demands predicted in the 1990s. The developer would abide by the same conditions that if plant facilities are not sufficient to accomodate the Phase II flows, costs to improve the Kaneohe plant would be at their expense.

Your request for discussions on cumulative flows from the Kaneohe/Kailua service area is a matter of concern since the petitioner is not as intimately acquainted with the various projects that are being contemplated or proposed for the vicinity that would result in a cumulative impact analysis. There is no assurance that any of the proposed projects would be moved forward in a related time period, if at all. It is our understanding that as these projects are offered to the governmental agencies for initial review and subsequent approval, the capacity of the traffic, sewerage, and water systems is evaluated at the time of application. For a private entity to conduct an evaluation of the type you are suggesting, would appear presumptious.

Fiscal Impacts

The request for further elaboration in terms of type of expenditures, amount, period of time, etc. are difficult to determine in the absence of comparables currently being used by the City and County of Honolulu. To calculate Full Time Equivalents (FTE) for the operation and maintenance costs involved, we would require the comparables for a subdivision that has experienced these costs on a historical trend. If your department could provide the FTE equivalents, we would attempt to calculate the costs to best meet an approximation of what would be the increased operational and maintenance costs to the City. Real Property Tax revenues would also be difficult to estimate since the valuation factors would be no doubt subject to change during the implementation period.

Drainage

Dr. Gordon L. Dugan prepared a report which was contained in its' entirety in the original EIS and his summary and conclusions stated that during the worst case of 100 year 24 hour storm event, the increase in surface water runoff would be 73.4 acre feet, or 3% of the Kaneohe Flood Control Facility. It is unlikely that drainage would pose hazards to the residents directly behind the dam or development downstream of the dam.

Water Recharge and BWS Wells

A more in-depth discussion on groundwater recharge has been included in the Final EIS Addendum in Section B. Environmental Considerations, Part 3. Water Quality, Sub-part b) Impacts.

Transportation

Presently, there is an access found on Likelike Highway which is deleted by the H-3 and Likelike realignment. The owners is requesting the relocation of the access point to the realigned Highway. To date, the question of providing access points has not been discussed. The development of Phase II, which affects the access point on Likelike Highway is planned for 1994 thereabouts. The actual petition before the State Land Use Commission deals with Phase I and does not have any effect on the access unto Likelike Highway.

In regards to grades of the 383.8 acres planned for urbanization, 186 acres are developable and with slopes of 20% or less. The other acres are proposed for roadways, drainageways, and open space. Again please note the petition for urbanization is 201.4 acres, but of the 201.4 acres, 113.6 acres are developable with 20% slopes or less.

Thank you for your continuing interests.

Very truly yours,

F. J. Rodrigues

F. J. Rodrigues

FJR:ia

HAWAIIAN ELECTRIC COMPANY, INC.
Box 2750 / Honolulu, Hawaii / 96840

RICHARD L. O'CONNELL, P.E.
MANAGER, ENVIRONMENTAL DEPARTMENT

October 28, 1983

ENV 2-1
MV/G

Mr. Gordan Furutani
Executive Officer
Land Use Commission
Room 104, Old Federal Building
335 Merchant Street
Honolulu, Hawaii 96813

Dear Mr. Furutani:

Subject: Proposed Iolani School Properties Project - Environmental Impact Statement Addendum

We have reviewed the above subject addendum and offer the following comments:

1. Per our letter of April 25, 1983 which contained eight comments, it appears that items 2 and 3 have been addressed. However, for any relocation of transmission lines, items 1 and 4 will have to be addressed. Further, since most of the transmission lines lie in State Conservation District, for any relocation of transmission lines and/or new line construction, it is HECO's position that the developer provide the necessary new easements as well as submit appropriate CDUA's on HECO's behalf.

2. With reference to Page I-73, Para 7, Electric Services, we still do not believe this point has been adequately addressed. The comment contained in our previous response is still germane and is quoted again in part:

> "This paragraph gives the reader the impression that the distribution circuits in the area are presently adequate to serve the proposed development. This is not true. HECO's existing 12 kv circuits from the vicinity of Koolau Substation would require either overhead or underground extensions. Further, HECO would have to maintain services to existing customers in the area as well as provide new services to the proposed development."

Thank you for the opportunity to comment on this addendum.

Sincerely,

Richard L. O'Connell
Manager, Environmental Department

SLC:cal

cc: Environmental Communications
Mr. Fred Rodriguez

NOV - 1 1983

ENVIRONMENTAL
COMMUNICATIONS
INC.

F. J. RODRIGUEZ,
PRESIDENT

November 21, 1983

Mr. Richard L. O'Connell
Manager, Environmental Department
Hawaiian Electric Company, Inc.
Box 2750
Honolulu, Hawaii 96840

Dear Mr. O'Connell:

Thank you for your comments on the proposed Iolani School Addendum EIS. Our responses are as follows:

1. Iolani School will meet with and discuss easement rights for HECO transmission lines through Conservation District lands. The application for CDUAs on behalf of HECO by Iolani School will also need to be discussed on a service area requirement basis; i.e. when the particular phase or section of development requiring additional service that will require CDUA processing is in the planning stage, the retained engineering consultant will need to verify actual locations of easement rights as well as affected Iolani lands that will require CDUA processing. Please be assured that whatever is necessary to provide service to the phase under consideration will be accomplished.

2. It was our error in not picking up the corrected statement made in the prior EIS document on V-27 which is as follows:

"Depending on the future course of the proposed Hawaii Deep Water Cable project and subsequent development of Aniani Substation, at least two more 138 kv lines may be required between Ko'olau Substation and Aniani Substation, and one additional 138 kv line may be required between Ko'olau Substation and Halawa Substation. These requirements may affect the need for future 138 kv and 46 kv easements in the vicinity of Ko'olau Substation."

We hope that these responses adequately cover the two points made in your letter of October 28, 1983. Thank you for your continuing interest.

Very truly yours,

F. J. Rodriguez

F. J. Rodriguez

FJR:ls

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J-48

November 6, 1983

Mr. Gordon Furutani
Executive Officer
Land Use Commission
Old Federal Building, Room 104
Honolulu, Hawaii 96813

Dear Mr. Furutani:

The Luluku Banana Growers have reviewed the Iolani School's Environmental Impact Statement addendum and would like to comment on the fourth point which states "information regarding the social and economic impact of the entire development on the banana farmers are inadequate and must be addressed more fully".

It stated in the addendum that a memorandum to Mr. Man Guon Au of Iolani School that the banana farm tenants are to be provided with replacement land. Since the proposed area lies within the State conservation district and forest reserve area, will Iolani School assist the farmers in acquiring a conservation district use permit and or any other necessary permits? Will Iolani School provide access to these lands? Will utilities be made available? How much time will be given to relocate since the land has to be cleared and planted? Are any other suitable location being considered; if so where?

Thank you for the opportunity to comment.

Yours respectfully,

Luluku Banana Growers

cc: Mr. Fred Rodriguez
Mr. Jack Suwa
Hawaii Farm Bureau Federation
Oahu Banana Growers' Association

NOV - 8 1983

LULUKU BANANA GROWERS

Tayeo Gonzales

Ethel Y. Higa

Anthony Sanchez

Stanley Abe

Richard R. Hoshida

Dickson & Fernandez Garcia

Shigeharu Shiroma

F J RODRIGUEZ,
PRESIDENT

ENVIRONMENTAL
COMMUNICATIONS
INC.

November 21, 1983

The Luluku Banana Growers
C/O P.O. Box 475
Kaneohe, Hawaii 96744

Gentlemen:

We are in receipt of your letter dated November 6, 1983 regarding the Iolani School Properties Project EIS Addendum. Your concerns have been addressed in Man Kwong Au, Vice Chairman Iolani School Board of Governors, letter to the Land Use Commission (see attached letter).

Very truly yours,

F. J. Rodriguez

F. J. Rodriguez

FJR:ls

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IOLANI SCHOOL
HONOLULU, HAWAII 96814

OFFICE OF THE HEADMASTER

November 15, 1983

Mr. Gordon Y. Furutani
Land Use Commission
Old Federal Building, Room 104
335 Merchant Street
Honolulu, Hawaii 96813

Dear Mr. Furutani:

The Luluku Banana Growers have recently commented on the Addendum to the Environmental Impact Statement filed by Iolani School. The School's primary concern at the present time is the subject matter of its petition before the Land Use Commission which is requesting the change to the Urban classification of 201.4 acres of its lands adjoining the Pali Golf Course. There are no relocation concerns in Phase I of the project with the exception of a 5-acre parcel, which was amicably discussed with the tenant.

The School has offered the banana farmers the right to relocate to certain adjoining areas. The School will cooperate with such farmers by assisting in acquiring all necessary permits, granting vehicular access to such lands, assisting in the location of public utilities to such areas and allowing a reasonable time to allow the farmers to prepare the land for planting.

Very truly yours,

Man Kwong Au
Vice Chairman
Iolani School Board of Governors

J-50

HAWAII'S THOUSAND FRIENDS

Blaisdell on the Mall, Suite 220 • 1154 Fort Street • Honolulu, Hawaii 96813 • (808) 526-2480

November 7, 1983

Mr. Gordan Furutani
Executive Director
Land Use Commission
Room 104, Old Federal Building
335 Merchant Street
Honolulu, Hawaii 96813

Re: Draft Environmental Impact Statement Addendum:
Proposed Iolani School Properties Project

Dear Mr. Furutani:

I have reviewed the Draft Environmental Impact Statement Addendum ("EIS") and have the following comments to make.

Generally, the treatment of the six issues identified by the Land Use Commission for further discussion was inadequate. Very little, if any, new information was provided by the EIS; the addendum apppears simply to rehash and restate the contents of the previous unaccepted EIS. Further elaboration is necessary to provide the kind of discussion which makes debate on the merits of the proposal possible.

Objectives of the Project.

The EIS states that the objective of the project is to provide needed housing in the Kaneohe area, based on the rationale that an additional 2,060 dwelling units is needed. This discussion is misleading in that it fails to adequately address the present zoning capacity under the present Koolaupoko Development Plan. According to the Department of General Planning's Land Supply Review, the population capacity under the current Plan is already at the upper limit of Koolaupoko's Year 2000 population. In other words, we already have more than enough residential land to meet population projections.

Agricultural Lands of Importance to the State of Hawaii.

It is misleading to state that the 322 acres of prime and other important lands are only an insignificant percentage of Oahu totals. The number of acres to be urbanized is significant in itself.

Relationship with the State Plan, State Functional Plans and County General Plan.

The EIS fails to adequately address aspects of the project's

relationship to the above-referenced planning documents. Both the State Plan and General Plan call for maintenance of diversified agriculture (the General Plan specifically targets the Windward area). Furthermore, while the State Housing Functional Plan is discussed, no treatment of the State Agriculture, Water Resources or Conservation Lands Functional Plans is provided.

Socio-Economic Impacts on the Banana Farmers.

This discussion is totally inadequate. The EIS quotes from the H-3 EIS to the effect that the state Department of Transportation will attempt to assist the farmers on relocation. The farmers are currently involved in litigation over the DOT's failure to provide this assistance. Furthermore, the assistance will only apply with respect to acreage taken for the H-3 right of way.

The EIS also states that the farmers will be relocated to other lands near the proposed project site. It fails to discuss, among other things, whether farming is feasible on these lands and whether the farmers will be able to actually use these lands given the costs they will have to bear. The EIS also fails to discuss what negative impacts will be suffered by those farmers unable to bear the costs of relocating, and whether and to what extent there will be interruptions in production and what affect this will have.

Affect on Groudwater.

The treatment of this issue is inadequate. The conclusion that there will be no affect on groudwater resources is not documented satisfactorily. I am particularly concerned with respect to statements made in the EIS that use of oil or "suitable chemicals" will be used to control dust. This may pollute groundwater.

Archaeological Sites.

The EIS recommends intensive surveys prior to construction. These intensive surveys should be accomplished and the results reported in the EIS prior to action by the Land Use Commission. The area may qualify for protection as a historic site.

Thank you for this opportunity to comment.

Sincerely yours,

Kathryn Homi Albu

cc: Mr. Fred Rodriguez, Environmental Communications, Inc.

ENVIRONMENTAL
COMMUNICATIONS
INC.

F. J. RODRIGUEZ,
PRESIDENT

November 21, 1983

Mrs. Kathryn Homi Albu
Hawaii's Thousand Friends
Blaisdell on the Mall, Suite 220
1154 Fort Street
Honolulu, Hawaii 96813

Dear Mrs. Albu:

Thank you for your letter dated November 7, 1983 with the comments on the Iolani School EIS addendum. You are generally correct in your initial assumption that the addendum document contains material that had been prepared for review by the Land Use Commission in December, 1982 as an exhibit with the basic petition. As we stated in our Introduction section, this addendum is the result of a direct request from the Land Use Commission to provide the total project's anticipated impacts based on a plan that exceeded the subject parcels presently under consideration by the Land Use Commission. We would disagree with your statement that the addendum is a rehash of the previously unaccepted EIS since there is additional material and data that pertain to the Phase IIA, IIB portions which were not discussed in the initial EIS document. Further, since the preparation of the initial EIS, added data was generated for the groundwater recharge aspects of the project, as well as the exhibit portraying the scenic view impacts. We regret that your position does not find the addendum document as adequate.

1. Objectives Of The Project

We would for the record, once again state that the petition under consideration is for 201.4 acres and 611 dwelling units; the addendum does in fact cover the anticipated impacts attributable to 383.8 acres and 971 dwelling units. This discussion once again, is to comply with the Land Use Commission directive to discuss the total project's anticipated impacts on the adjacent environs.

Finally, the 2060 dwelling requirement based on needed housing is considered an actual demand requirement today; the Iolani School project, if implemented, would cover a 12-15 year period and the Development Plan for the Koolaupoko District would experience change during this extended period, subjecting the Iolani School project as well as others, to critical review.

2. Agricultural Lands Of Importance To The State Of Hawaii

We would reiterate that the concerned acreage under consideration is not considered of significance since the bulk of the cultivated acreage is in the Phase IIA and IIB sectors which are under removal by the H-3 project. We regret the misunderstanding.

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3. Relationship With The State Plan, State Functional Plans, And County General Plan

The discussion on pages 1-21 to 1-25 covers the treatment of the planning documents mentioned in your comments. We did not as you have stated, discuss the State Agriculture, Water Resources, or Conservation Lands; these can be included in the Final EIS addendum to provide a full disclosure of the project's impacts. We would be remiss however, if we did not point out that we will qualify the discussion in terms of the subject petition parcel as well as the total project.

4. Socio-economic Impacts On The Banana Farmers

The discussions that are presently ongoing as a result of the Iolani School's recent decision to make provisions for current active farmers to meet and negotiate with Iolani School to relocate on adjacent lands are incomplete. The details of these discussions cannot be covered at this time since the discussions are not completed and there has been no decision reached as to who will move, and where they will move. We would state at this time however, that it is inconceivable that farmers would move to lands that would not be conducive to economically viable cultivation of bananas. It is premature to consider the demise of the banana industry at Luluku or Kamooalii at this time due to the many unanswered questions still under discussion. Iolani School's position regarding the relocating of the farmers is discussed in a letter from the school to the Land Use Commission (see attached letter).

5. Affect On Groundwater

The data contained in the section on groundwater recharge has been compiled and quantified by Stephen Bowles, an acknowledged expert on the subject. In his response to the BWS dated November 14, 1983, Bowles stated the following:

"In general, urban developments may increase runoff. The conclusion that "it is doubtful that the proposed residential development would have any impact on the groundwater, other than increase demand" might be better stated as "significant impact". To conclude this statement to be untrue, is to ignore the facts presented clearly and concisely by Takasaki (1969).

As indicated by the maps and crossection in Appendix A of the EIS Addendum, the proposed subdivision lies within the discharge zone of the drainage basin. Recharge to the area results from precipitation falling inland of the discharge zone. In this specific circumstance, there is no factual evidence to conclude that "urban developments are known to increase run-off and decrease recharge potential." The key word in the previous quote is "potential." While there may be potential for recharge, there is no available evidence from which to conclude that significant recharge occurs within the boundaries of the proposed subdivision."

An in-depth discussion of the impacts of oils and other chemicals on water quality was included in the original EIS on page V-10 and V-12.

6. Archaeological Sites

The State Historic Preservation Officer in a letter dated April 12, 1983 stated: "A complete, intensive archaeological survey has never been conducted in the project area. The area is reported to contain an unknown number of prehistoric Hawaiian ruins. The environmental impact statement itself states that significant archaeological sites are situated within the project area and that the petitioner will ensure that no harm come to these sites. The statement also provides that no construction will take place until all adverse impacts on archaeological sites have been mitigated. The project description and maps in the environmental impact statement do not yet show which sites will be preserved and which sites will be studied scientifically prior to destruction. We recommend that where feasible sites slated for preservation be retained in the Conservation District. We also recommend that historic preservation measures be coordinated with our historic sites office, including plans to preserve or destroy archaeological sites, the study of sites prior to destruction, and distribution of all archaeological reports."

On the basis of this position by the designated Historic Preservation Officer for the State, we would maintain our basic position that at the appropriate time, these requirements as mandated by his letter, will be complied with in full. There will be no development taking place without approval from his office on this subject.

Very truly yours,

F. J. Rodrigues

F. J. Rodrigues

FJR:ls

APR 1 2 1983

Mr. Gordon Furutani
Land Use Commission
Room 104, Old Federal Building
335 Merchant Street
Honolulu, Hawaii 96813

Dear Mr. Furutani:

We have reviewed the environmental impact statement for the Iolani School properties project, and have a few concerns to express:

Recreation Concerns:

The only identifiable recreation concern is for pedestrian access to Hoomaluhia County Park and the pali foothills mauka of the proposed subdivision.

It is our understanding that the proposed H-3 highway will include pedestrian access from Hoomaluhia County Park to the lands mauka. These access points should be coordinated with any subdivision plans. Access from the subdivision to undeveloped lands at the base of the pali should also be provided to connect to existing trails and provide access for recreation and emergency use.

Historic Sites Concerns:

A complete, intensive archaeological survey has never been conducted in the project area. The area is reported to contain an unknown number of prehistoric Hawaiian ruins.

The environmental impact statement itself states that significant archaeological sites are situated within the project area and that the petitioner will ensure that no harm come to these sites. The statement also provides that no construction will take place until all adverse impacts on archaeological sites have been mitigated. The project description and maps in the environmental impact statement do not yet show which sites will be preserved and which sites will be studied scientifically prior to destruction. We recommend that where feasible sites slated for preservation be retained in the Conservation District. We also recommend that historic preservation measures be coordinated with our historic sites office, including plans to preserve or destroy archaeological sites, the study of sites prior to destruction, and distribution of all archaeological reports.

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Edaphic Concerns:

Slopes within the project area range from 0-20%. Gulches and ridges are to be left in their natural state; in other areas, minor excavation and grading are proposed. We suggest that appropriate erosion and sedimentation control measures be utilized to prevent or minimize degradation of adjacent streams and the Hoomaluhia Park reservoir during and after construction.

Sincerely,

Susumu Ono
SUSUMU ONO
Chairman of the Board
and
State Historic Preservation Officer

cc: Environmental Communications, Inc.

J-53

IOLANI SCHOOL
HONOLULU HAWAII 96814

OFFICE OF THE HEADMASTER

November 15, 1983

Mr. Gordon Y. Furutani
Land Use Commission
Old Federal Building, Room 104
335 Merchant Street
Honolulu, Hawaii 96813

Dear Mr. Furutani:

The Luluku Banana Growers have recently commented on the Addendum to the Environmental Impact Statement filed by Iolani School. The School's primary concern at the present time is the subject matter of its petition before the Land Use Commission which is requesting the change to the Urban classification of 201.4 acres of its lands adjoining the Pali Golf Course. There are no relocation concerns in Phase I of the project with the exception of a 5-acre parcel, which was amicably discussed with the tenant.

The School has offered the banana farmers the right to relocate to certain adjoining areas. The School will cooperate with such farmers by assisting in acquiring all necessary permits, granting vehicular access to such lands, assisting in the location of public utilities to such areas and allowing a reasonable time to allow the farmers to prepare the land for planting.

Very truly yours,

Man Kwong Au
Vice Chairman
Iolani School Board of Governors

SIERRA CLUB, HAWAI'I CHAPTER
P.O. BOX 11070, HONOLULU, HAWAI'I 96828
(808) 946-8494

7 November 1983

Mr. Gordon Furutani, Executive Director
Land Use Commission
Room 104, Old Federal Commission
335 Merchant Street
Honolulu, Hawai'i 96813

LAND USE COMMISSION
STATE OF HAWAII
NOV 9 12 05 PM '83

Dear Mr. Furutani: Re: Jolani School EIS Addendum

The Conservation Committee of the Honolulu Group of the Sierra Club, Hawai'i Chapter appreciates the opportunity to comment on this addendum.

We must again reiterate our concern for the basic proposal's effect on conservation lands which currently provide watershed, agricultural diversity, and recreational areas which benefit all the people of O'ahu.

We would also note that the Addendum appears to have been put together somewhat haphazardly with several places where text is missing, causing the material to be difficult to comprehend. Some of these places are noted in the comments which follow.

Comments

Maps: Figures 2 & 3 indicate development between Likelike Highway and the Ko'olau mountains on the Kahalu'u side of Likelike. All the other map figures do not show this area as being considered for development. What is the correct boundary of the entire development proposal?

H-3: The presumed construction of the H-3 segment from Halekou Interchange to Likelike Highway is used throughout the document as a justification for various effects of the subject project on the environment (e.g. p. I-13, I-71-73). We suggest that the approach of "someone else is making a mess of this and therefore it's all right if we do" is not correct. In addition, a good deal has happened in the period since November 1982 when the Federal government granted final design and construction approval for H-3. All of those events should be listed in the subject document so that the reader has the current picture.

Housing: The comments on housing seem both inconsistent and speculative. As we have noted previously in responding to this project proposal, "affordable housing" has become a catch phrase which developers like to think makes theirs a good developement, regardless of the environmental consequences. The need is very real but since the possibility of fulfillment is based, at this time, on the state of

the market at the time the development is ready for sale, it seems very questionable it can be used to justify a project with a occupancy date 4 to 9 years from now.

Citations which illustrate the above: "Selling price of the units will be at market price at the time of sale" (p. I-12); "The petitioner desires to market same within the affordable price market" (p. I-12); "The proposed project will supply housing to low-and moderate-income residents." (p. I-13). (Emphasis added to last two quotes.)

Also, given a need in the Kane'ohe area for more housing, should the petitioner not be required to demonstrate that that need cannot be fulfilled on lands already designated urban?

Agriculture: Section 4 of the document mentions that the ALISH designations of the subject lands are minute fractions of the "Prime" and "other Important Agricultural Lands" on O'ahu. These are not the relevant figures. The relevant figure is on p. 4-1: "Approximately 90% of the State supply of Brazilian bananas are produced in this area."

Is this a matter of chance? Perhaps, but it seems unlikely when there bananas grown on other parts of O'ahu and in other parts of the state. When a particular variety of a crop is grown principally in one place, it is usually because the conditions there are conducive to its growth in that place and not in others. Only the suggested replacement areas IIa & IIb (Figure 3, p. I-14) are in the same prevailing wind and sunlight patterns as the lands which will be converted to urban use. In addition, all but those two sections are in the drier portion of the site (as noted in the vegetation survey). Further, although the document indicates that there will be no impact from the proposed urbanization on the climate, no basis is given for that statement (p. I-25). The existence of microclimates on the Ko'olau slopes elsewhere would lend credence to the proposition that climate may be affected by the development and should be taken into account.

Points are made that the State has promised to relocate the farmers, but we understand the State has not acted on that promise in 11 years and now refuses to do so. It is also noted that H-3 will displace the farmers in a large portion of the subject lands. For our response to this, we refer you to the first page of this letter under the H-3 heading.

Ho'omaluhia Botanic Garden & Park: The assessment of air quality, noise, drainage and water quality impacts are all noted as existing during the period of construction. However, if you will refer to p. I-12, you will note that period is at least 8 years! Thus, the impact on the surrounding area, a large part of which is the Park will continue for at least 8 years.

We are also concerned with the impact of increased storm drainage from the urbanization from the project. P. I-24 mentions potential erosion problems from areas of 20% slope or more; p. I-28 suggests that soil conditioners and other additives will not hurt the soil; p. I-64 notes that storm water runoff will be discharged into the lake ("Kaneohe Flood Control Ponding Basin"); while p. 65 suggests that H-3 will act as a permanent barrier between the dam at Ho'omaluhia and the development.

The scenario these statements paint is one of contaminated soil (as well as the road oil from 17.2 acres of roads after construction and "oil and suitable chemicals" used as dust control during construction (p. I-33)) "discharged into existing streams and the Kaneohe Flood Control Ponding Basin" (p. I-64) or backing up against the "permanent barrier" created by H-3. The latter would definitely impact the quality of the lake which is used as a wildlife refuge and an educational tool in the Park. The former is highly unlikely to be permitted by the State and would detrimentally impact the proposed project area itself.

Archaeological sites: It is implied on p. I-48 that because most of the sites found are located outside the boundaries of the project or in areas slated for open space that there will be no impact on these sites. This seems unlikely if you place a population of 2,900 people around and adjacent to these sites and anticipate that about 1/5 of them will be of school age.

Miscellaneous:

p. I-4: "proposed policy revisions to the General Plan" — amendments to the Development Plans are being considered but we are unaware of currently proposed General Plan amendments.

P. I-18: item c--the proposed development puts an urban ring around Ho'omaluhia Park, a non urbanizec area.

P. I-19: item f--"urban fringe" does not give license for full-scale urbanization of the area. Rather it implies a part-urban, part-rural area and is not justification for urban use of conservation lands.

P. I-20: If the response to the citiation to Section 19(b)(5) of the Hawaii State Plan were complete, it would mention the opposition of the community to this project.

P.I-23: Status of proposed Development Plan Amendments affecting this area should be included

P. I-24: II-A-1(a)--what percentage of land has slopes greater than 20%?

P. I-56: Is the bird cited a red-vented bulbul? The red-vested bulbul seems unfamiliar.

P. I-65: 2nd ¶ — "Regulations, and Water Quality Standards, of Health." Does not make sense.

P. I-70: 2nd ¶ — "assumed access from Phase II will be available at a permitted point onto Likelike Highway." It is our understanding this has been denied.

P. I-73: "Figure 11 shows access improvements being planned for the project." What is "Like like realignment"?

6(c) Believe mitigative measures stated here belong with item 7 "Electrical Services".

P. 6-1: From all 400+ acres of Ho'omaluhia Park the project will be invisible?

A final general comment on the matter of the view plane: anyone who saw Halekou Interchange during its first month of construction and even now after several months knows that a development of th e size proposed, even if done incrementally, is going to be a scar on the landscape. Clustering is nice, but the roads for all portions will be put in first, creating disturbance visible over the whole area. The point is made that basic elements of the Palé view will not be changed--but the entire picture will be.

Sincerely,

Susan E. Miller

Susan E. Miller
for
Conservation Committee,
Honolulu Group, Sierra Club

xc: Mr. Fred Rodrigues, Environmental Communications, Inc.

ENVIRONMENTAL
COMMUNICATIONS
INC.

F. J. RODRIGUEZ
PRESIDENT

November 21, 1983

Mrs. Susan E. Miller
Sierra Club, Hawai'i Chapter
P.O. Box 11070
Honolulu, Hawaii 96828

Dear Mrs. Miller:

Thank you for your comments on the Iolani School EIS Addendum. We are responding to your comments in the order as listed.

1. The correct and legal boundary of the development proposal is 201.4 acres as contained in the petition submitted to the Land Use Commission in December, 1982. The maps contained in the EIS Addendum merely are shown to demonstrate total impacts if the balance of the Iolani lands were to be developed.

2. H-3 impacts on the Iolani lands are described to best analyze the specifics of impacts on the banana farmers (p. 1-13) and also on how H-3 will phyisically take lands and bisect the Phase II sectors for future development. There is a brief description of events that have taken place since November, 1982, as noted on page 1-78.

   We would not be so presumptious as to definitively list all subjects pertaining to H-3 in our document.

3. Housing statements and petitioner's position have been predicated as the result of a detailed study conducted by John Child & Company. This study is provided in its entirety in the original EIS and was prepared at the request of Iolani School in October, 1982. There are numerous references to State and County documents that provide the basis of their analysis and conclusions. The statements contained in the EIS Addendum are not random or careless statements made by irresponsible parties, but are made by competent and qualified professionals for a client that has distinct responsibilities to the community. For specific references to sales price and market, see pages 12-13 of Appendix A of the original EIS of the John Child report.

   Your comment on the need of the petitioner to demonstrate why already designated urban lands cannot provide the housing needs for the Koolaupoko District is that in one contiguous parcel, the economy of scale can reduce costs and consequently, sales prices, where on single isolated parcels, the prices are subject to single dwellings' costs and also, design may be for housing styles that are not designed to meet low-and moderate-income market prices. This is also described in the John Child's report which is part of the original EIS.

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4. Agriculture and the retention of the cultivated banana farms on Iolani lands have taken on a dramatic change in the past few weeks. No final decision has been made as to the long-term future of banana cultivation on Iolani lands.

5. Ho'omaluhia Park and Botanical Garden impacts have been analyzed in detail by the discussion on "Storm Water Runoff" provided in the original EIS by Dr. Gordon L. Dugan. In his summary and conclusions, his report evaluated the environmental impact that the proposed Iolani School project would have based on the quality of the storm water runoff for 1 hour and 24 hour storms at several recurrence intervals that range from 1 year to 100 year. It is vital to note that for the worst case condition (100 year, 24 hour storm), the volume of surface runoff would be equivalent to 73.4 acre feet or 3% of the maximum capacity of the new (makai) Kaneohe Flood Control Dam. However, only a portion of the total runoff would actually flow into this facility. We also note that all storm drainage systems must be reviewed and designed to meet applicable State and County standards for size and capacity. Reviewing agencies would include also the Federal Department of Interior, Corps of Engineers, and Soils Conservation Service. The potential impacts and hazards you describe would meet severe scrutiny prior to approval.

6. Archaeological sites will be subject to the mandates of the State Historic Preservation Officer, Department of Land and Natural Resources who has determined policy for the protection and preservation of significant sites. Included in his jurisdiction are protective measures to insure that vandalism of the type you describe can be prevented.

Miscellaneous:

p. 1-4: As is mandated by the City Charter, the Chief Planning Officer is to prepare revisions to the General Plan at least once every five years for Council consideration. The latest five-year review was just completed earlier this year.

p. 1-18: We believe that the Interstate Highway H-3, which also parallels the mauka boundaries of the Ho'omaluhia Park, would constitute more of a negative development due to its impacts on air, noise, views, etc.

p. 1-19: The proposed project would not represent a "full-scale urbanization of the area." The project design provides sufficient flexibility in the siting of units so as to maximize open space and minimally disturb the natural terrain. Further, the project area is contiguous to existing subdivisions that are similar in scale and amenities.

p. 1-20: The EIS Addendum includes all comments made from interested parties and agencies.

p. 1-23: Discussion of the Development Plan has been included in the EIS Addendum.

p. 1-24: Of the 383.8 acres planned for urbanization, 186 acres are developable and with slopes of 20% or less. The other acres are planned for roadways, drainageways and open space. Again please note the petition for urbanization is 201.4 acres, but of the 201.4 acres, 113.6 acres are developable with 20% slopes or less.

p. 1-56: The description has been corrected to read "red-vested bulbul".

p. 1-65: The phase has been corrected to read "Regulations, and Water Quality Standards, Department of Health."

p. 1-70: Presently, there is an access found on Likelike Highway which is deleted by the H-3 and Likelike realignment. The owners is requesting the relocation of the access point to the realigned Highway. To date, the question of providing access points has not been discussed. The development of Phase II, which affects the access point on Likelike Highway is planned for 1994 thereabouts. The actual petition before the State Land Use Commission deals with Phase I and does not have any effect on the access unto Likelike Highway.

p. 1-73: The Likelike realignment is part of the proposed action.

Mitigative measures section has been revised.

P. 6-1: The project will never be totally invisible. The cross section provided in Exhibit I was not intended to give the reviewer the feeling that the residential subdivision would not be visible. On the contrary, the plan as envisioned by the planning consultant, indicates that there will be minimal impact due to the project. It would not be comparable to the "do nothing" alternative which would retain the existing conditions, with only Interstate Highway H-3 as the sole visual intrusion.

Thank you for your continuing interests.

Very truly yours,

F. J. Rodriguez

FJR:ls

LEGAL AID SOCIETY OF HAWAII

WINDWARD BRANCH OFFICE
47-200 WAIHEE ROAD, ROOM 104
KANEOHE, HAWAII 96744

(808) 239-5707

KALI K. WATSON, ESQ.
President, Board of Directors

ALLENE K. RICHARDSON, ESQ.
Executive Director

November 7, 1983

Mr. Gordan Furutani
Executive Director
Land Use Commission
Room 104,Old Federal Building
Honolulu, Hawaii 96813

Re: Environmental Impact Statement Addendum
Proposed Iolani School Properties Project
Kamooalii, Koolaupoko, Kaneohe, Oahu

Dear Mr. Furutani:

The following comments are submitted to the above-referenced addendum on behalf of our client, HUI HALAMA AINA O KOOLAU.

1. There Is No Need For Additional Urban Zoned Land.

The Addendum argues at pages 1-4 and 1-5 that 2,060 dwelling units are required to satisfy population demands in the Kaneohe area, and that it is the developer's objective to meet these needs by providing affordable housing. While there may be a need for adequate low and moderate-income housing in the Kaneohe area, the applicant has failed to show that there is insufficient land currently in the urban district to meet these needs. The Honolulu City Council has recently adopted its Development Plan for this area, in which the need to accommodate population growth and housing demand was carefully weighed and considered after many years of comprehensive study and ample participation by all segments of the public, including Iolani Schools. It is the purpose of the development plans to determine.the most appropriate areas for housing development and the Council concluded that the Iolani School property is best suited to its current uses. Therefore, this land is not necessary to accommodate additional housing units.

Furthermore, other lands of flatter terrain and more accessible infrastructure already exist in the Kaneohe area which would have a lower development cost and could be more effectively used to provide low and moderate-income housing. Since the addendum indicates that sales will be "at market price at the

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time of sales" (p. 1-12) and this area has valuable view amenities of the pali and Kaneohe Bay, as well as adjacent park lands, it is virtually impossible that low and moderate income families will be able to purchase such homes at market prices.

2. The Addendum Fails To Adequately Evaluate The Socio-Economic Impacts of The Project.

In the brief discussion of socio-economic impacts on p. 1-13, the EIS fails to address whether it would be economically feasible to relocate the Lukuku banana growers to Iolani's other lands. The lands proposed for relocation are classified as conservation so that it would be necessary to seek a district boundary amendment, development plan amendment and zoning changes prior to relocation. This would be an expensive proceeding which would require the preparation of an EIS and would involve subdivision and infrastructure costs far beyond the means of the banana growers. Thus, the EIS fails to adequately address the socio-economic effects of the project on these farmers as well as those who depend upon these producers of apple bananas.

3. Impacts on Groundwater.

The analysis of groundwater impacts is wholly inadequate. The Board of Water Supply already states in its comments to the original EIS that this area is a prime groundwater recharge area. The applicant has failed to provide reliable data to refute the Board's position; Fourteen-year-old U.S.G.S. data cited at p. 2-1 is not current.
Furthermore, there is no analysis of the effects of urban runoff on the quality of the groundwater resources. Given the current problems Oahu is experiencing with groundwater contamination, this portion of the Addendum is inadequate also.

4. Flooding Potential.

At p. 1-42 and 1-43 the addendum states that the project site is protected from flooding by the Kaneohe Flood Control Project. Since the Iolani School lands for this development are located at elevations above the Flood Control project, the project provides no protection to this area with "a long history of intense rainstorms and frequent devastating floods." Therefore, the addendum fails to properly address the flooding problem.

5. Protection of Archaeological Resources.

At p. 1-48 the Addendum recommends intensive archaeological surveys before construction begins. Surveys at that time would be too late. The surveys and their results must be available for Land Use Commission consideration before it makes its decision on the petition to reclassify these lands since the significance of archaeological resources is a factor which the Commission must take into account.

6. Impact On The Scenic-View Corridor of The Windward Side.

The discussion of the visual impacts of the proposed residential subdivision on the windward view corridor is wholly inadequate. Even a casual observer at the Pali Lookout can see the effect of urban encroachment on the view plane from the lookout. The proposed development would place urban development right up to the base of the Koolaus and interrupt the continuous view plane now enjoyed from the lookout. The impact cannot be examined in a vacuum but must be considered as a part of the cumulative impact of other projects upon the viewplane. The EIS completely fails to consider cumulative impacts.

CONCLUSION

The entire Addendum shows an exaltation of form over substance. Rather than perform the studies necessary to adequately analyze the environmental issues identified by the Land Use Commission as inadequate, the preparer has simply inserted "discussion" of these issues without providing the analysis necessary to an adequate EIS.

Sincerely,

Ronald Albu
Attorney for
HUI MALAMA AINA O KO'OLAU

cc: Mr. Fred Rodriguez
Environmental Communications, Inc.

ENVIRONMENTAL
COMMUNICATIONS
INC.

F. J. RODRIGUEZ,
PRESIDENT

November 21, 1983

Mr. Ronald Albu
Legal Aid Society of Hawaii
Windward Branch Office
47-200 Waihee Road, Room 104
Kaneohe, Hawaii 96744

Dear Mr. Albu:

We acknowledge receipt of your letter dated November 7, 1983 expressing the concerns of your client, HUI MALAMA AINA O' KOOLAU on the EIS Addendum for the Iolani Schools project. Please note that the acreage of the petition presently before the Land Use Commission is 201.4 acres, 103.2 of which will be used to develop 611 dwelling units. Iolani School does not have immediate plans to develop any of its additional lands. The discussion as contained in the EIS Addendum, was provided in compliance with a directive from the Land Use Commission in their letter dated May 27, 1983.

"1. <u>There Is No Need For Additional Urban Zoned Lands.</u>"

Whether there is need for additional urban lands in the City and County of Honolulu is an issue before the Land Use Commission, and petitioner will show such a need exists. Lands currently in the Urban District in Kaolaupoko are not contiguous, not under the common ownership of single entity, and are not economically developable for various reasons (terrain features, utilities, roads, private reasons) for low and moderate income housing. The Development Plans legislated by the City Council, are not iron-clad in the sense that petitions to the City and County administration and the City Council cannot be entertained. Due process allows all landowners to request amendments to the Development Plans. Iolani School is aware of the time involved to achieve acceptance of its request firstly, before the Land Use Commission and secondly, by the City and County of Honolulu.

The sales at "market prices" at the time of sales is not intended to mis-lead the reviewer into thinking that this project is a government subsidized project. In the initial EIS for Phase I (201.4 acres, 611 units), sales prices were listed on pages II-11 as $63,000 for a townhouse unit, and $111,000 for single family homes. A description of these units is also provided on pages II-11,12. We do not consider these to be extraordinary in their comparison to current prices in the City and County of Honolulu and the Windward Coast in particular.

"2. <u>The Addendum Fails To Adequately Evaluate The Socio-economic Impacts Of The Project.</u>"

It is not the intent of the EIS document to prove that it is economically feasible to relocate tenants of the petitioner. It is the intent of petitioners to show that in the event that should the development of its lands require

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the relocation of tenants, it will assist in everyway possible to make such a move economically feasible. Assistance will include cooperating in acquiring all permits, providing access to the relocated areas and assisting in the location of public utilities to such areas.

"3. <u>Impacts On Groundwater.</u>"

Exhibit "A" in the addendum provides a completed report by Stephen P. Bowles, President of Island Resources, Ltd. with added comments on the Board of Water Supply's plans for additional wells on various portions of Iolani lands.

It is there noted that Bowles is considered an expert in the field of groundwater hydrology and has done considerable work in both the government and the private sector. He stands by his stated position of "Based on the information contained in the 1969 U.S.G.S. report and the proposed locaton of B.W.S. wells, it is doubtful that proposed residential development would have any impact on the groundwater, other than an increase in demand. The existing and proposed B.W.S. well locations can be relocated in order to minimize any potential conflicts".

The use of pesticides will be controlled by such rules and regulations as are set forth by the Environmental Protection Agency (EPA).

"4. <u>Flooding Potential.</u>"

The Final EIS Addendum will be revised to show that the flood control facility is designed to protect those lands <u>downstream</u> of the flood control facility. Flood control protection for the <u>Iolani School</u> project will consist of onsite drainage basins, swales, county standard culvert boxes, and retention basins to alleviate the velocity and quality of the storm water runoff.

"5. <u>Protection Of Archaeological Resources.</u>"

The reviewer has expressed concerns over the timing when intensive studies to determine the significance of archaeological sites should be done. It is noted here that on the Iolani lands under consideration (201.4 acres), there is one confirmed site and one possible site. These have been identified on Figure 7. The choice of when the actual field studies will be made is subject to decisions by accepting authorities such as the Land Use Commission, if it is felt that these are sites of significance, or potential significance. The State Historic Preservation Officer in a letter dated April 12, 1983 stated: "A complete, intensive archaeological survey has never been conducted in the project area. The area is reported to contain an unknown number of prehistoric Hawaiian ruins. The environmental impact statement itself states that significant archaeological sites are situated within the project area and that the petitioner will ensure that no harm come to these sites. The statement also provides that no

construction will take place until all adverse impacts on archaeological sites have been mitigated. The project description and maps in the environmental impact statement do not yet show which sites will be preserved and which sites will be studied scientifically prior to destruction. We recommend that where feasible sites slated for preservation be retained in the Conservation District. We also recommend that historic preservation measures be coordinated with our historic sites office, including plans to preserve or destroy archaeological sites, the study of sites prior to destruction, and distribution of all archaeological reports." Iolani School will not shirk its responsibilities in examining archaeological sites of value..

"6. Impact On The Scenic-view Corridor Of The Windward Site."

Substantial work was done by the retained planner to demonstrate that the scenic view corridor would be impacted in a minimal way. They comment as follows:

An analysis of the visibility of the proposed residential development concluded that the panoramic view from the Pali Lookout would be included. Other public views, such as from Likelike Highway, Kamehameha Highway, and Ho'omaluhia Park, are not affected bacause the project will not be visible from these points.

A typical cross section of the site and a panoramic view from the Pali Lookout with the proposed development superimposed were prepared to illustrate the visual impact of the project.

The typical cross section (Exhibit I) shows that one and two story residential structures would be lower and partially obscured by site landscaping. When these plant materials mature, the vegetation will become the dominant feature when the project is seen from higher elevations. Further, since existing mature vegetation will be retained in open space area, which make up 28% of the proposed project area, the visual impacts will be even more softened.

The view panorama diagram (Exhibit H) further illustrates this conclusion. The rooftop of residential structures will be seen from the lookout. However, they will be partially hidden behind mature tree masses which will remain and new residential landscaping. As these plant materials mature, the residential structures will become less visible.

The overall impact on the important public view from the Pali Lookout is alteration to the foreground portion of the panoramic view, where residential rooftops will be seen between trees and other vegetation. This conclusion is based on the panoramic view and cross section exhibits, which are based on the proposed plans. If the panorama was drawn with the new residential landscaping matured, it would obscure the view of more of the rooftops now shown in the exhibit.

"Conclusion."

We do not concur with the review that "the entire addendum shows an exaltation for form over substance". We repeat the earlier statement that this addendum was prepared at the specific request of the Land Use Commission to identify the impacts attributable to the total project's implementation. We should not lose track of the fact that the subject petition before the Land Use Commission is still for 201.4 acres and 611 units.

Thank you for your comments and continuing interest.

Very truly yours,

F. J. Rodriguez

F. J. Rodriguez

FJR:ls

APR 12 1983

Mr. Gordon Furutani
Land Use Commission
Room 104, Old Federal Building
335 Merchant Street
Honolulu, Hawaii 96813

Dear Mr. Furutani:

We have reviewed the environmental impact statement for the Iolani School properties project, and have a few concerns to express:

Recreation Concerns:

The only identifiable recreation concern is for pedestrian access to Hoomaluhia County Park and the Pali foothills mauka of the proposed subdivision.

It is our understanding that the proposed H-3 highway will include pedestrian access from Hoomaluhia County Park to the lands mauka. These access points should be coordinated with any subdivision plans. Access from the subdivision to undeveloped lands at the base of the Pali should also be provided to connect to existing trails and provide access for recreation and emergency use.

Historic Sites Concerns:

A complete, intensive archaeological survey has never been conducted in the project area. The area is reported to contain an unknown number of prehistoric Hawaiian ruins.

The environmental impact statement itself states that significant archaeological sites are situated within the project area and that the petitioner will ensure that no harm come to these sites. The statement also provides that no construction will take place until all adverse impacts on archaeological sites have been mitigated. The project description and maps in the environmental impact statement do not yet show which sites will be preserved and which sites will be studied scientifically prior to destruction. We recommend that where feasible sites slated for preservation be retained in the Conservation District. We also recommend that historic preservation measures be coordinated with our historic sites office, including plans to preserve or destroy archaeological sites, the study of sites prior to destruction, and distribution of all archaeological reports.

APR 12 1983

Edaphic Concerns:

Slopes within the project area range from 0-20%. Gulches and ridges are to be left in their natural state; in other areas, minor excavation and grading are proposed. We suggest that appropriate erosion and sedimentation control measures be utilized to prevent or minimize degradation of adjacent streams and the Hoomaluhia Park reservoir during and after construction.

Sincerely,

Susumu Ono

SUSUMU ONO
Chairman of the Board
and
State Historic Preservation Officer

cc: Environmental Communications, Inc.

KAHALUU NEIGHBORHOOD BOARD NO. 29
c/o KAHALUU COMMUNITY CENTER
47 232 WAIHEE ROAD
KANEOHE, HAWAII 96744
MEEJA NEA KAHALU'U, WAIHE'E WAIAHOLE WAIKANE, HAKIPUU AND KUALOA

"Let us not ever have an unhappy minority"

November 7, 1983

Gordon Y. Furutani, Executive Officer
State Land Use Commission
Old Federal Building, Room #104
335 Merchant Street
Honolulu, Hawai'i 96813

Environmental Impact Statement Addendum
Proposed Iolani School Properties Project
Kane'ohe, Ko'olaupoko, O'ahu, Hawai'i

Dear Mr. Furutani:

This letter is in response to your request for written comments on the Environmental Impact Statement Addendum to the proposed Iolani School Properties Project at Kane'ohe (Kamo'oali'i & Luluku).

The Kahalu'u Neighborhood Board No. 29 has serious concerns regarding the many adverse impacts which the proposed development would have on the City & County General Plan & Ko'olaupoko Development Plan, on Transportation, on Water Resources, and on Urban Design & open space.

These concerns are expressed in our testimony given before the State Land Use Commission at its June 1, 1983 public hearing. That testimony related to the 201 acre Phase I portion of the proposed project. The testimony is even more pertinent now that we are addressing the impacts of the entire 381 acre proposed project consisting of Phases I, II-A & II-B.

The original Environmental Impact Statement was rejected for deficiencies in six specific areas. Our testimony is particularly applicable to at least three of these six areas cited; Item 1. - the adverse impacts of the larger multi-phase development; Item 2.- the adverse impacts on water resources; and Item 6. - the adverse impact on scenic view corridors.

Our public hearing testimony relating to the proposed Iolani School project is attached and shall be considered an integral part of this response to the Environmental Impact Statement Addendum.

We will look forward to receiving a copy of the Final Enviromental Impact Statement when it becomes available for review.

Sincerely,

Chester T. Koga

CHESTER T. KOGA, CHAIR
KAHALU'U NEIGHBORHOOD BOARD NO. 29

NOV - 3 1983

Attachment: N.B.#29 testimony of 6/1/83 before State Land Use Commission re: Iolani School request to reclassify Ko'olaupoko lands.

Copies: Environmental Quality Commission
Environmental Communications, Inc.
Kane'ohe N.B.#30
Kahalu'u N.B.#29 -Chair(Koga)
-Zoning & Controls(Preis)
-Development Plan(Stevens)
-Planning Districts(Murakami)
Kahalu'u Community Resource Center
Neighborhood Commission

KAHALUU NEIGHBORHOOD BOARD NO. 29
c/o KAHALUU COMMUNITY CENTER
47 237 WAIHEE ROAD
KANEOHE, HAWAII 96744
(HE'EIA-KEA KAHALU'U WAIHE'E WAIAHOLE WAIKANE HAKIPUU AND KUALOA)

"Let us not ever have an unhappy minority"

June 1, 1983

William W.L. Yuen, Chairman
State Land Use Commission
Old Federal Building, Room #104
335 Merchant Street
Honolulu, Hawai'i 96813

Land Use Commission Hearing - June 1, 1983
Docket Number & Petitioner: A82-544-Iolani School
Request to Reclassify Approximately 201 Acres
from the Conservation District to the Urban District
at Kane'ohe, Ko'olaupoko, O'ahu, Hawai'i

Chairman Yuen & Fellow Commissioners:

I'm Jan-Peter Preis, a Member and the Urban Design Coordinator of the Kahalu'u Neighborhood Board which represents the Kualoa to He'eia Community.

Our Board wishes to register its opposition to the Iolani School request to reclassify lands from the Conservation District to the Urban District.

Why, you may ask, do we in Kahalu'u find it important to speak out? It is because the conversion of these lands would have direct and adverse impacts on our urban fringe and rural community. The most serious impacts relate to the General Plan and the Development Plan, Transportation, Water Resources and Urban Design and Open Space.

General Plan & Development Plan
Our Board has testified many times, at both the City and the State levels, in defense of maintaining the integrity of the General Plan of the City & County of Honolulu.

The General Plan establishes Objectives & Policies for the direction of growth and the distribution of population for the island of O'ahu. Growth is to be directed towards the Primary(Honolulu) & Secondary(Ewa) Urban Centers. The proportion of population for the Urban Fringe & Rural communities of Windward O'ahu is to be stabilized. The recently adopted Ko'olaupoko & Ko'olauloa Development Plans implement these goals.

The Ko'olaupoko Development Plan allows adequate land for the projected year 2000 population. In fact, many hundreds of acres already in the Urban District will be down zoned from Residential to Agriculture & Preservation. The Iolani School request clearly is contrary to the intent of both the General Plan and the Development Plan.

Any subversion of the integrity of these plans will adversely effect all Ko'olaupoko communities including Kahalu'u. The granting of this request would encourage additional requests by others and the cumulative impacts would be devastating.

Transportation
Our Board has testified many times in opposition to the proposed Trans Ko'olau Interstate Route H-3 and has provided detailed comments on the proposed Kahekili Highway widening and other highway improvement projects.

It is our contention that construction of H-3 would be contrary to the intent of the General Plan in that it would foster urban development which, in turn, would result in population levels well above the upper limits planned and projected for Ko'olaupoko. It is just such requests as that of Iolani School which, if granted, would require additional transportation facilities which would spawn more growth, thus abrogating the General Plan and the Development Plans. It is this compounding of the pressures for urban development that would threaten our Kahalu'u community and the coastal communities beyond.

Furthermore, the proposed Iolani School development would put impossible demands on the local highways and streets which now are barely adequate to handle existing traffic.

Water Resources
Our Board has developed a clear understanding of the water resource problems facing the island of O'ahu and a special concern for the high level dike impounded and underlying basal ground water resources of Windward O'ahu. Therefore, we have adopted a Water Resources Position Statement which guides our decisions. Additionally, we have responded in detail to almost every Environmental Impact Statement relating to Windward water resource development.

The Iolani School request, if granted, would add to the water requirements for urban development-water requirements beyond those planned for in the Ko'olaupoko Development Plan.

Total water resources available in Ko'olaupoko are extremely limited and this is complicated by the fact that the hydrologic relationships between watersheds, dike complexes and basal waters have not been determined. Thus, any additional water resource development will have increasingly adverse impacts on adequate stream flows which are so important to the agricultural activities of our Kahalu'u community and other rural areas.

Furthermore, development of the proposed project could have adverse impacts on the quality of the Class AA waters of Kane'ohe Bay.

Urban Design and Open Space
For several years, the city has been developing urban design principles and guidelines to implement the requirements of the General Plan and the Development Plans. Recently, the O'ahu Urban Design Guide and the O'ahu Urban Design Implementation Guidelines and Recommendations have been issued.

The Ko'olaupoko O'ahu Urban Design Study section clearly and graphically describes the desired urban form and open space framework and identifies important views to be protected.

The proposed Iolani School development is in direct conflict with the urban design principles and guidelines recommended. The request, if granted, would destroy the desireable balance of open space and urban development for a critical and significant portion of Ko'olaupoko. Some of the most outstanding views on O'ahu - the panoramic views from Pali Lookout, the makai views from Pali and Likelike Highways and mauka

views from Kamehameha Highway - would be seriously and adversly effected.

In Conclusion
For the several reasons discussed above, we urge that you deny the Iolani School request to reclassify approximately 201 acres of their lands from the Conservation District to the Urban District.

Thank you,
The Kahalu'u Neighborhood Board No. 29

Jan-Peter Preis, Urban Design Coordinator

Edwin B. Stevens, Chairman

Testimony Authorized by Motion 8-0-1
Kahalu'u N.B.#29 Regular Meeting 5-11-83
(Materials prepared by Members Preis & Stevens)

Copies: State Land Use Commission(15)
Representative Robert Nakata
Councilman David Kahanu
Department of General Planning, Chief Planning Officer Willard T. Chow
Board of Land & Natural Resources, Chairman Susumu Ono
Kane'ohe N.B.#30
Kahalu'u N.B.#29 - Ed Stevens, Chairman
- Gerald Grimes, Vice Chairman
- Jan-Peter Preis
- Chester Koga
Kahalu'u Community Resource Center
Neighborhood Commission

ENVIRONMENTAL
COMMUNICATIONS
INC.

F. J. RODRIGUEZ,
PRESIDENT

November 21, 1983

Mr. Chester T. Koga
Kahaluu Neighborhood Board
No. 29
C/O Kahaluu Community Center
47-232 Waihee Road
Kaneohe, Hawaii 96744

Dear Mr. Koga:

Thank you for your letter of November 7, 1983 which we received on November 3, 1983 on the proposed Iolani School Addendum EIS. We have reviewed the testimony which was attached to your letter and which we are to understand are your comments on the EIS addendum. We cannot however, respond specifically to the points since the testimony deals in the Kahaluu Neighborhood Board's position on the subject of impacts attributable to Iolani School's project. We would appreciate very much specific references to the EIS addendum that we can respond to where your Neighborhood Board finds the document deficient. We appreciate your position and respect your views, but are unable to respond specifically, if there are not items of disagreement germane to the document.

I would appreciate hearing from you on this matter so that we can fulfill our role as consultant to the petitioner.

Very truly yours,

F. J. Rodriguez

FJR:ls

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