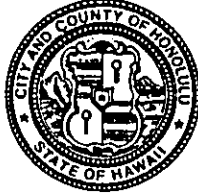


~~SM~~ SMA - Le Jardin Academy

DEPARTMENT OF LAND UTILIZATION
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 7TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 523-4414 • FAX: (808) 527-6743

JEREMY HARRIS
MAYOR



PATRICK T. ONISHI
DIRECTOR

LORETTA K.C. CHEE
DEPUTY DIRECTOR

96/SMA-015 (JT)

June 25, 1996

The Honorable Gary Gill, Director
Office of Environmental Quality Control
State of Hawaii
220 South King Street, 4th Floor
Honolulu, Hawaii 96813

Dear Mr. Gill:

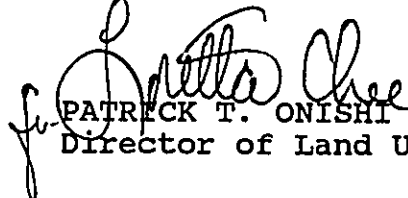
**SPECIAL MANAGEMENT AREA ORDINANCE
CHAPTER 25, ROH
Environmental Assessment/Determination
Negative Declaration**

Recorded Owner: Harold K.L. Castle Foundation
Applicant : Le Jardin Academy
Agent : Analytical Planning Consultants, Inc.
Location : 917 Kalaniana'ole Highway - Kailua, Oahu
Tax Map Key : 4-2-14: por. 04
Request : Special Management Area Use Permit
Proposal : Construct a new school campus
Determination : A Negative Declaration Is Issued

Attached and incorporated by reference is the Final Environmental Assessment (FEA) prepared by the applicant for the project. Based on the significance criteria outlined in Chapter 200, State Administrative Rules, we have determined that preparation of an Environmental Impact Statement is not required.

We have enclosed a completed OEQC Bulletin Publication Form and four copies of the FEA. If you have any questions, please contact Joan Takano of our staff at 527-5038.

Very truly yours,


PATRICK T. ONISHI
Director of Land Utilization

PTO:am
Enclosures

g:lejndoeq.jht

OFFICE OF ENVIRONMENTAL
QUALITY CONTROL

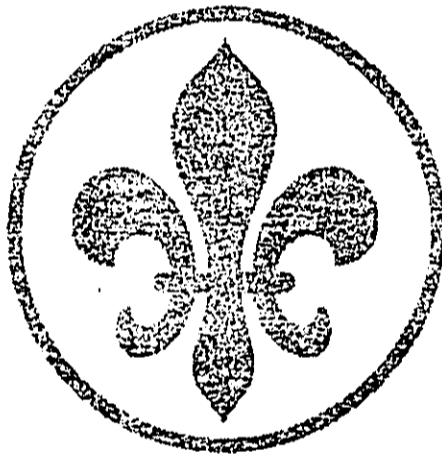
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RECEIVED

1996-07-08-0A-*FEA-SMA-Le Jardin Academy*

FILE COPY

LE JARDIN ACADEMY



Final Environmental Assessment
for Special Management Area (SMA)
Use Permit Application

May 1996



Group 70 International
Architecture • Planning
Interior Design
Environmental Services



ANALYTICAL PLANNING
CONSULTANTS, INC.

Le Jardin Academy

Kailua, Koolaupoko, Oahu, Hawaii

**Final Environmental Assessment for
Special Management Area (SMA)
Use Permit Application**

Applicant:
Le Jardin Academy
Kailua, HI

Agent:
Analytical Planning Consultants
Honolulu, HI

Architects and Planners:
Group 70 International, Inc.
Honolulu, HI

May 1996

LE JARDIN ACADEMY
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Section 1.0

General Information

LE JARDIN ACADEMY
FINAL ENVIRONMENTAL ASSESSMENT

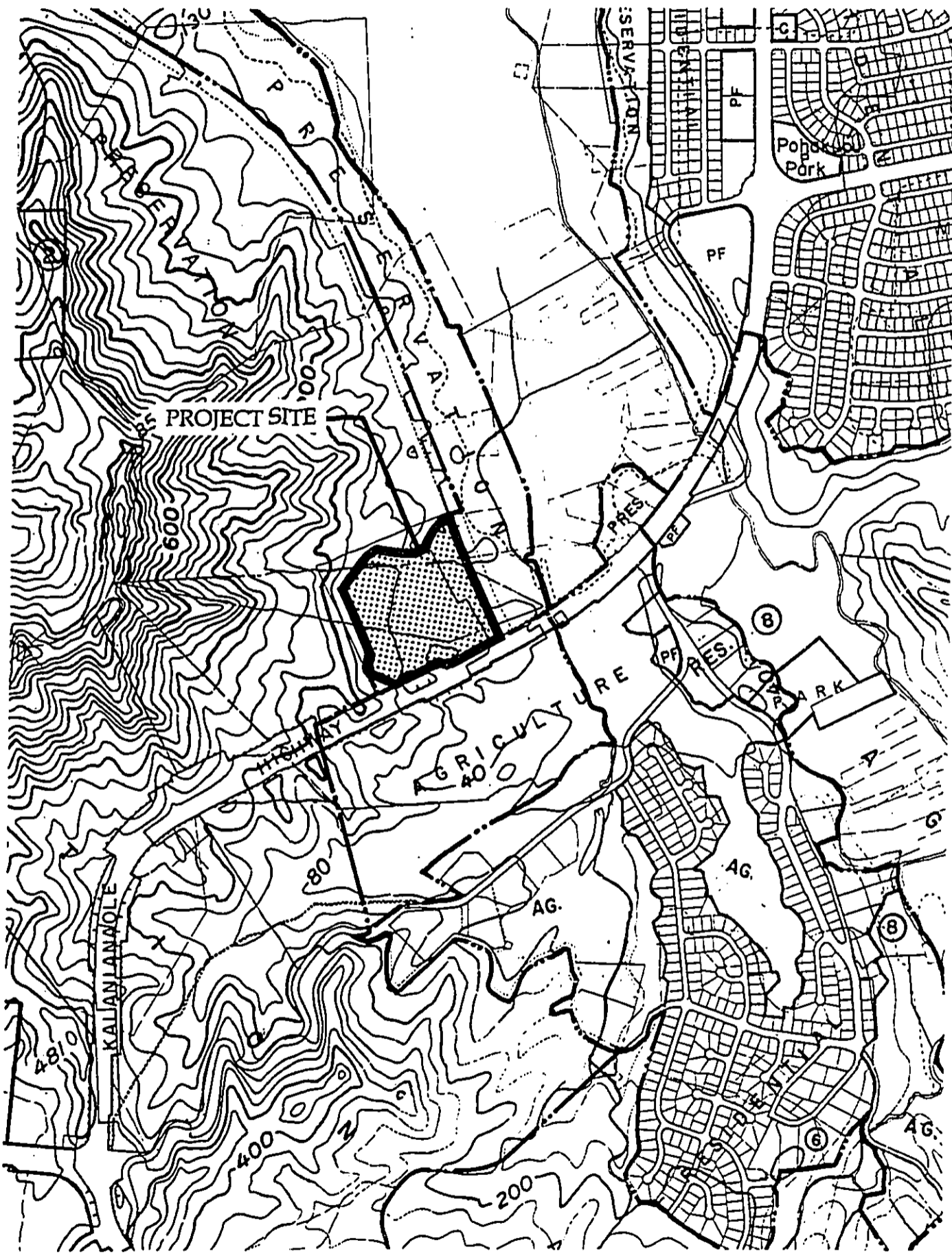
SECTION 1.0

GENERAL INFORMATION

Le Jardin Academy's planned new campus will be developed on approximately 20 acres located at the site of the former Kailua Drive-in Theater in Koolaupoko, Oahu (Refer to Figure 1-1). This parcel of land is located entirely within the Special Management Area (SMA) encompassing the Kawai Nui Marsh.

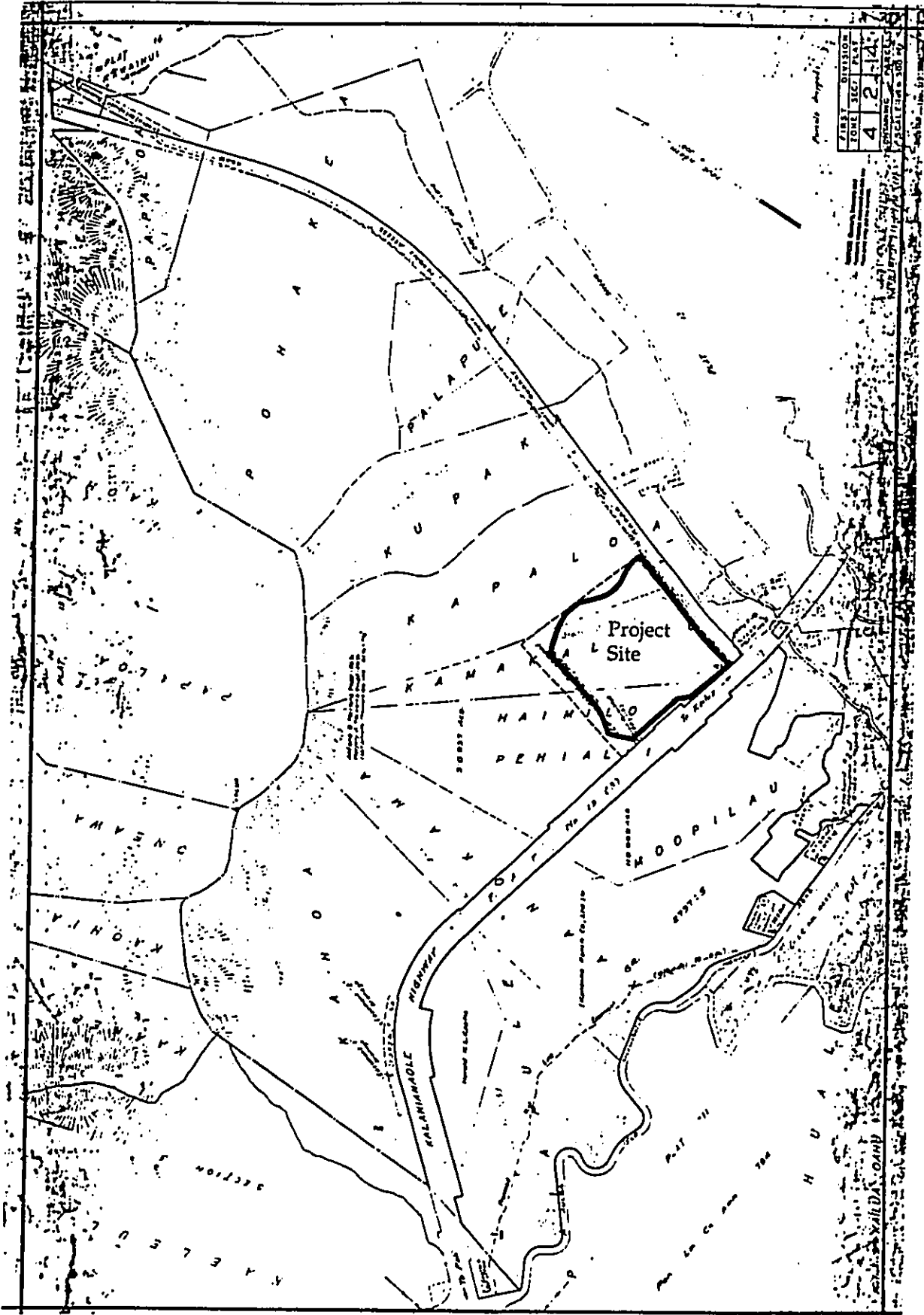
Le Jardin Academy will apply for a Special Management Area Use Permit (SMP) to allow for the development of their new campus at the site. Pursuant to Chapter 25 ROH - Shoreline Management, an Environmental Assessment (EA) including exhibits, drawings and a description of the technical, economic, social and environmental characteristics of the project is required for the SMP application. The Environmental Assessment will also supplement an application for subdivision of the project site from a larger parcel of over 300 acres. *(Note: The proposed project does not require preparation of an EA pursuant to Chapter 343 HRS.)*

Applicant/Land Owner:	Le Jardin Academy 1110 A Kailua Road Kailua, HI 96734 Contact: Stan Lum, Assistant Headmaster Tel: 261-0707
Recorded Fee Owner:	Harold K.L. Castle Foundation 146 Hekili Street, Suite 203A Kailua, HI 96734 Contact: Randolph G. Moore Tel: 266-1400
Agent:	Analytical Planning Consultants 84 N. King Street Honolulu, HI 96817 Contact: Donald Clegg, President Tel: 536-5695
Planning & Environmental Consultants:	Group 70 International, Inc. 925 Bethel Street, 5th Floor Honolulu, HI 96813 Contact: Jeffrey Overton, Chief Environmental Planner Telephone: 523-5866
Tax Map Key:	TMK 4-2-14: Por. 4 (Refer to Figures 1-2 and 1-3)
Project Area:	19.617 acres



Location Map
 Le Jardin Academy

Figure 1-1



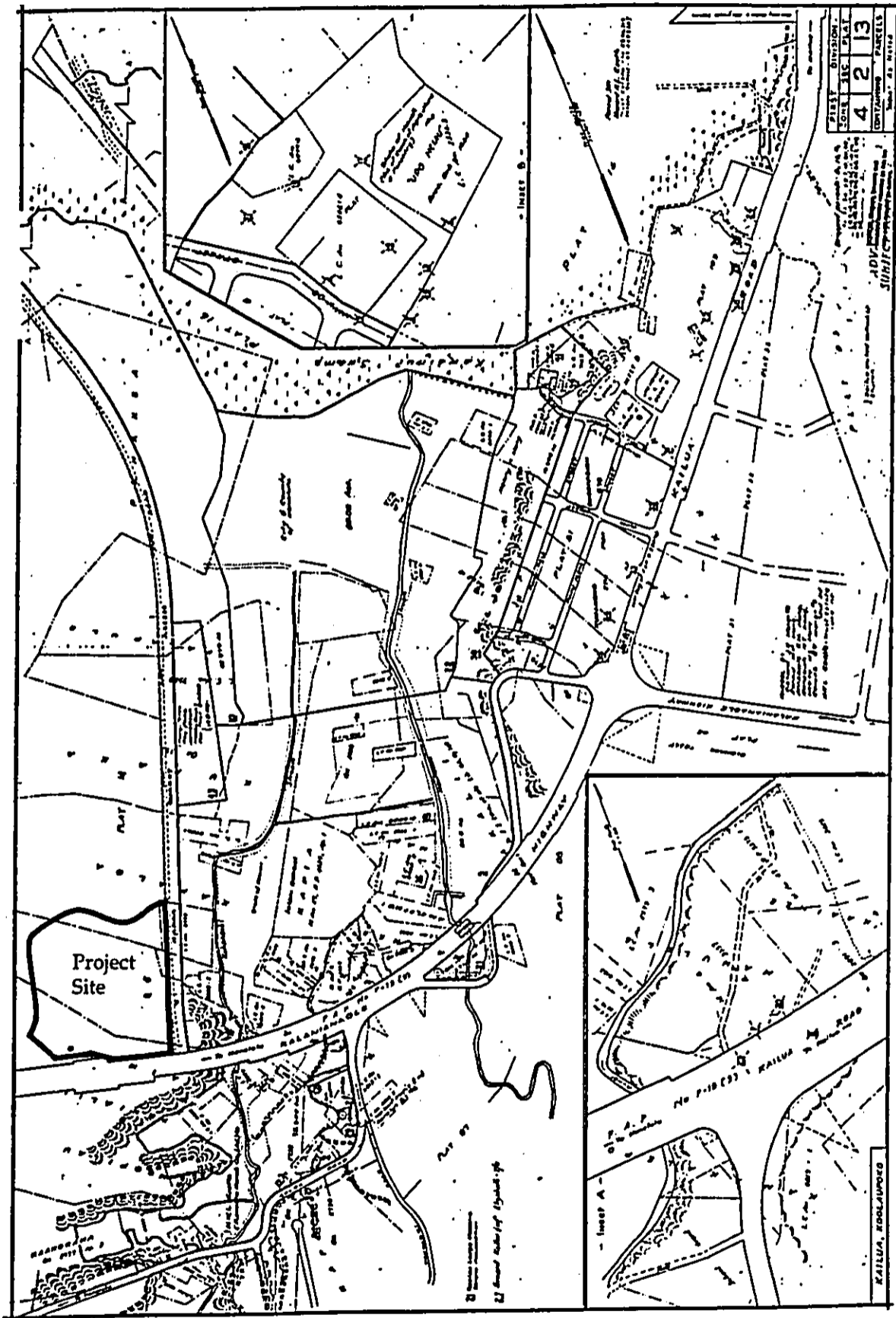
TMK Map 4-2-14:4

Le Jardin Academy

not to scale



Figure 1-2



TMK Map 4-2-13
Le Jardin Academy

not to scale



Figure 1-3

LE JARDIN ACADEMY
FINAL ENVIRONMENTAL ASSESSMENT

**Agencies and
Organizations Consulted
in Making Assessment:**

The following list includes governmental agencies and officials, private organizations, and community associations who have been contacted as part of the planning for this project.

- City and County of Honolulu, Department of Planning
- City and County of Honolulu, Department of Land Utilization
- Councilmembers of the City and County of Honolulu
- Mayor Jeremy Harris
- City and County of Honolulu, Department of Housing and Community Development
- Department of Land and Natural Resources
- Kailua Neighborhood Board
- Kawai Nui Heritage Foundation
- Kaneohe Neighborhood Board
- Pohakupu Kukunono Community Association Board
- Windward Arts Council
- Maunawili Association
- Olomana Neighborhood Association
- Kaneohe Ranch
- Budget Realty
- Kaneohe Rotary
- Lani-Kailua Outdoor Circle
- Windward Rotary
- Lanikai Association

For preparation of this Environmental Assessment, additional discussions were held with several of these agencies and organizations.

- U.S. Army Corps of Engineers - Planning Division and Operations Branch
- U.S. Fish and Wildlife Service
- State of Hawaii Department of Land and Natural Resources, Historic Preservation Division
- State of Hawaii Department of Land and Natural Resources, Division of Forestry and Wildlife
- Councilmember Steve Holmes
- City and County of Honolulu, Department of Land Utilization, Environmental Review Branch
- City and County of Honolulu, Department of Wastewater Management
- City and County of Honolulu, Board of Water Supply
- City and County of Honolulu, Department of Public Works
- Kawai Nui Heritage Foundation
- Kailua Neighborhood Board - Planning Committee
- Hawaiian Electric Company

LE JARDIN ACADEMY
FINAL ENVIRONMENTAL ASSESSMENT

Content of Environmental Assessment:

This Environmental Assessment report is presented in seven sections. General information on the Le Jardin Academy project proposal is summarized in this section. It is followed by Section 2 which presents the proposed project and Section 3 which describes the environment affected by the project. Section 4 relates the project to the Coastal Zone Management (CZM) Program and Section 5 summarizes mitigative measures. A list of references is provided in Section 6. Section 7 lists the agencies, organizations and individuals who received copies of the Draft EA, and includes written comments and responses. Appendix A contains the Traffic Impact Assessment Report prepared for Le Jardin Academy. Appendix B contains the Storm Water Runoff Management and Drainage Plan.

SECTION 2.0

DESCRIPTION OF THE PROPOSED ACTION

2.1 GENERAL DESCRIPTION

2.1.1 DESCRIPTION OF LE JARDIN ACADEMY PROJECT

The site of about 20 acres is proposed for the development of a new campus for Le Jardin Academy which is currently located at 1110A Kailua Road. Development of this site will provide the school with enhanced facilities and will ultimately allow the school to expand from serving pre-kindergarten through eighth grade to include students through high school.

Figure 2-1 depicts the conceptual site plan for the campus at full development (a dashed line delineates Phase I from Phase II). The phased development of the new campus is described in detail in Section 2.2.1. The general elements of the two phases include:

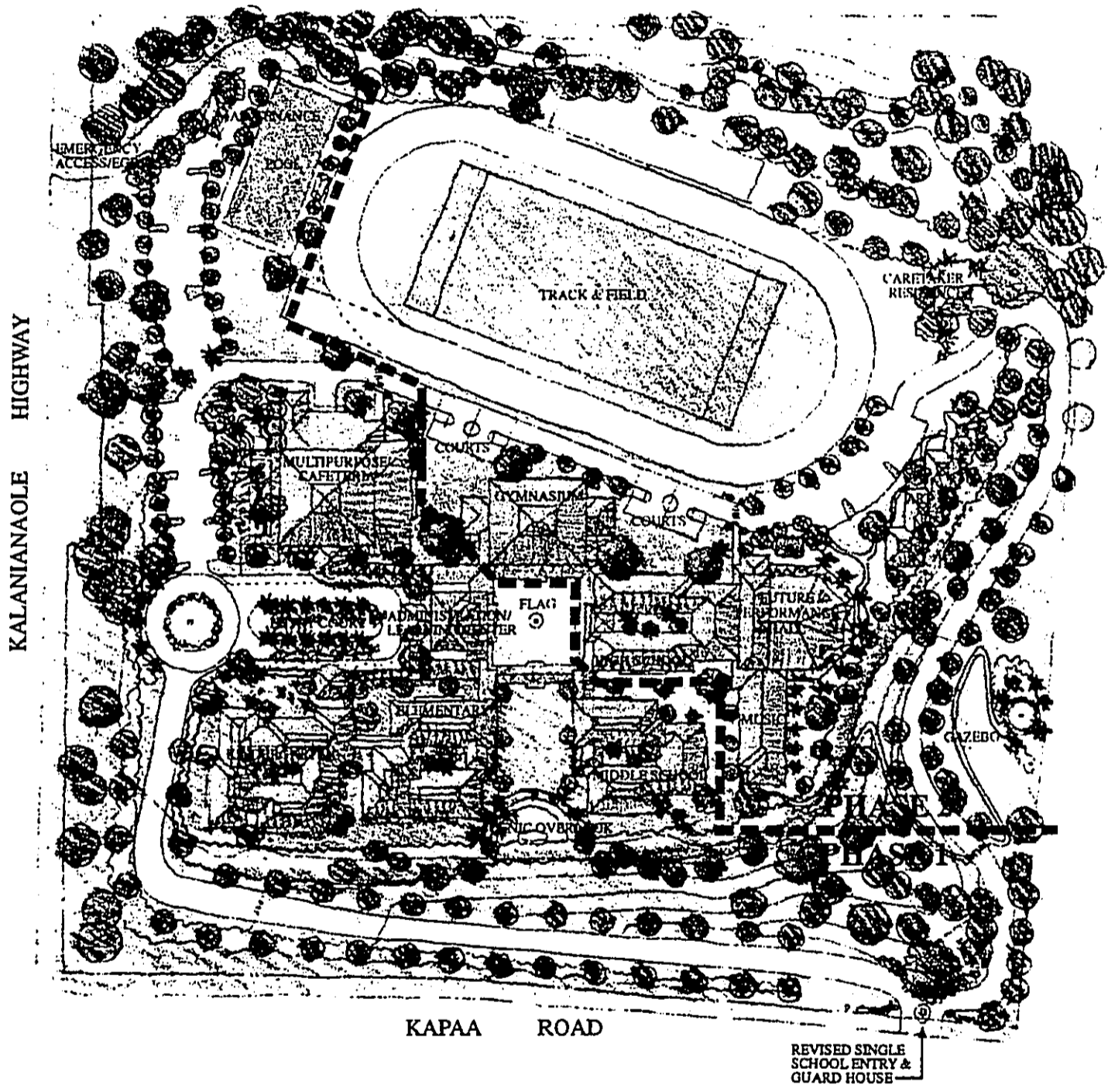
- Phase I - Includes pre-kindergarten, junior kindergarten, kindergarten, elementary and middle schools, along with administrative, library, art and music, and cafeteria/multi-purpose space, a scenic overlook, and recreation facilities.
- Phase II - Includes a high school, gymnasium, performance hall, and expanded administrative, arts and library space.

When it opens at the new site in 1998, Le Jardin Academy will have facilities for 500 students. The anticipated enrollment is 450 students in pre-kindergarten through eighth grade levels. This population will grow by one classroom per year for the first eight years of operation. For example, one class for second grade will be added in 1999, one for third grade in 2000, etc. until there are three classes of each grade for kindergarten through eighth grade and four classes of pre-kindergarten and junior-kindergarten, for a maximum of capacity of 650.

Le Jardin Academy will begin its high school program when it is economically feasible, possibly three or four years after moving to the new site. The high school will enroll ninth graders only the first year and will develop a full student body over the next three years. High school enrollment will be approximately 200 to 250 students once the program is firmly established. The proposed facilities would, at full development, accommodate three classes per grade level from kindergarten through 12th grade, or approximately 900 students. Flexibility is being designed into the program to allow for future growth, in 15 to 20 years, to increase the student body to no more than 1,200 students.

2.1.2 RELATION OF THE PARCEL TO THE SMA

The project site is located entirely within the Special Management Area (SMA) as shown in Figure 2-2.



Conceptual Site Plan
Le Jardin Academy

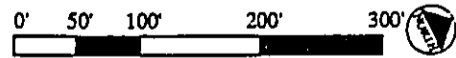
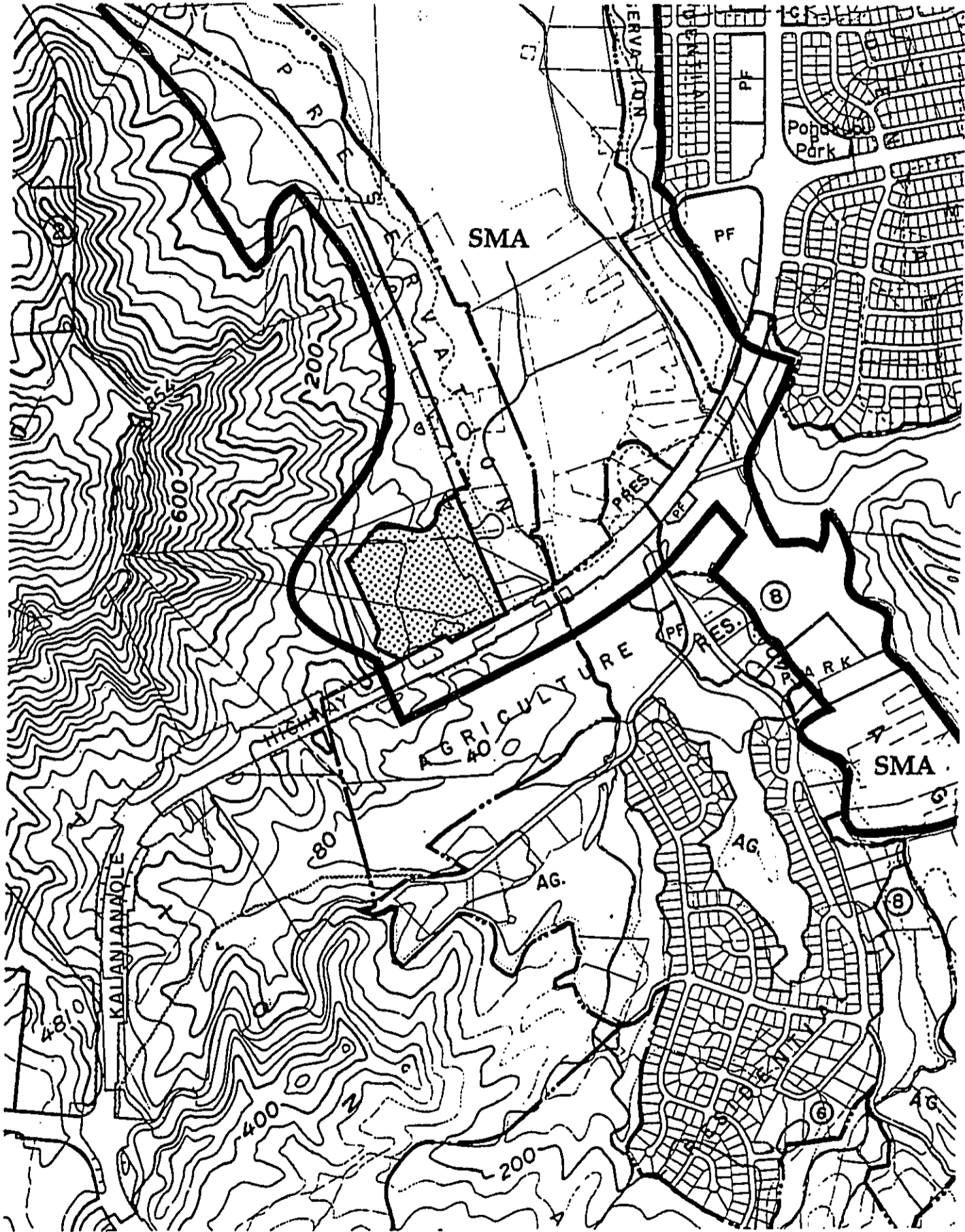


Figure 2-1



Special Management Area (SMA)

Le Jardin Academy

Figure 2-2

LE JARDIN ACADEMY
FINAL ENVIRONMENTAL ASSESSMENT

2.1.3 LOCATION OF THE SMA

The new Le Jardin Academy campus is proposed at the site of the former Kailua Drive-in Theater, located at the intersection of Kalaniana'ole Highway and Kapaa Quarry Road, approximately 13 miles northeast of Honolulu in Kailua, Koolau-poko, Oahu. A location and property boundary map is shown in Figure 1-1 and an SMA map is shown in Figure 2-2. The Special Management Area encompasses Kawai Nui Marsh and includes the areas adjacent to Maunawili Stream and bordering the Kawai Nui Channel leading to Kailua Bay.

2.1.4 LAND USE APPROVALS GRANTED OR REQUIRED

This section includes a description of the government approvals and permits needed to develop the proposed educational facilities for Le Jardin Academy.

Approvals Needed: Phase I: Applications to be Filed in 1996

1) Amendment of Koolau-poko Development Plan Land Use Map

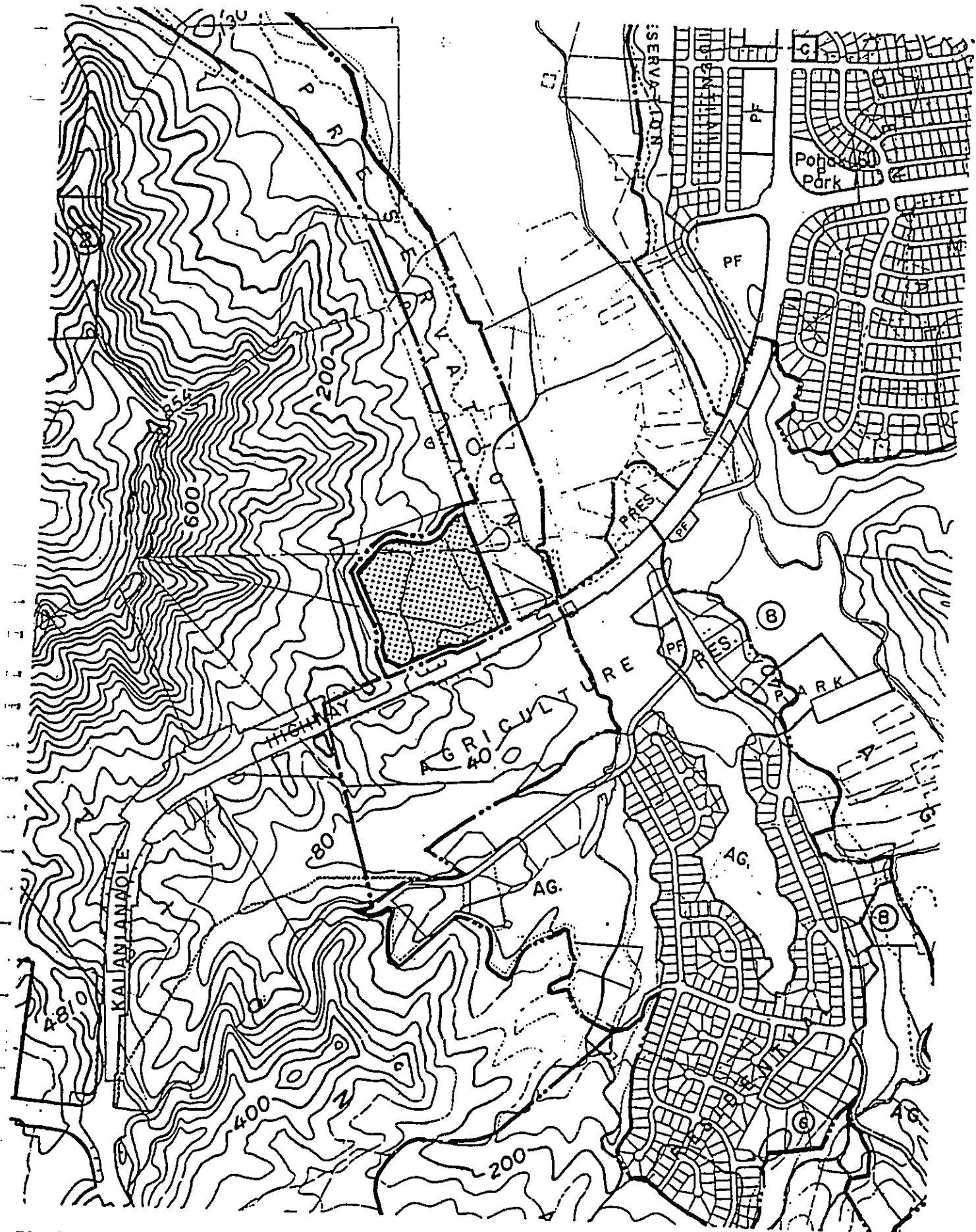
The project site is currently designated as Preservation on the Koolau-poko Development Plan (DP) Land Use Map (Refer to Figure 2-3). This land use classification does not allow for development of the planned educational facilities. Amendment of the Development Plan to an Agriculture designation would be consistent with the adjoining lands across Kalaniana'ole Highway (Refer to Figure 2-4). Processing and approval of the DP Land Use Map Amendment involves the City and County of Honolulu Planning Department, Planning Commission, City Council and Mayor.

The Koolau-poko Development Plan Public Facilities Map, presented in Figure 2-5, includes symbols for a Corporation Yard and a Transit Station, and classified as "Site Undetermined - Beyond Six Years". These map symbols overlap a portion of the project site. The presence of these symbols indicates that the City had plans at one time to locate a Corporation Yard and some type of Transit Station (such as a park and ride facility) in the general vicinity of the symbol. The Department of Public Works and Department of Transportation Services have reviewed the applications submitted for the school at this site, and have made no indication of any currently pending plans for these types of public facilities at this site or another location nearby.

2) Change of Zone

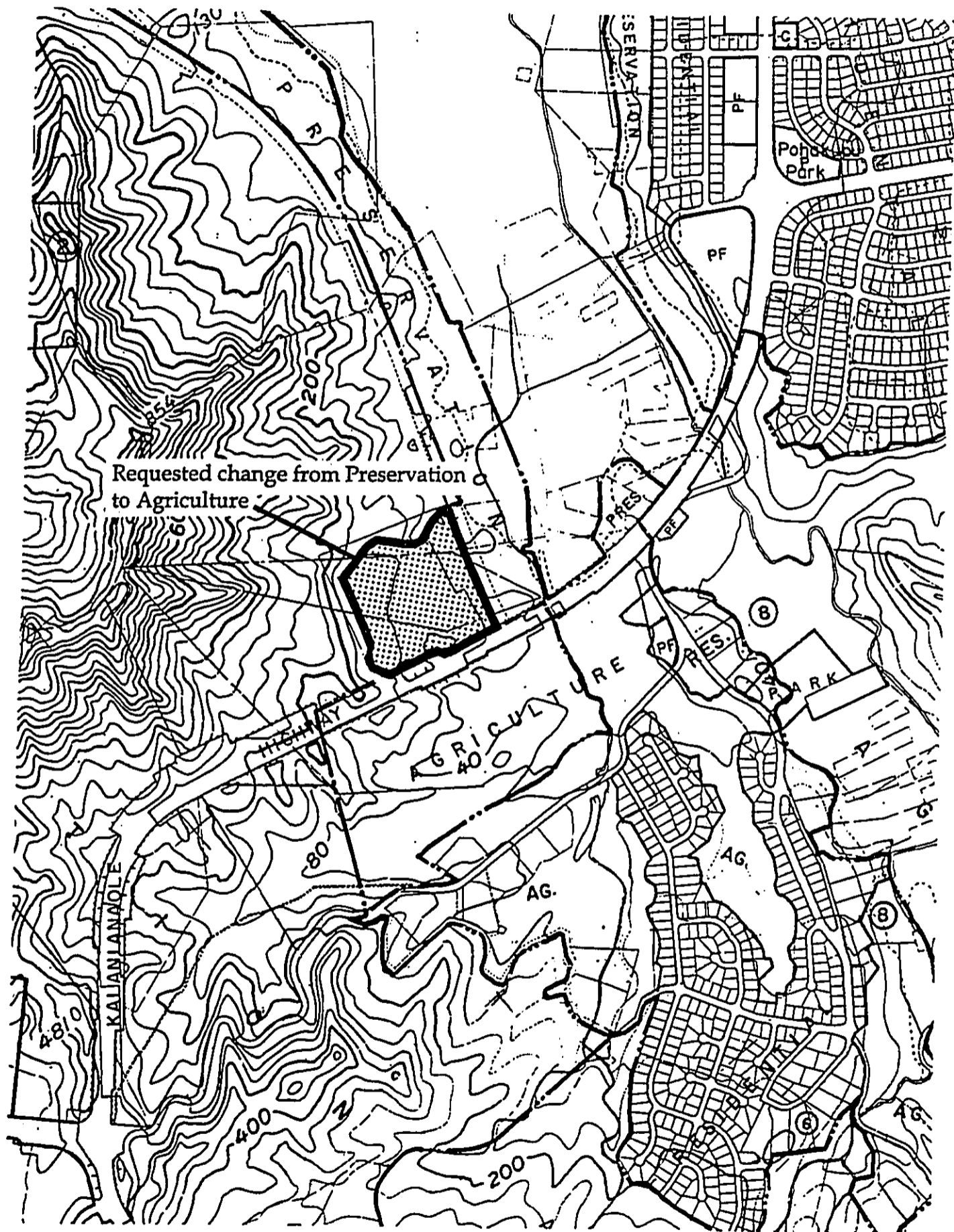
P-2 General Preservation to AG-2 General Agriculture

The current zoning classification of the site is Preservation (P-2), which does not allow for school development. Refer to Figure 2-6. A zoning change of the entire parcel to General Agricultural (AG-2) allows a maximum 10 percent lot coverage for buildings, which is adequate for the school facilities. Processing and approval of the change of zone involves the City and County of Honolulu Department of Land Utilization (DLU), Planning Commission, City Council and Mayor.



Koolaupeko Development Plan Land Use Map
 Le Jardin Academy

Figure 2-3



Koolau Development Plan Land Use Map - Proposed
 Le Jardin Academy

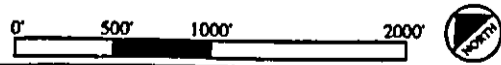
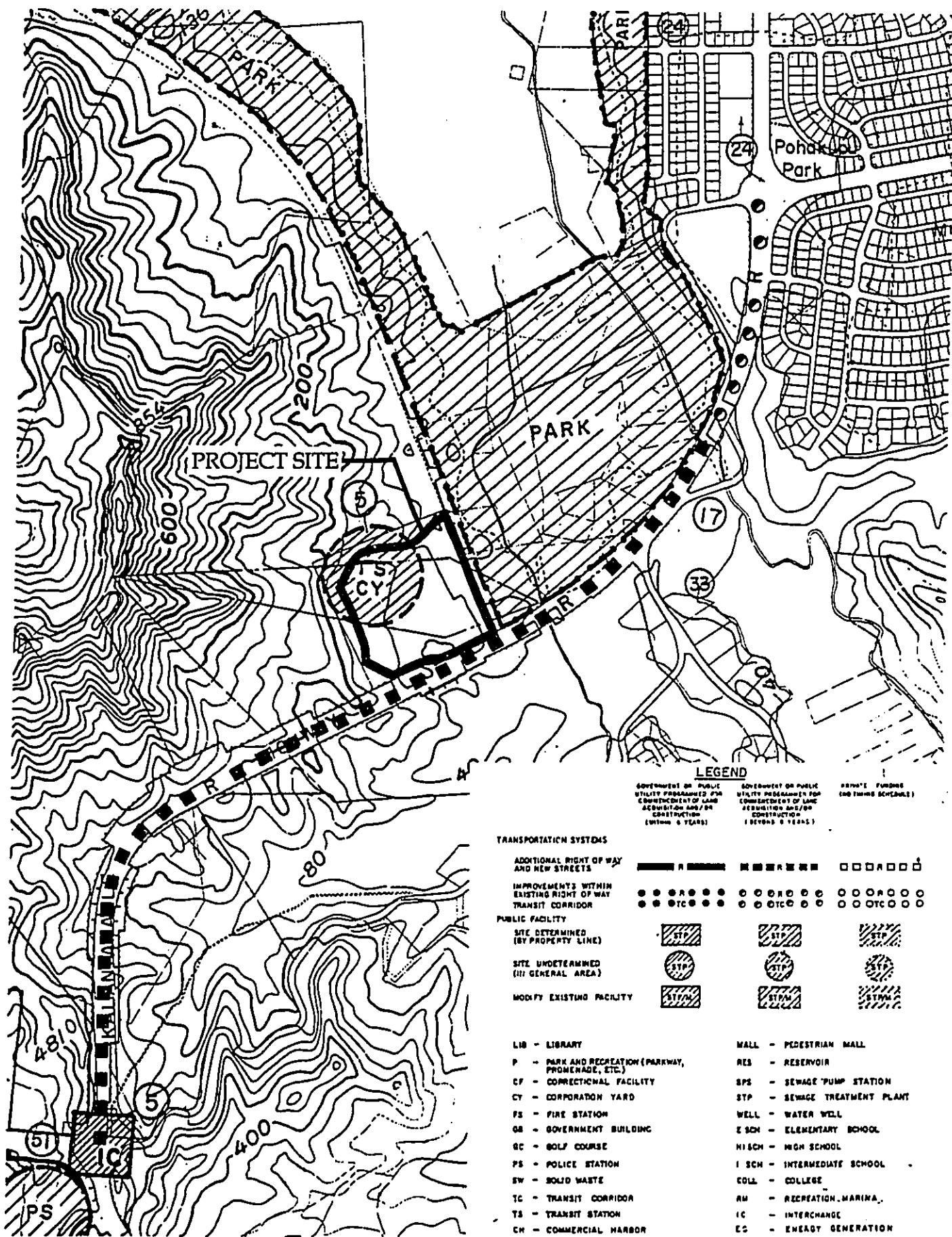


Figure 2-4



Koolau Park Development Plan Public Facilities Map
 Le Jardin Academy

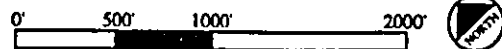
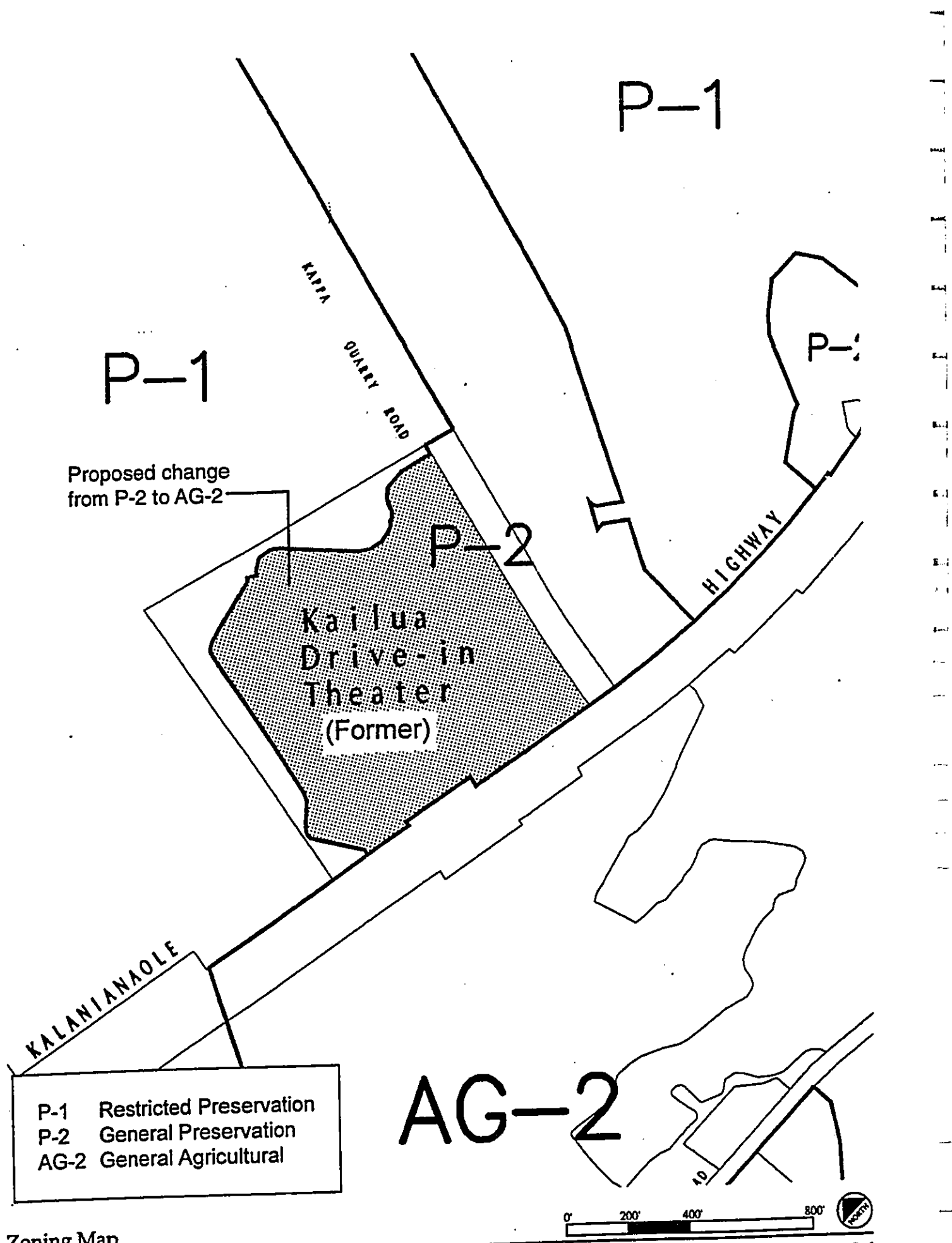


Figure 2-5



Zoning Map
Le Jardin Academy

Figure 2-6

LE JARDIN ACADEMY
FINAL ENVIRONMENTAL ASSESSMENT

3) Special Management Area Use Permit (SMP)

Approval of an SMP is required because the project site lies within the Special Management Area surrounding Kawai Nui Marsh. Processing and approval of the SMP involves the Department of Land Utilization (DLU), Planning Commission, and City Council. Prior to the DLU's acceptance of the SMP application, the acceptance of a Final Environmental Assessment (EA)/Negative Declaration is required.

4) Site Plan Review

Approval of a Site Plan Review (SPR) is required for elementary, intermediate and high schools proposed in the AG-2 General Agricultural zoning district. The Department of Land Utilization (DLU) is responsible for review and approval of the SPR. The SPR will address Phase I improvements.

5) Height Variance

A height variance will be required from DLU for several buildings whose roof line is expected to exceed 25 feet.

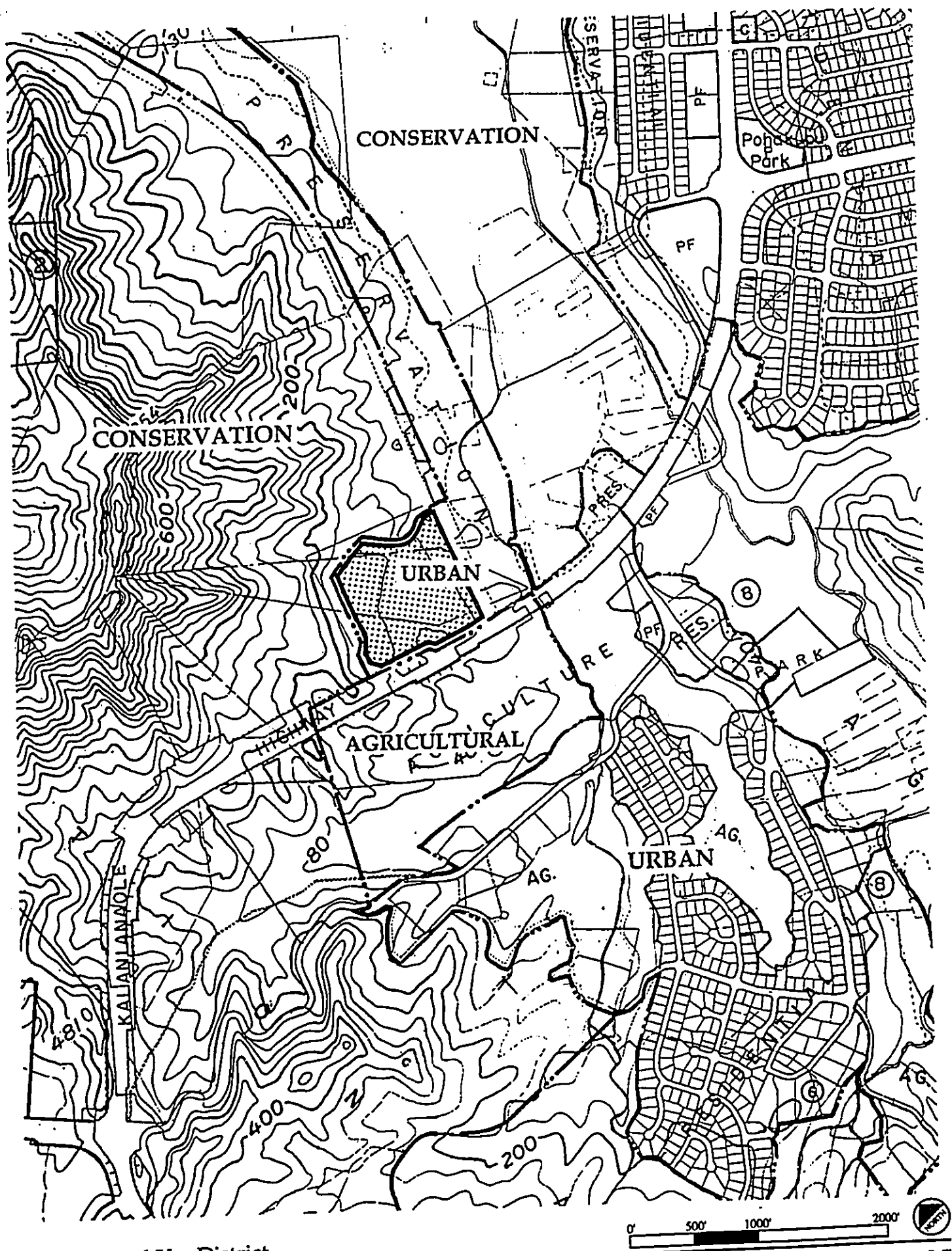
6) Subdivision

The project site of 19.617 acres is not a lot of record, rather it is a portion of a larger parcel of 323.846 acres. A conveyance subdivision will be processed concurrently with the Change of Zone application to create a lot of record. This Environmental Assessment is prepared also as a supplement to the Subdivision request.

Required Permits for Construction

Several other approvals will be required from the City and County of Honolulu and State of Hawaii to implement the proposed action, some of which will include:

- Building Permit for Buildings, Electrical, Plumbing, and Sidewalk/Driveway Work (City & County Building Department)
- Grading, Grubbing and Stockpiling Permit (City & County Dept. of Public Works)
- National Pollutant Discharge Elimination System (NPDES) Permit - Stormwater (State Department of Health, City & County Department of Public Works)
- Water System (Board of Water Supply)
- Sewer Connection (City & County Department of Wastewater Management)
- Sign Permits (City & County Dept. of Land Utilization, City & County Building Dept.)
- Driveway Connection to Kapaa Quarry Road and Kalaniana'ole Highway (City & County Department of Transportation Services, State Department of Transportation)



State Land Use District
Le Jardin Academy

Figure 2-7

LE JARDIN ACADEMY
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2.2 TECHNICAL CHARACTERISTICS

2.2.1 USE CHARACTERISTICS

The proposed school campus will be entirely contained within the SMA. Access roadways, parking, utilities, and drainage facilities required for the complex will also be developed within the SMA.

The old entrance to the drive-in theater off of Kapaa Quarry Road will be improved and used as the main two-way driveway to the campus administrative and academic areas. The former exit drive to Kapaa Quarry Road will provide a secondary access to the campus and will likely be utilized to access the performance hall and athletic facilities for special events. The former exit onto Kalaniana'ole Highway will be retained. As depicted in Figure 2-1 and discussed below, development of Le Jardin Academy will occur in two phases.

Phase I construction will develop five major buildings to include a multi-purpose building, administration/learning center, Early Childhood Learning building, elementary complex, and middle school facility. The multi-purpose building will serve as indoor space for lunch for the student body as a whole and will have limited food service capacity in the form of a catering kitchen. It will also serve as indoor recreation and physical education space, with locker rooms, for the middle school. During Phase I, the multi-purpose building will serve as the performing arts center for the campus and will include three music studios housing band, orchestra, choir, and drama activities.

In addition to serving as the school's lunch hall, the multi-purpose building will provide performing arts space for the campus during the first phase of development. Three music studios housing band, orchestra, choir, and drama activities, and two locker rooms will complete this multi-purpose facility. The administrative building/learning center will house the school's administration offices and library materials in the first phase. Once the high school is developed in the second phase of construction, the administration will fill this building and the learning center will be relocated.

The kindergarten complex will consist of a one-story structure surrounding an open central area. This structure, containing four pre-kindergarten classrooms, three junior-kindergarten classrooms, three kindergarten classrooms, a science room, art room, and staff and divisional space, will be located at the southeast corner of the campus.

The elementary school complex, to be located adjacent to the kindergarten area, will consist of a partial two-story structure surrounding an open courtyard. The first floor will house three classrooms each for first-, second- and third-graders, as well as a science room. The second floor will contain three classrooms each for fourth- and fifth-graders, as well as a room dedicated to art. Divisional space, offices, staff workroom and lounge will also be incorporated into this complex.

The final major structure to be developed in the first phase will be the middle school to be constructed across the makai courtyard from the elementary school. The first floor of this

LE JARDIN ACADEMY
FINAL ENVIRONMENTAL ASSESSMENT

partial two-story structure will contain three classrooms each for sixth- and seventh-graders, as well as an art/life skills room and a science lab. Three eighth-grade classrooms will be housed on the second floor of the building. The Director's office, staff work room, lounge and Division kitchen will also be incorporated in this complex.

Smaller structures to be developed in this first phase of construction will include a caretaker's residence, security booth at the campus entrance, maintenance storage area, and recycle bin. Outdoor facilities will include playing fields, basketball courts, 50-meter swimming pool, ropes course, and space for the eventual development of a track. Classroom, administrative, and support facilities will be organized around a series of courtyards forming a mauka-makai axis, anchored by the school's flag court on the mauka end and a viewing area overlooking Kawai Nui Marsh on the makai end.

The second phase of campus development will complete the site and establish the high school division of Le Jardin Academy. The school's learning resource center will be relocated and administration space will be expanded to support the increased student population. Additional parking and open space areas will be designed into this phase of development. In addition to the high school complex, a gymnasium, performance hall, music classroom spaces, and art complex will be developed to complete the campus.

The high school will be located in a two-story U-shaped structure opening to the flag pole courtyard. Three ninth-grade classrooms and a tenth-grade classroom will be located on the first floor along with two science labs. Two additional tenth-grade classrooms, three eleventh-grade classrooms, and three twelfth-grade classrooms will be located on the second floor of the high school. The U-shaped facility will be anchored by the high school learning center.

A new gymnasium, complete with male and female locker rooms, will be located on the mauka side of the flag pole courtyard, providing convenient access to both the central campus area and athletic facilities such as the pool and playing fields.

Art, music, and performance spaces will be developed along the northern edge of the campus. Three music classrooms will be constructed in one story structure connected to the new performance hall. A series of three integrated art studios and a shop will be linked to the performance hall and campus center by landscaped walkways.

2.2.2 PHYSICAL CHARACTERISTICS

Development of Le Jardin Academy on this site will include approximately 122,700 gross square feet (GSF) of academic and support functional space in one and two story structures. Outdoor recreational facilities, extensive open space, parking and driveways will also be developed.

The first phase of construction will build approximately 58,000 net square feet (NSF) of space for academic and support functions. With an additional 14,500 SF (25 percent) for circulation and support, the total building gross square footage (GSF) will equal approximately 72,500 SF. The second phase of development will add high school academic facilities to the campus and

LE JARDIN ACADEMY
FINAL ENVIRONMENTAL ASSESSMENT

will supplement Phase I administrative and support facilities. Total construction for this phase will be approximately 50,000 gross square feet, to include 40,000 net square feet (NSF) and 10,000 SF (25 percent) for circulation and support space.

2.2.3 CONSTRUCTION CHARACTERISTICS, INCLUDING DEMOLITION

The former drive-in theater, located entirely within the SMA, is currently vacant except for the deteriorated remains of the paved parking area and miscellaneous trash that has been dumped at the site. The former movie screen, concession stand/restrooms, playground, and sign have all been demolished.

As much as practical, the school intends to limit the site mass grading portion of the construction activities to periods of minimal rainfall. The current schedule for development indicates a Spring 1997 start-up with the majority of site disturbance completed by mid-1997.

Development of the campus will involve vegetation clearing, grading, excavation (cut and fill), general construction, and planting and landscaping. A brief description of each element is provided below.

Vegetation Clearing, Grading and Grubbing

The proposed Le Jardin Academy campus will utilize approximately 20 acres of the former Kailua Drive-in Theater site. Most of the primarily flat site is covered by the aging remnants of the theater's parking lot and driveways, which have become overgrown with vegetation in the years since the drive-in closed. The majority of these level lands will be partially or completely cleared, grubbed, and graded to develop new facilities and landscaped open areas.

Excavations (Cut and Fill)

Extensive grading was previously completed at this site to develop the drive-in complex. The site is generally level, however, the topography will be modified in some sections to accommodate the new facilities construction. Earthwork on-site will generally consist of fine adjustments to site grades to allow for construction of buildings, roadways and pathways, drainage swales, athletic fields and open spaces. Fill will be placed and earth layers will be cut, as required, to allow construction to progress. Grading operations will balance the existing material on-site, and there is no significant requirement for import or export of material anticipated at this point. Pending more detailed site planning and engineering design information available in the coming months, a rough preliminary estimate of the grading quantity is approximately 10,000 to 15,000 cubic yards of total cut and fill.

General Construction

The general construction of campus facilities will include the formation and placement of concrete foundations, the installation of mechanical equipment, the installation of electrical wiring and equipment, general carpentry work, painting, and the many other trades and work associated with construction projects.

Planting and Landscaping

Landscaping will be incorporated into the new campus. The existing well-developed line of Eucalyptus trees along Kalaniana'ole Highway and the vegetation along the slope fronting the

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Kapaa Quarry Road will be maintained and enhanced. Formal and well as informal landscaping will be featured throughout the campus. A series of courtyards along the mauka-makai axis of the campus, and courtyards within building complexes will be designed as activity areas for the school. New landscaping will provide visual buffering between the school and surrounding areas.

2.2.4 UTILITY REQUIREMENTS

Water Supply Facilities

A. **Existing Conditions:** There is a 36-inch water main running within Kapaa Quarry Road to the intersection with Kalaniana'ole Highway (Refer to Figure 2-8). There is also a four-inch line running along Kalaniana'ole Highway from Maunawili Road to the project site. It appears that this line was used exclusively by the Kailua Drive-In Theater (G. Cabana, BWS, 7/3/95).

B. **Potential Impacts and Mitigative Measures:** The project will tap directly into the existing BWS 36-inch main for their potable water demand. The existing school demand is already being served by the BWS system at the existing school site on Kailua Road. Relocation of the school to the new site is expected to create some additional demand on the BWS system.

A private school of up to 650 students, faculty and employees and up to 15 acres of irrigated landscaping will likely require between 30,000 to 40,000 gallons per day of potable water supply from the BWS system. Actual consumption requirements will be determined with facility program specifics being developed in the coming months. There is adequate capacity in the existing BWS system to serve fire pressure and service requirements of the project. Specific storage and distribution requirements of the new facilities will be addressed with the BWS as part of the planning and design process.

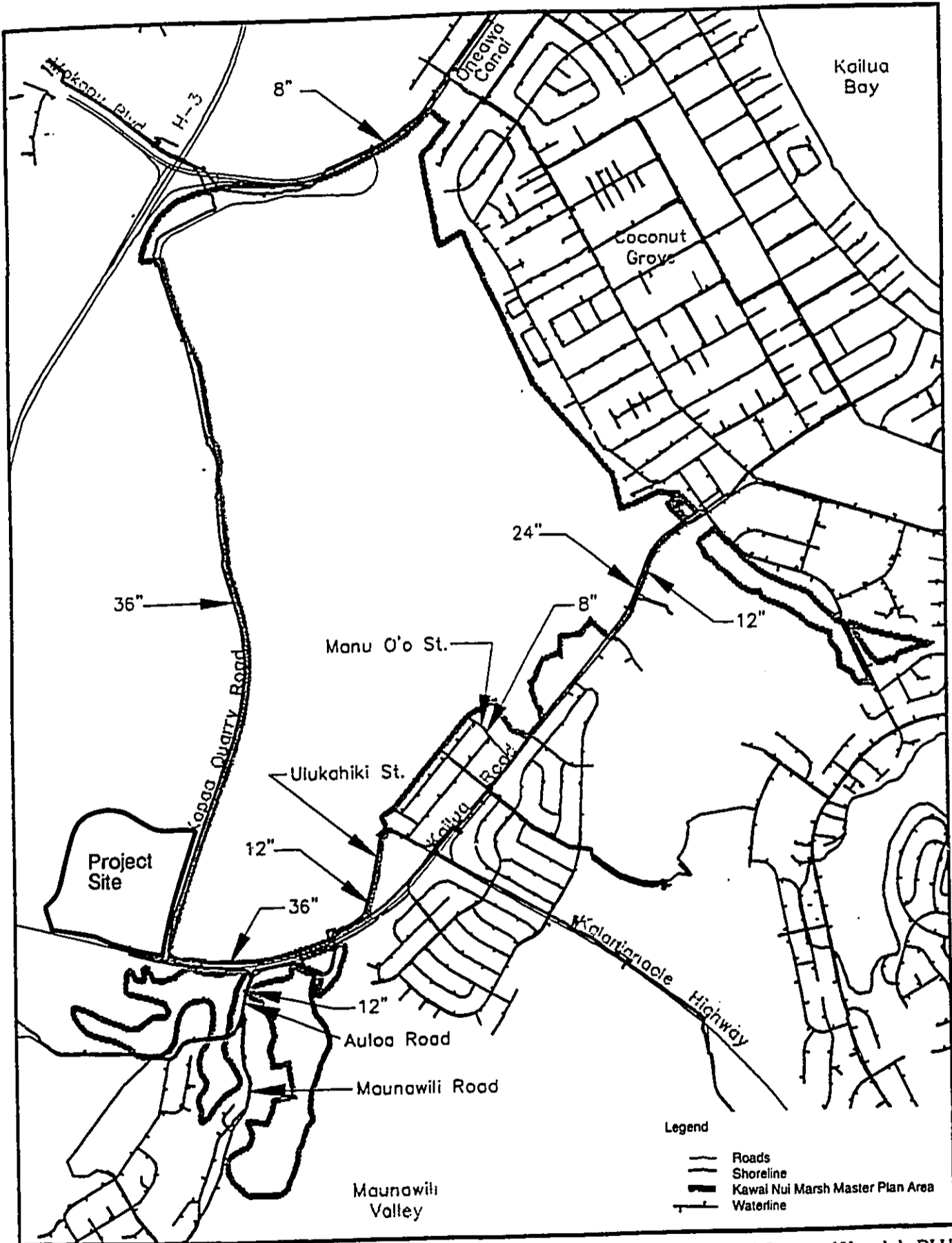
Potential nuisances such as dust, noise and traffic disturbances will be minimized during construction of the water system connection.

Le Jardin Academy will install the necessary improvements to provide a fire hydrant within 125 linear feet of the site and with a flow of 2,000 gallons a minute. Construction drawings will be submitted for the review and approval of the Board of Water Supply. On-site fire hydrants will be sited in accordance with Building Department and Honolulu Fire Department requirements.

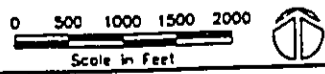
Liquid Waste Disposal

A. **Existing Conditions:** There are currently no municipal wastewater lines servicing the site. The former drive-in theater use at this site utilized a cesspool for wastewater disposal. There is a 12-inch sewer main within Maunawili Road which runs north to the intersection with Kalaniana'ole Highway and then east along the highway. This main ultimately connects to a 54-inch main which flows to the Kailua Wastewater Treatment Plant (Yuen, DWWM, 7/3/95).

B. **Potential Impacts and Mitigative Measures:** Although the existing school facilities are currently served by the City's sewer system, relocation of this demand to the new site will



Source: City and County of Honolulu DLU taken from DLNR (July 1994)



Water System
Le Jardin Academy

Figure 2-8

LE JARDIN ACADEMY
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create some additional service demand. The proposed school facilities are anticipated to produce approximately 20,000 to 25,000 gallons of wastewater per day at full development. A more definitive estimate of wastewater quantities will be determined as the facility design plans are advanced in the next few months. Wastewater from the school will be conveyed to the City's Kailua Treatment Plant via a new 8-inch collection line to be extended approximately 1,000 feet from the site to the Maunawili pump station (Refer to Figure 2-9).

With the new collection line, the City collection system and Kailua Treatment Plant are anticipated to be adequate to accommodate the school's wastewater generation. Specific collection system and capacity requirements for the new facilities will be addressed with the DWWM. Mitigative measures are proposed for the collection system extension. Potential nuisances such as dust, noise and traffic disturbances will be minimized during construction.

Electrical Supply

A. **Existing Conditions:** Hawaiian Electric Company's (HECO) overhead electrical 46 kV sub-transmission line enter the site from the south across Kalaniana'ole Highway, follows the west and north boundaries of the site and exits across the Kapaa Quarry Road towards Kawai Nui Marsh. HECO's existing distribution circuit follows the same alignment as the 46 kV sub-transmission which is a three-phase 12.47 kV grounded system. These transmission lines are fed from the Koolau Substation. Service to the Kailua Drive-In Theater site is disconnected. (S. Elliot, HECO, 2/7/96)

B. **Potential Impacts:** The project will require the installation of on-site electrical and communications utilities. Anticipated demand is 700 to 1200 kw depending on the extent of air conditioning in facilities. The existing HECO distribution system has adequate capacity to serve the anticipated demand from the project.

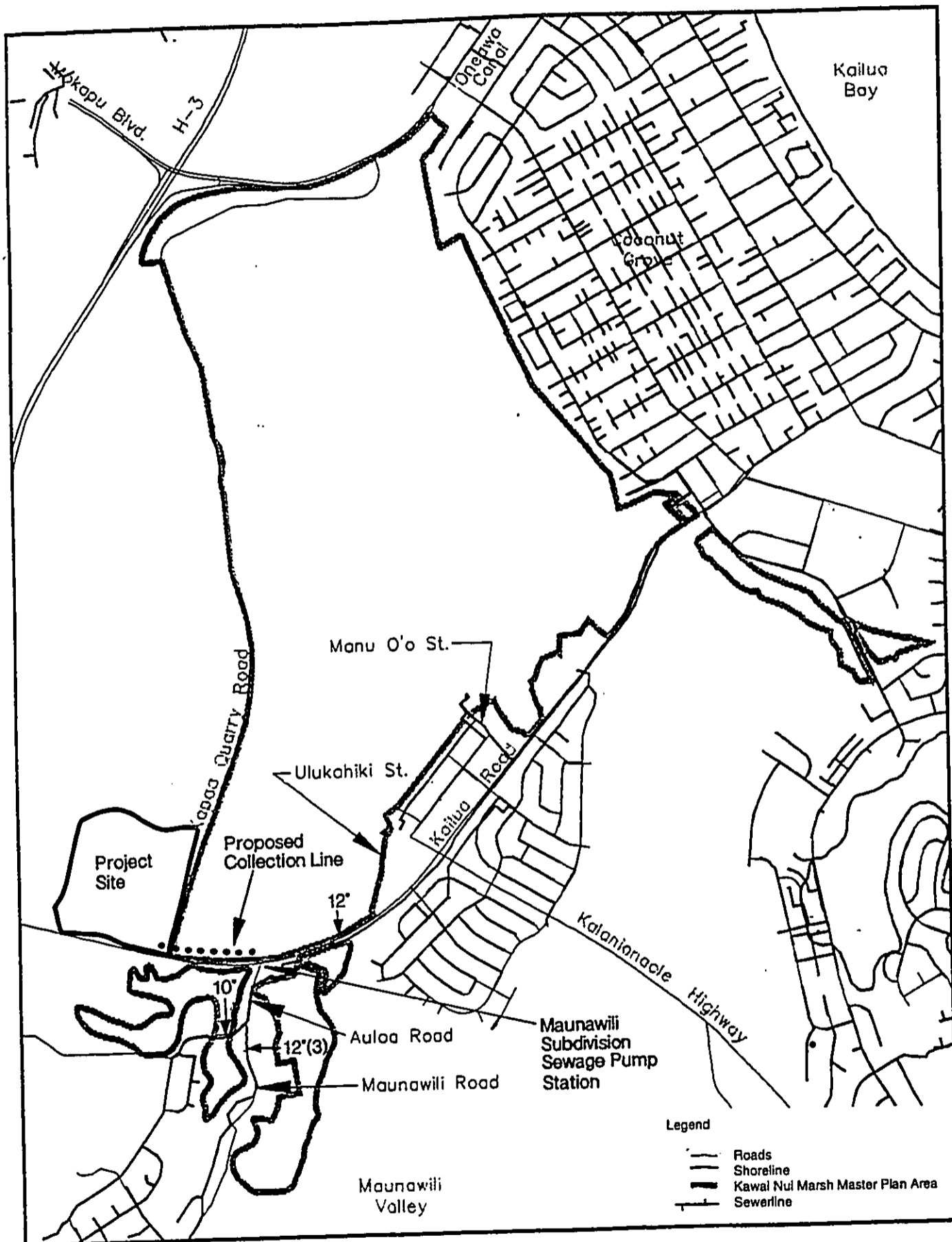
C. **Mitigative Measures:** Le Jardin Academy will coordinate its electrical supply needs with HECO to avoid service disruption to local customers. According to current plans, underground utilities will be installed at the new school site.

Solid Waste Disposal

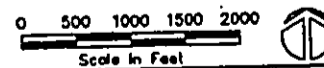
A. **Existing Conditions:** There is currently no solid waste generated on the project site. Waste from the operating Kailua Drive-in was collected by a private collection company. Le Jardin Academy has been recognized as one of the leading schools in Hawaii for recycling materials used at their institution.

B. **Potential Impacts:** The school will have refuse removed by a private hauling service. The amount of solid waste generated by the school will be comparable to the existing solid waste generated at the current location. The existing solid waste load generated by this institution is being accommodated by existing solid waste management facilities.

C. **Mitigative Measures:** As discussed above, a recycling program will be instituted at the school in the first phase of development. Active collection of recyclable materials will continue.



Source (base map): City and County of Honolulu DLU, DWWM taken from DLNR (July 1994)



Sewer System
Le Jardin Academy

Figure 2-9

LE JARDIN ACADEMY
FINAL ENVIRONMENTAL ASSESSMENT

2.2.5 ACCESS TO SITE, ROADWAYS, AND TRAFFIC

The County guidelines for completion of the EA and SMA Permit application do not require consideration of traffic impacts because it is not relevant to Chapter 25 ROH objectives and policies. Under Chapter 343 HRS, traffic is relevant, however, the Draft EA was not prepared pursuant to this statute. The Change of Zone application for Le Jardin Academy does include a complete traffic impact assessment. In the spirit of full disclosure, we include a discussion of traffic issues in this Final EA and the traffic impact assessment report is also included as an appendix.

A Traffic Impact Assessment Report for the proposed Le Jardin Academy was prepared by Pacific Planning & Engineering Inc. (February 1996) (Appendix A). The study analyzed existing conditions and projected the impact of project-generated traffic at the intersections of Kalaniana'ole Highway with Kapaa Quarry Road and the project driveway with Kapaa Quarry Road. The study estimated that, without the project development, traffic will be at the same level of volumes as currently exist due to the lack of future major development growth, the effect of H-3 in re-distributing traffic flows, and the fact that critical flows are at capacity during the peak hour. The results of this report are discussed further below.

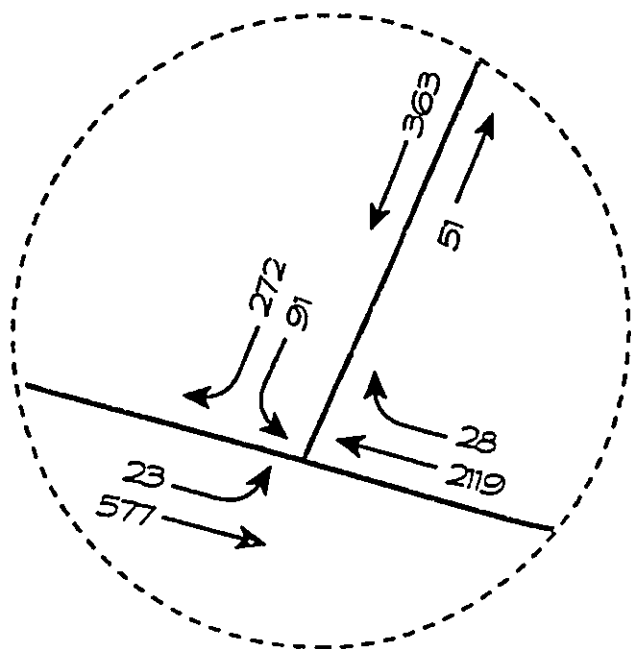
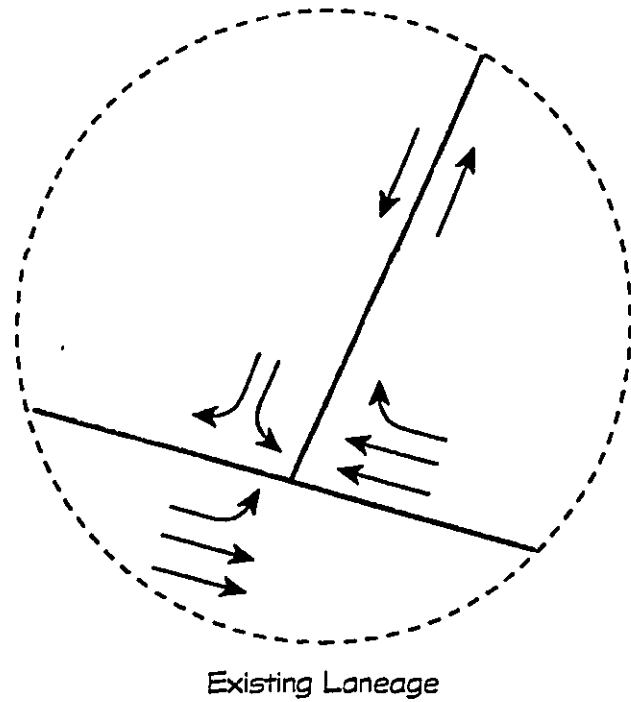
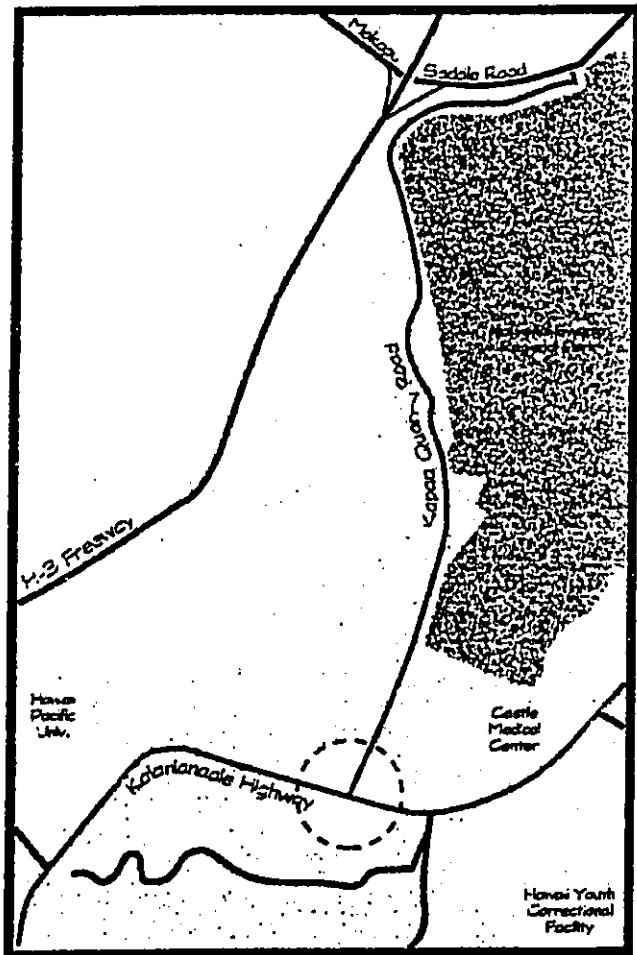
A. Existing Conditions: The site is bordered on the east and south sides by roadways. Two driveways link the former drive-in parking area to Kapaa Quarry Road and another driveway is an exit to the Honolulu-bound lanes of Kalaniana'ole Highway.

Kalaniana'ole Highway is a State-maintained highway with four lanes separated by a median guiderail, and paved shoulders. Exclusive left turn lanes are provided for vehicles turning off Kalaniana'ole Highway at intersections. The posted speed of Kalaniana'ole Highway is 35 miles per hour along the section of the highway extending from the Pali Highway, past the project site, to the intersection of Kalaniana'ole Highway and Kamehameha Highway. This highway, therefore, is part of the system providing major access to Kailua and Waimanalo.

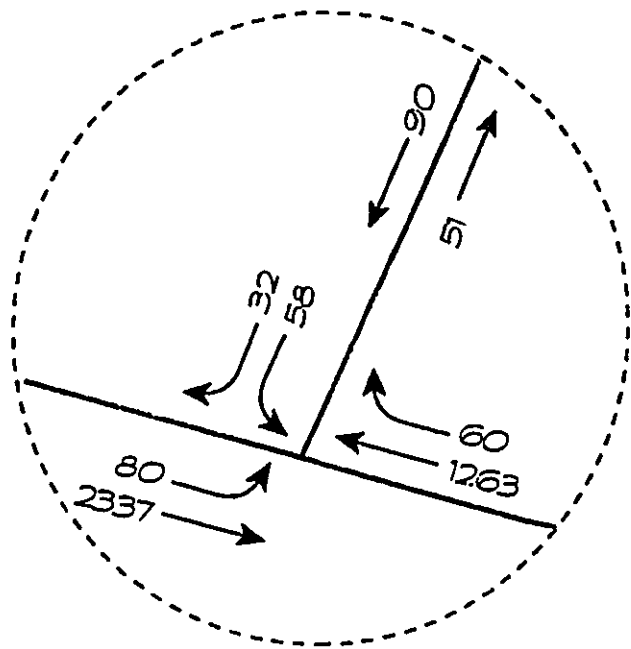
Kapaa Quarry Road is a two-lane, two-way, County-maintained, paved road. The roadway has 12 foot lanes with 4 to 6 foot grassed shoulders. The road serves traffic between Kalaniana'ole Highway and Mokapu Boulevard along with truck traffic from the Kapaa Quarry. The intersection of Kapaa Quarry Road and Mokapu Boulevard lies just east of the H-3 interchange.

The T-intersection of Kalaniana'ole Highway with Kapaa Quarry Road is signalized with three phases. No pedestrian crosswalks exist. Phases are provided for the southbound traffic turning right and left onto Kalaniana'ole Highway from Kapaa Quarry Road, east and westbound traffic on Kalaniana'ole Highway, and left-turning vehicles turning onto Kapaa Quarry Road.

The following observations were noted at the intersection of Kalaniana'ole Highway and the Kapaa Quarry Road during the field survey on Thursday, January 11, 1996 (Existing conditions are presented in Figure 2-10):



Morning Peak Hour Traffic Volumes



Afternoon Peak Hour Traffic Volumes

Source: Pacific Planning & Engineering, Inc. (1996)

Existing Laneage & Weekday Morning/ Afternoon Peak Hour Traffic Volumes

Le Jardin Academy

Figure 2-10

LE JARDIN ACADEMY
FINAL ENVIRONMENTAL ASSESSMENT

- Traffic heading to Honolulu backs up along Kalaniana'ole Highway from the downstream intersection with Kamehameha Highway during the morning peak period.
- Vehicles turning right out of Kapaa Quarry Road (Honolulu-bound) encounter little delay, except during periods of heavy queues on Kalaniana'ole Highway.
- Vehicles turning left out of Kapaa Quarry Road onto Kalaniana'ole Highway are able to clear during the green phase.
- Town-bound traffic on Kalaniana'ole Highway lessens significantly after 7:30 a.m.
- The intersection traffic operates without noticeable delay during the afternoon peak hour.

At the present time, there are no known committed improvements to Kalaniana'ole Highway or Kapaa Quarry Road in the vicinity of the project site. A traffic signal installation at Mokapu Boulevard and Kapaa Quarry Road is planned to begin in early 1996. The H-3 Freeway, expected to be completed in 1997, will improve the highway system between the Windward and Leeward sides of the island.

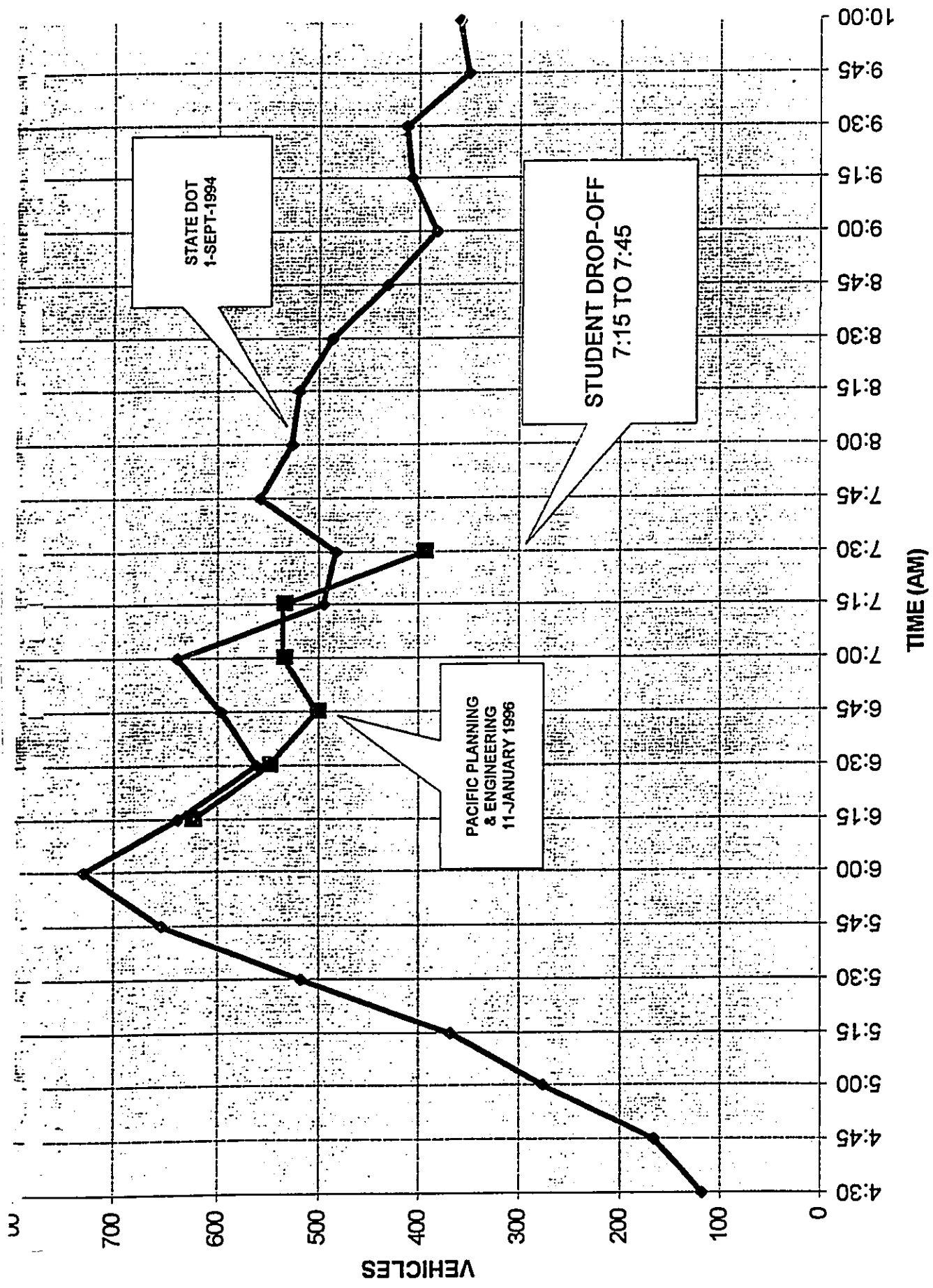
B. Potential Impacts: The proposed Le Jardin Academy project would add traffic to the intersection of Kalaniana'ole Highway and Kapaa Quarry Road toward the end of the morning commuter traffic peak period, as shown in Figure 2-11. Trip generation data for both phases of development are presented in the table below. A slight reduction in level of service may result in the westbound right turn onto the highway. Modification of signal timing would yield acceptable traffic flow defined by level-of-service. During the afternoon peak hour (high commuter traffic volume), the project would have negligible impact.

For Phase I of the project, there could be an increase of almost 200 vehicles turning right from Kapaa Quarry Road onto Kalaniana'ole Highway. However, the majority of students arrive after 7:30 a.m. when Honolulu-bound traffic volumes on Kalaniana'ole Highway are significantly lower than earlier time periods (refer to Figure 2-11).

Trip Generation for Le Jardin Academy

Land Use	Parameters	Morning Peak Hour		Afternoon Peak Hour	
		Enter	Exit	Enter	Exit
Phase I	425 Students 70 Employees	255 70	255 0	28 0	28 35
Phase II	375 Students 20 Employees	+306 +20	+206 0	+103 0	+153 +10

Source: Pacific Planning and Engineering, February 1996



A.M. Peak Period Traffic at Kalianaole Highway/Kapaa Quarry Road Intersection
Le Jardin Academy

Figure 2-11

LE JARDIN ACADEMY
FINAL ENVIRONMENTAL ASSESSMENT

The project is not expected to add more traffic to Kalaniana'ole Highway because most of these school-related vehicles would already be on the road given the school's existing location and facilities. Modifications to the intersection's timing could provide more time to Kapaa Quarry Road movements without affecting the operation of other movements. For Phase II of the project, the amount of right-turning vehicles from Kapaa Quarry Road would increase.

The closest existing bus stop is located along Honolulu-bound Kalaniana'ole Highway between Auloa Road and Kapaa Quarry Road. There is another bus stop along the Kailua-bound lanes at Auloa Road. However, students will not be allowed to walk or ride their bicycle to school. This will be a continuation of the existing policy at the current school site. Students will be required to arrive and depart from the school by private vehicle transportation. There should be no students walking along Kalaniana'ole Highway or Kapaa Quarry Road. There will also be a school policy that will prohibit parents from dropping off and picking up students at the highway or roadside edge of the school. The entrance design will include a safe drop-off and pick-up area for parents that do not wish to drive into the main portion of the school grounds.

The school will be addressing traffic and transportation issues with the State DOT and City Department of Transportation Services to explore other options, such as creating a new bus stop to provide direct service to the school. The project entrance could be designed to allow for The Bus to enter the school entrance, drop off or pick-up students, faculty or employees, and turn around heading back toward the highway. There is also the possibility that a private bus or van shuttle will be established in the future. If either of these transportation options can be arranged, the number of students requiring private vehicle transportation to the school could be reduced substantially. The possible need for sidewalks and safety railings will be reviewed with the transportation agencies.

C. Mitigative Measures: The following mitigative measures are proposed to offset the potential effects of the school on local traffic conditions:

(1) Arrival and Departure Timing. The start of the school day at 7:45 a.m. is an advantage for traffic flow since it coincides with the end of the peak traffic period in the morning. The afternoon peak traffic period comes after the school lets out around 2:45 p.m., which takes advantage of the highway capacity when it exists prior to the afternoon commuter traffic period. Maintaining the existing school hours as they presently exist will help ease the traffic effects of the school operations.

(2) Signal Timing Adjustment. Modifications to the signal timing could provide more time to Kapaa Quarry Road movements. The school will coordinate with the State DOT to study this requirement and implement the appropriate timing modifications.

(3) Carpool System. The school will continue to encourage carpools that could reduce the number of trips generated by the school operations.

(4) Public Transportation or Private Shuttle. Transportation options including The Bus or a private bus or van shuttle service will be explored further, particularly as the school grows in the future with the new high school facilities.

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(5) School Zone Speed Limits. School zone speed limits will be established for the section of Kapaa Quarry Road approaching the school entrance. Reduced speed limits and awareness of safety concerns with the trucking operations along Kapaa Quarry Road will allow for safe operation of school related vehicles and pedestrians.

(6) Coordination with Kapaa Quarry Road Trucking Operations. The school will continue to discuss the traffic considerations of the school and truck traffic associated with the quarry, dump and industrial park operations.

(7) Coordination with State DLNR for Visitor Center. The school will maintain contact with the DLNR Division of State Parks with regard to its planning and development of the Kawai Nui Marsh Visitor Center at the lands makai of the school across Kapaa Quarry Road, particularly traffic concerns.

2.3 ECONOMIC AND SOCIAL CHARACTERISTICS

2.3.1 ESTIMATED COST AND PHASING OF CONSTRUCTION

Development Schedule: With concurrent processing of City land use requests, development approvals could potentially be in place to allow for site work to begin in January 1997. Phase I of construction, including pre-kindergarten through middle school academic and support activities, is expected to be complete by August 1998, in time for the 1998-1999 school year. Phase II development, which will construct a high school and gymnasium as well as expanded administrative, arts and library spaces, is planned to be completed by 2005.

Development Cost: Costs for full development of the proposed educational facilities is estimated to be approximately \$20 million (1995 dollars).

2.4 ENVIRONMENTAL CHARACTERISTICS

2.4.1 SOILS

A. Existing Conditions: There are three documents which classify soil type and designate agricultural viability. Soil types or classifications for the project area are based on soil surveys by the USDA Soil Conservation Service (SCS). The University of Hawaii Land Study Bureau (LSB) classifications, and the Agricultural Lands of Importance to the State of Hawaii (ALISH) designations are used to show the agricultural viability of the land based on soil ratings.

Based on the USDA Soil Conservation Service (1972) map for the area, the soil type found at the site and at most of the surrounding lands is the Alaeloa (ALF) series (refer to Figure 2-12). This soil consists of well-drained silty clay, typically with a medium to high slope. (The existing site was previous graded from a sloped hillside to create the level area for the drive-in theater. Near the site along Kapaa Quarry Road are Lolekaa silty clay (LoC) soils. The Kawai Nui Marsh area closest to the site consists of Hanalei silty clay (HnA).



Source: USDA, SCS (1972)

- ALF Alaeloa silty clay, 40 to 70 percent slopes
- AeE Alaeloa silty clay, 15 to 35 percent slopes
- LoC Lolekaa silty clay, 8 to 15 percent slopes
- HnA Hanalei silty clay, 0 to 2 percent slopes
- rRK Rock land
- KIC Kawaihapai clay loam, 6 to 15 percent slopes

Soils
Le Jardin Academy

Figure 2-12

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The project site lacks vegetation cover in many of its steep slope areas, and soil erosion is evident. The ground cover vegetation has not been maintained since the drive-in theater closed around 1991-1992. Soil loss from these eroded hillsides on the site occurs during typical precipitation events. The steep banks of the adjoining hillside to the west and north of the property have substantial areas of erosion. In addition, small areas of earth have been eroded onto the road shoulder along Kapaa Quarry Road. Portions of these slopes lack vegetation and are eroding.

The Land Study Bureau of the University of Hawaii (1972) classifies the project site as "U" for urban use and does not assign an overall productivity rating for agricultural use. Lands immediately surrounding the site on all sides have an overall productivity rating of "E", indicating the lowest level of agricultural productivity. The Kawai Nui Marsh area is rated "C" which places it in the middle of the five-level productivity classification system.

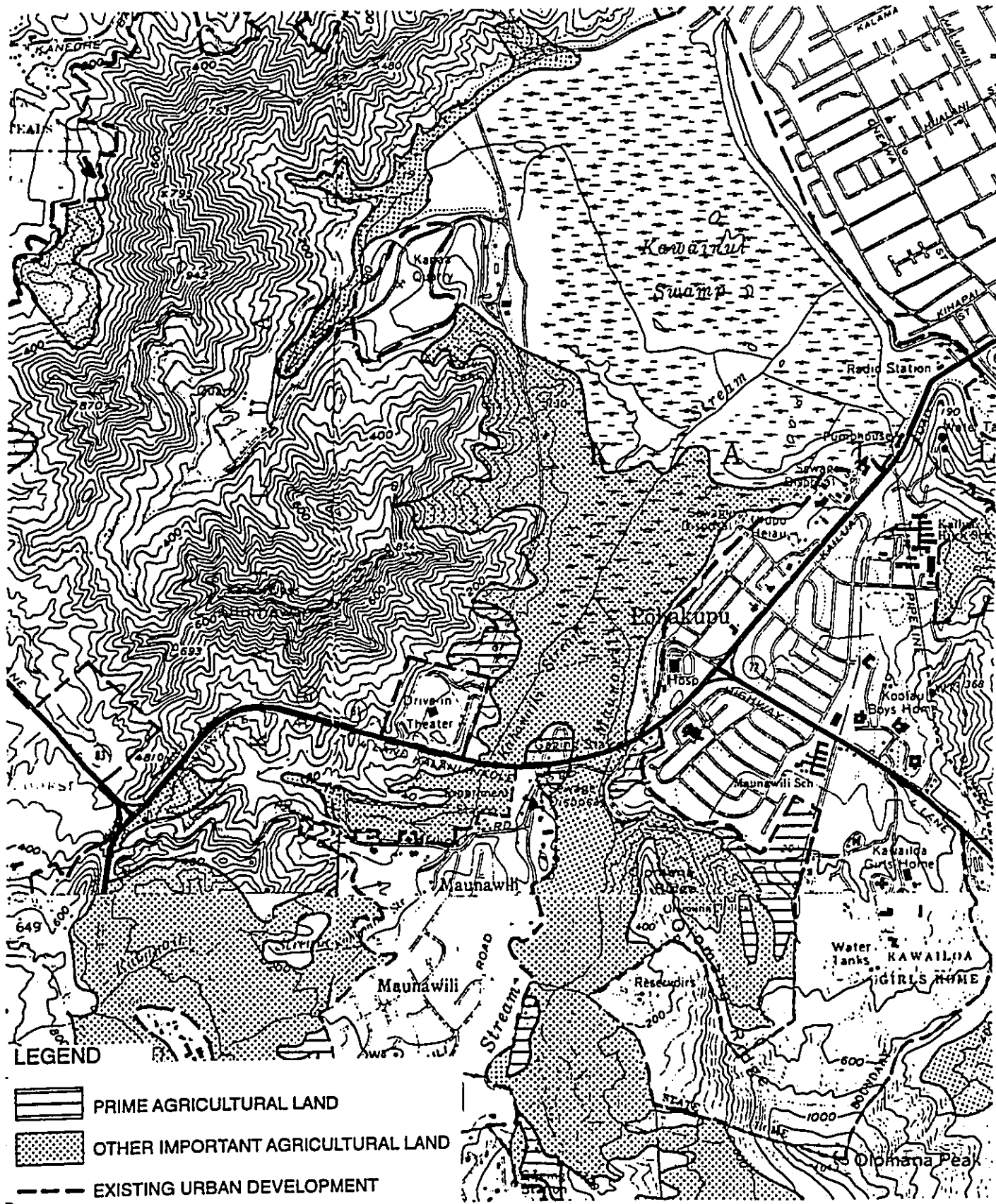
ALISH (1977) maps delineate the former drive-in site as 'existing urban development' (Refer to Figure 2-13). A small irregular shaped area located to the north of the site is classified as 'Prime Agricultural Land', defined as "land which has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops economically when treated and managed according to modern farming methods". The Kawai Nui Marsh area is rated as 'Other Important Agricultural Land' meaning "land other than Prime or Unique Agricultural Land that is also of statewide or local importance for agricultural use".

Given previous development at the project site, it is not considered to be significant agricultural land by any of the above sources.

B. Potential Impacts: Construction at the project site will be limited primarily to the level and gently sloped areas that already exist. Grading will be required to prepare the site for construction. The stability of soils in the areas of the site planned for major structures will be studied through subsurface borings in the construction design program. The project will not cause land slides onto the adjoining roadways, and the eroding steep areas will ultimately be stabilized with landscaped ground cover.

Preparation of the land for construction will involve clearing and limited grading operations. Clearing and grubbing activities during construction will temporarily disturb the soil retention values of the existing vegetation and expose the soils to erosion forces. Despite construction site watering programs, wind erosion will cause some limited soil loss. Precipitation events during construction will cause the erosion of soils over disturbed areas, and silt runoff will be captured in an on-site drainage system of swales, depressions and detention ponds. The preliminary approach to the stormwater management and erosion control plan is described in the technical study by Sam O. Hirota, Inc. (May 1996) included in Appendix B of the Final EA.

Once construction is complete, ground cover plantings and other landscaping will be in place, effectively ending the soil loss. As compared to the existing drive-in theater site, with its exposed soils in sloped areas of the site, the proposed project is anticipated to reduce the amount of soil erosion and silt runoff from the site.



Source: State of Hawaii, Department of Agriculture (1977)

Agricultural Lands of Importance to the State of Hawaii (ALISH)

Le Jardin Academy

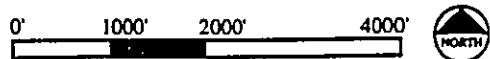


Figure 2-13

LE JARDIN ACADEMY
FINAL ENVIRONMENTAL ASSESSMENT

C. **Mitigative Measures:** Mitigative measures will be implemented to reduce short-term soil erosion during construction. The impact of construction activities and long-term operations on soils will be mitigated by several measures, as listed below:

(1) **Development Planning:** Steep slopes will be avoided for new construction activities to the greatest extent possible to minimize soil disturbance in areas with high erosion potential.

(2) **Construction Erosion Control:** Construction activities will follow strict erosion control measures specified in the reports and regulations of the City and County of Honolulu, State Department of Health, U.S. Department of Agriculture - Natural Resources Conservation Service, and U.S. Environmental Protection Agency. Typical erosion control measures include Best Management Practices that will be applied at this project include the use of cut-off ditches and detention ponds to slow runoff, application of hydromulch to establish temporary ground cover vegetation, and application of various soil stabilization and protection materials. Section 2.4.3 and Appendix B provide a preliminary plan showing stormwater runoff and erosion controls.

Measures that are typically implemented to lessen construction impacts of soil erosion and silt runoff in stormwater include:

- a. Minimize time of construction.
- b. Retain existing ground cover until the latest date before construction.
- c. Early construction of drainage control features.
- d. Use of temporary area sprinklers in non-active construction areas when ground cover is removed.
- e. Station water truck on-site during construction period to provide for immediate sprinkling, as needed, in active construction zones (weekends and holidays included).
- f. Continue watering of graded areas after construction activity has ceased for the day and on weekends.
- g. Sod or plant all cut and fill slopes immediately after grading work has been completed.
- h. Use temporary berms, cut-off ditches and other diversion channels, where needed, to interrupt runoff and divert it to the nearest sediment basin.
- i. Construct temporary sediment basins to trap silt.
- j. Construct temporary silt fences and straw bale barriers to trap silt.

The planned measures for the school construction area are recommended by the U. S. Department of Agriculture, Natural Resources Conservation Service, with representative detail examples depicted in Appendix B, including straw bale dike, swale sediment trap, silt fence, grass outlet sediment trap and pipe outlet sediment trap.

(3) **Sloped Area Soil Erosion Protection:** During the site preparation phase of construction, involving grading and other earthwork, numerous measures will be taken to protect soils from erosion, especially in sloped areas. Graded areas will be stabilized immediately using hydromulch consisting of grass seed varieties, mulch and fertilizer. In addition, soil surface stabilizing products (gypsum base) can also be applied on slopes to essentially forms a biodegradable shell that integrates the upper soil layer. Sloped areas will receive close

LE JARDIN ACADEMY
FINAL ENVIRONMENTAL ASSESSMENT

attention to immediately fix the soil surface and rapidly establish ground cover vegetation. In a period as short as three weeks, a substantial temporary ground cover can be raised on the slopes. The hydromulch mix includes long-term grasses that eventually overgrow the temporary grasses. This careful approach to soil protection in sloped areas has been demonstrated very effectively in recent application at projects in rainy areas such as Mililani Mauka and Waikakalau Gulch.

(4) Dust Control: A watering program will be implemented to minimize soil loss through fugitive dust particulate emission levels from construction sites. Other control measures include good housekeeping at the job-site, and pavement or planting of bare soil areas as quickly as possible after construction to avoid dust generation.

(5) Landscaping and Long-term Erosion Control: New ground cover plantings and other landscaping will generally re-establish the soil retention value of the removed vegetation. Le Jardin Academy will have extensive plantings throughout its grounds. Continuous, long-term management of the property will reduce erosion from existing conditions.

(6) Cooperative Planning for Off-Site Hillside Re-vegetation. A cooperative project to establish ground cover on the surrounding eroded hillsides off-site is also being planned. Stabilization of these eroded hillsides will not only improve aesthetics, but it will significantly reduce the soil erosion and silt runoff from this area, and lessen the potential of landslides. Once the hillside is stabilized with vegetation, silt runoff to Kahanaiki Stream and Kawai Nui Marsh will be reduced. Le Jardin Academy will coordinate with the DLNR and conservation groups to seek support in implementing a comprehensive program for soil protection, erosion management, and re-vegetation of the surrounding hillsides.

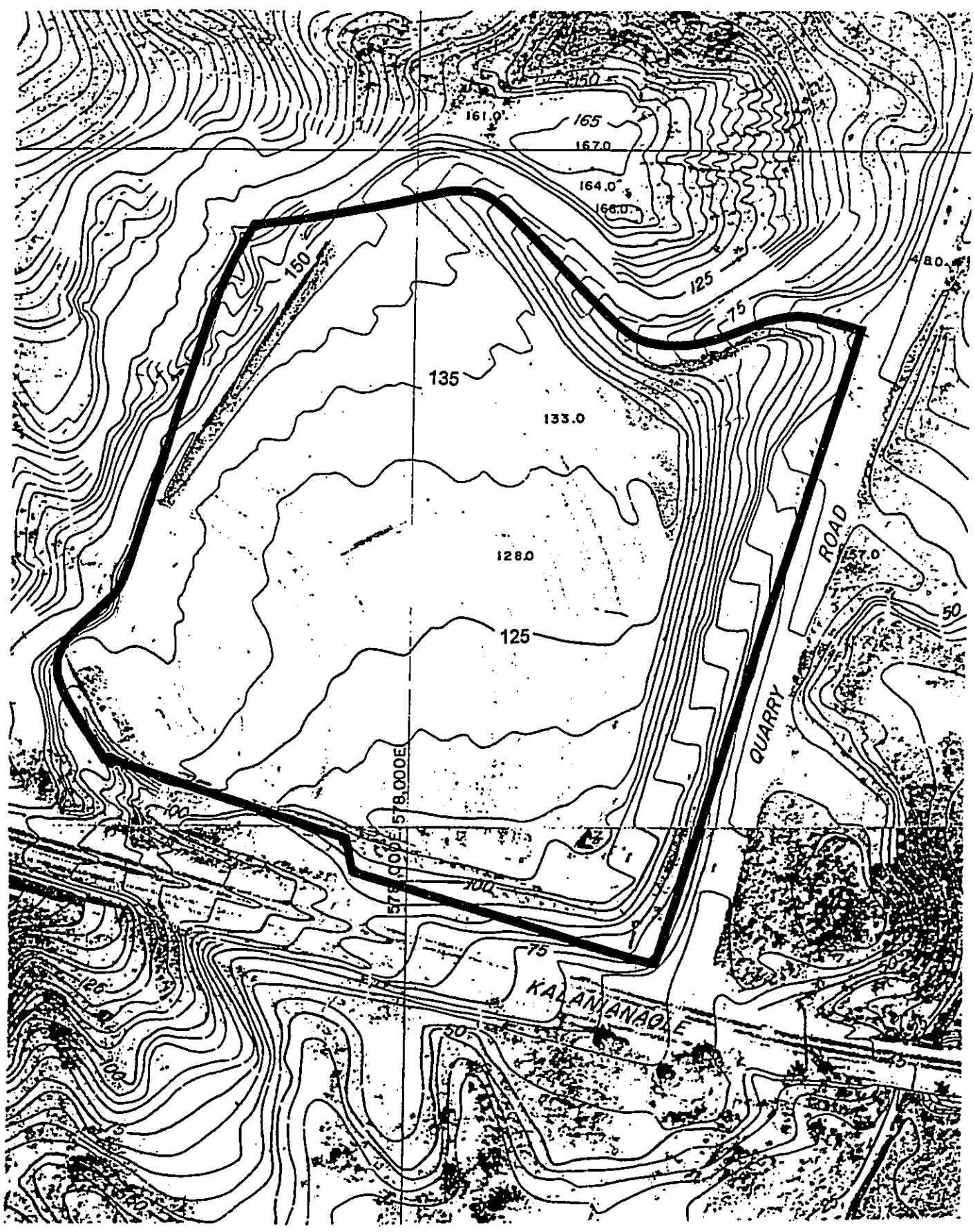
2.4.2 TOPOGRAPHY

A. Existing Conditions: The topography of the site, shown in Figure 2-14, reflects the extensive cutting and filling which was required during development of the Kailua Drive-in Theater in the early 1960's. The drive-in parking lot and former concession stand areas are generally level, ranging from approximately 115 feet above mean sea level (msl) along the southern boundary to 150 feet above msl along the northern boundary. On the eastern and southern fringes of the property near the Kapaa Quarry Road and Kalaniana'ole Highway elevations drop to approximately 60 feet above msl. The southwestern corner of the site is approximately 130 feet above msl.

The site predominately contains slopes of 0 to 10 percent in the planned development area (refer to Figure 2-15). Along the southern and northern edges of the parcel, the land slopes downward at 10 to 30 percent. Along the eastern edge, the land slopes over 30 percent. Access roads to the level interior area traverse the eastern and northern slopes. No additional development is planned in sloped areas other than improvements to the driveways.

B. Potential Impacts: To the extent possible, the campus will be designed to minimize changes to topography. Limited earthwork will be required to perform essential modifications to site grades and fine adjustments to accommodate construction of the new school facilities. Over the main portion of the site, final elevations will generally be within one to two feet of

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Source: City and County of Honolulu

Topography
Le Jardin Academy

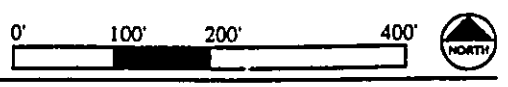
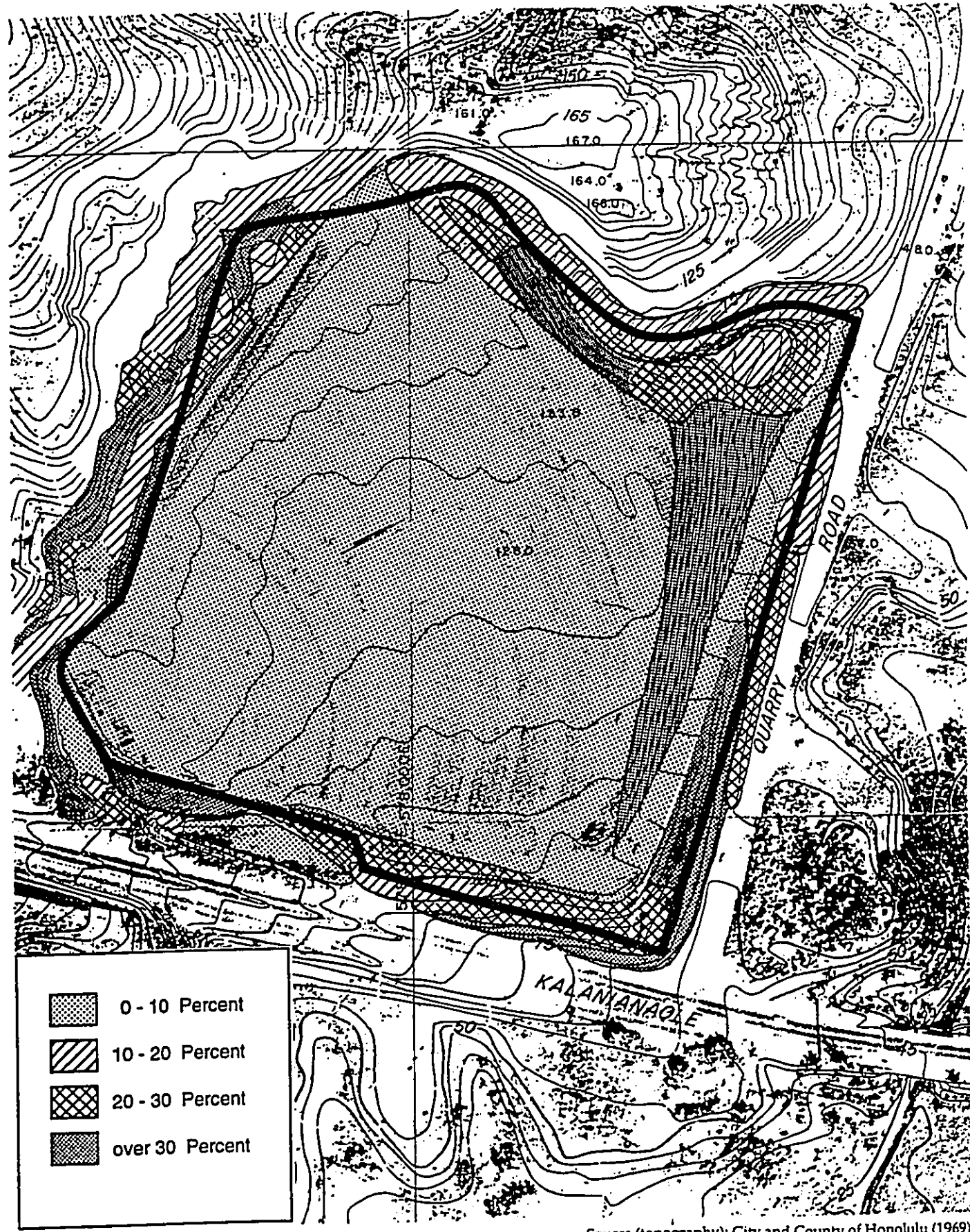


Figure 2-14



Generalized Slope Analysis
Le Jardin Academy

Figure 2-15

LE JARDIN ACADEMY
FINAL ENVIRONMENTAL ASSESSMENT

existing grade. Disturbance of steep slope areas will generally be avoided during construction. Refer to Section 2.4.1 for a discussion of soils and Section 2.4.3 for a discussion of surface runoff.

C. Mitigative Measures: Grading operations will primarily be used to balance the existing material on-site and will avoid the transportation of existing material off-site and the importation of material to the site. Strict City Grading permit and State NPDES permit requirements will be adhered to by the contractor.

2.4.3 SURFACE RUNOFF, DRAINAGE AND EROSION HAZARD

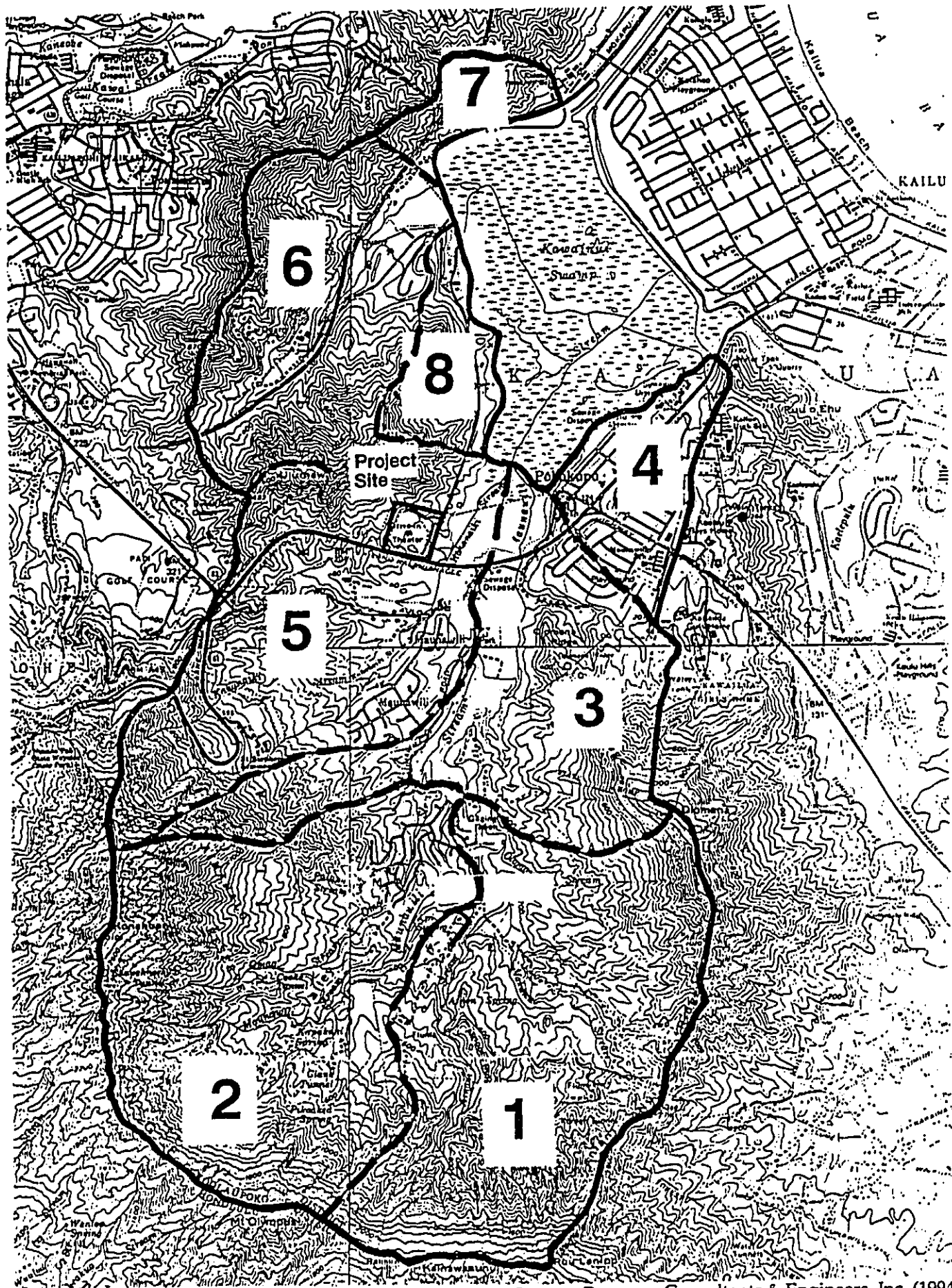
A stormwater management and erosion control report was completed by Sam O. Hirota, Inc. (May 1996) which addresses surface runoff, drainage and erosion conditions at the proposed school site. The findings of this report are summarized in parts of this section, and the complete report is enclosed as Appendix B.

A. Existing Conditions:

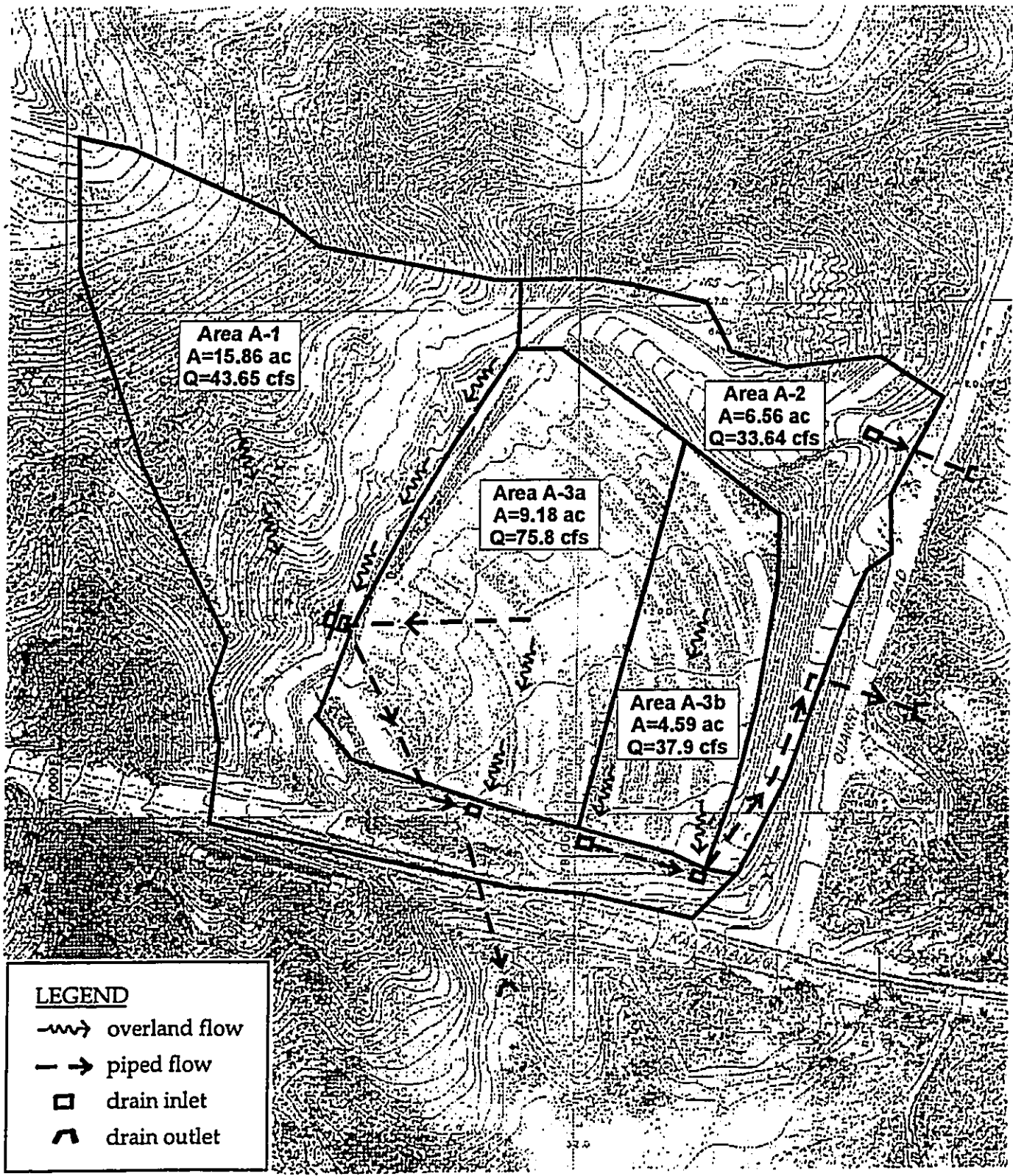
Runoff/Drainage: The project site lies within a large watershed of several thousand acres which extends inland to the Koolau Ridge, as shown in Figure 2-16. A smaller 36-acre sub-basin of the overall watershed was studied, which includes the former drive-in theater and the surrounding mauka lands to the west. A ridge to the north of the property directs overland flow away from the property. Runoff from a portion of the mauka hillsides flows into the existing drainage system of the former drive-in theater. Much of the site runoff and mauka hillside runoff is directed to a large depression which runs parallel along Kalaniana'ole Highway. This depression was enclosed when the highway fill and culvert was constructed across this ravine in 1949. Refer to Figure 2-17 for the existing drainage pattern of the site.

Existing runoff from the main portion of the site (area ^{A-3c} A=3a and ^{A-3d} A=3b) sheet flows to the south toward Kalaniana'ole Highway. This runoff pattern was established for the main portion of the former Drive-in Theater parking surface, which drains off-site to a large depression which runs parallel along Kalaniana'ole Highway. Approximately two-thirds of the runoff from the former drive-in theater property is directed through this drainage depression. Stormwater collected in this basin is diverted through a culvert and 36-inch reinforced concrete pipe under Kalaniana'ole Highway, and empties into a ravine on the south side of the highway. This ravine drains into lowlands pasture area, with an intermittent drainage route connecting to Kahanaiki Stream. The stream crosses under Kalaniana'ole Highway, ultimately discharging into Kawai Nui Marsh (Refer to Figure 2-17).

The existing drainage facilities of the former drive-in theater also collect runoff from the adjoining mauka hillside lands (area A=1) by a perimeter swale system, and direct the flow along the western side of the parking area. This collected sheet flow is combined with the flow from a small gulch above the site and the former concession area into a drain near the exit to Kalaniana'ole Highway. This stormwater is directed underneath the existing pavement by a 24-inch reinforced concrete pipe to the large drainage depression near the highway.

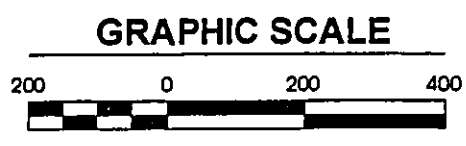


Source: Resource Consultants & Engineers, Inc. (1994)



LEGEND

- overland flow
- pipelined flow
- drain inlet
- drain outlet



Note: Q reflects 50-year storm one hour rainfall.

Reference: City & County of Honolulu
 Planning Department
 Photography and Ground Control Survey 1969
 Sheet Number: 584-72 & 584-78
 Source: Sam O. Hirota, Inc. (May 1996)

Existing Drainage Condition
 Le Jardin Academy

Figure 2-17

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The other one-third of the runoff from the former Kailua Drive-in Theater property is generated from the eastern slope of the site, the existing entry road, the northern slope of the property and the existing exit road (area A=2). This runoff is collected in several storm drain inlets and directed underneath Kapaa Quarry Road. This runoff is released through two outlet structures which drain onto the wooded slope makai of the Quarry Road, eventually reaching Kawai Nui Marsh near Kahanaiki Stream. This portion of the drive-in theater site has contributed runoff to the marsh through this drainage system for over 35 years.

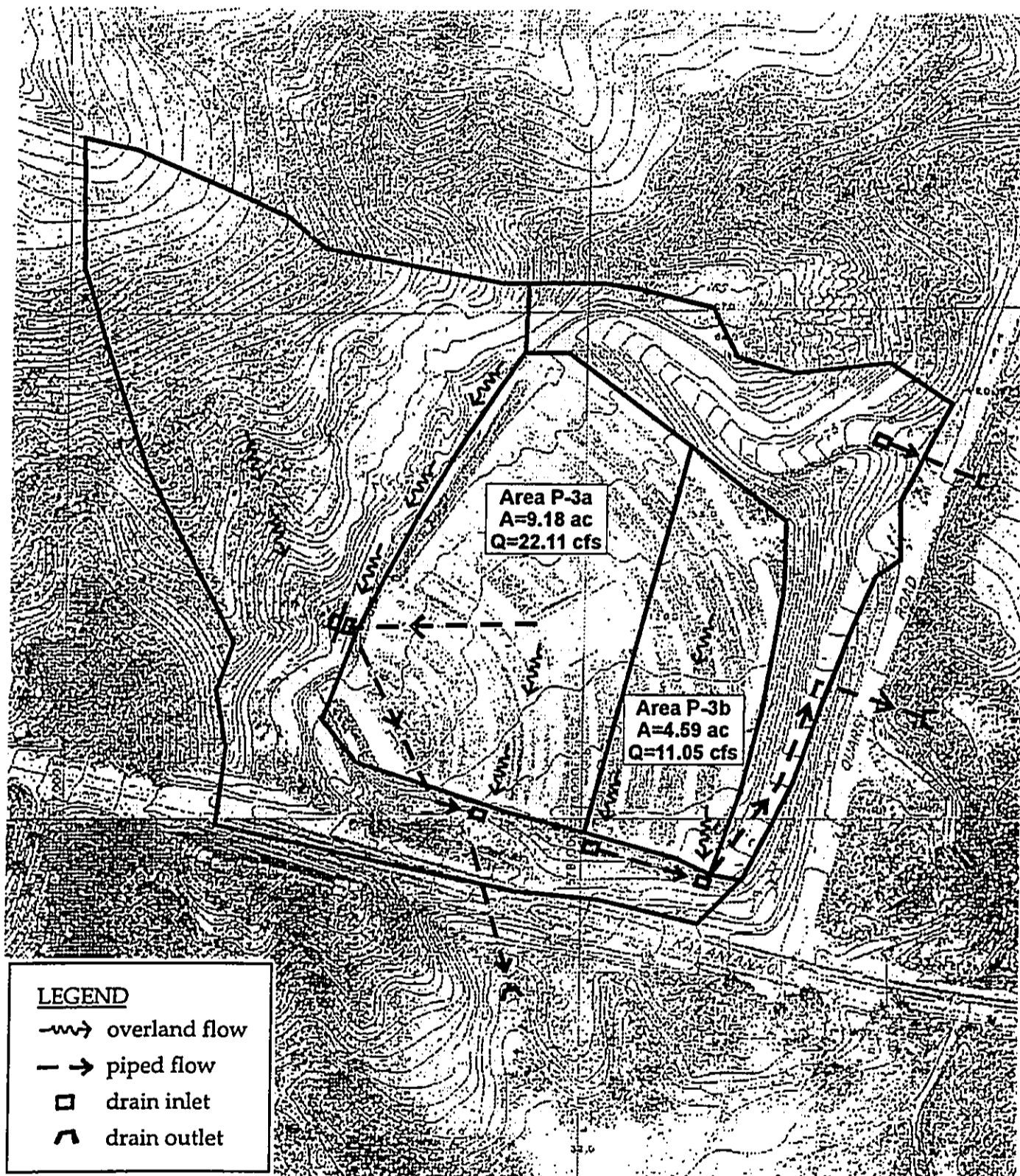
Extensive drainage studies and flood management studies have been completed by the Army Corps of Engineers (1985) for the Kawai Nui Marsh area and contributing watershed area. This report and the Kawai Nui Marsh Master Plan (DLNR 1994) call for establishing a large sedimentation basin upstream of the marsh adjacent to the south side of Kalaniana'ole Highway to maintain flood storage capacity in the marsh system and improve water quality.

Wetlands: The site is situated across Kapaa Quarry Road from Kawai Nui Marsh, the largest freshwater marsh in the State of Hawaii. The Marsh serves several functions. It is a flood control plain for most of the Kailua area as well as a buffer zone and sink for sediment and nutrients caused by natural and human activity. Kawai Nui Marsh provides approximately 3,000 acre feet of flood storage as part of the Oneawa Channel (Kawai Nui Channel) design which conveys runoff into Kailua Bay. The Marsh is fed primarily by springs from Maunawili Valley and Maunawili and Kahanaiki Streams, with an average total discharge of 7 mgd. There are long-term plans for various improvements to the flood control elements and the waterbird habitat in the marsh. Plans for a joint Federal and State project are being implemented in the southern portion of the marsh.

Erosion Hazard: Refer to Section 2.4.1.

B. Potential Impacts: The construction period will involve clearing and grubbing of vegetation of the site and some grading during each of the two development phases. The general pattern of on-site drainage flow will remain similar to existing conditions, as shown in Figure 2-18. On-site drainage detention basins and grassed swales will control runoff within the project site and the rate of discharge to off-site areas. During the construction period, large level areas of the site will be available and utilized for runoff detention, particularly the athletic field, parking lot and court yard areas. Some of these areas will be utilized as part of the long-term drainage control areas. Refer to Figure 2-19 for a map of the planned drainage and runoff control features, including detention areas, silt fencing, cut-off berms and other measures. Appendix B includes details for these measures.

Over the long-term, the proposed school site will reduce the rate and volume of runoff to Kawai Nui Marsh because of the landscaping on the new campus and the reduction of paved asphalt parking area from the drive-in theater. The school will utilize about 15 acres of the former drive-in theater which is currently paved with deteriorated asphalt. The site will be leveled slightly for building sites, parking areas, play fields and court yards. The time of concentration and detention time will be increased to manage stormwater on-site. The increase in permeable surface area will allow for increased infiltration of incident precipitation, and a slower rate of surface runoff due to the natural landscape ground cover.

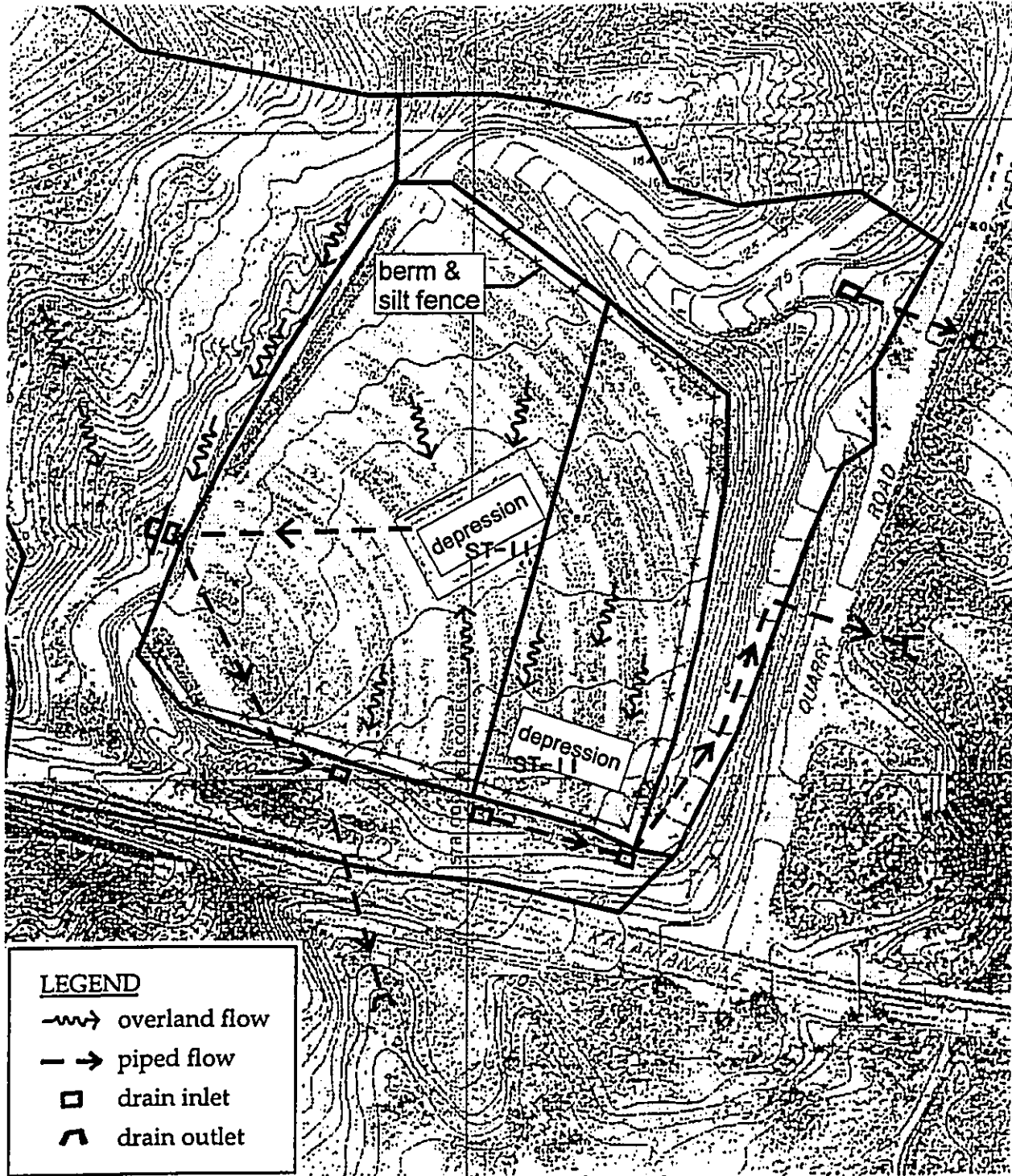


Note: Q reflects 50-year storm one hour rainfall.

Reference: City & County of Honolulu
Planning Department
Photography and Ground Control Survey 1969
Sheet Number: 584-72 & 584-78
Source: Sam O. Hirota, Inc. (May 1996)

Proposed Drainage Condition
Le Jardin Academy

Figure 2-18



Note: ST-II sediment trap and other controls applied per final NPDES permit conditions.

Reference: City & County of Honolulu
Planning Department
Photography and Ground Control Survey 1969
Sheet Number: 584-72 & 584-78

Source: Sam O. Hirota, Inc. (May 1996)

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The existing conditions of the site and future developed condition were evaluated under rainfall conditions generated by three different storm frequencies: the 10-year storm, 1-hour rainfall (3.0 in.); the 50-year storm, 1-hour rainfall (4.0 in.) and the 100-year storm, 24-hour rainfall (16 in.). Results of this analysis are shown in Appendix B and summarized below. The comparison of the existing and developed school conditions show reductions of approximately 70 percent for the main level area where most of the school facilities will be constructed (area A=3a, A=3b; total 13.77 acres). The three drainage areas will continue to utilize the existing drainage outlet facilities of the former Kailua Drive-in Theater as shown in Figure 2-18 and Figure 2-19. Runoff volumes under existing and developed school conditions are shown in Figures 2-17 and 2-18 for the 50-yr. storm.

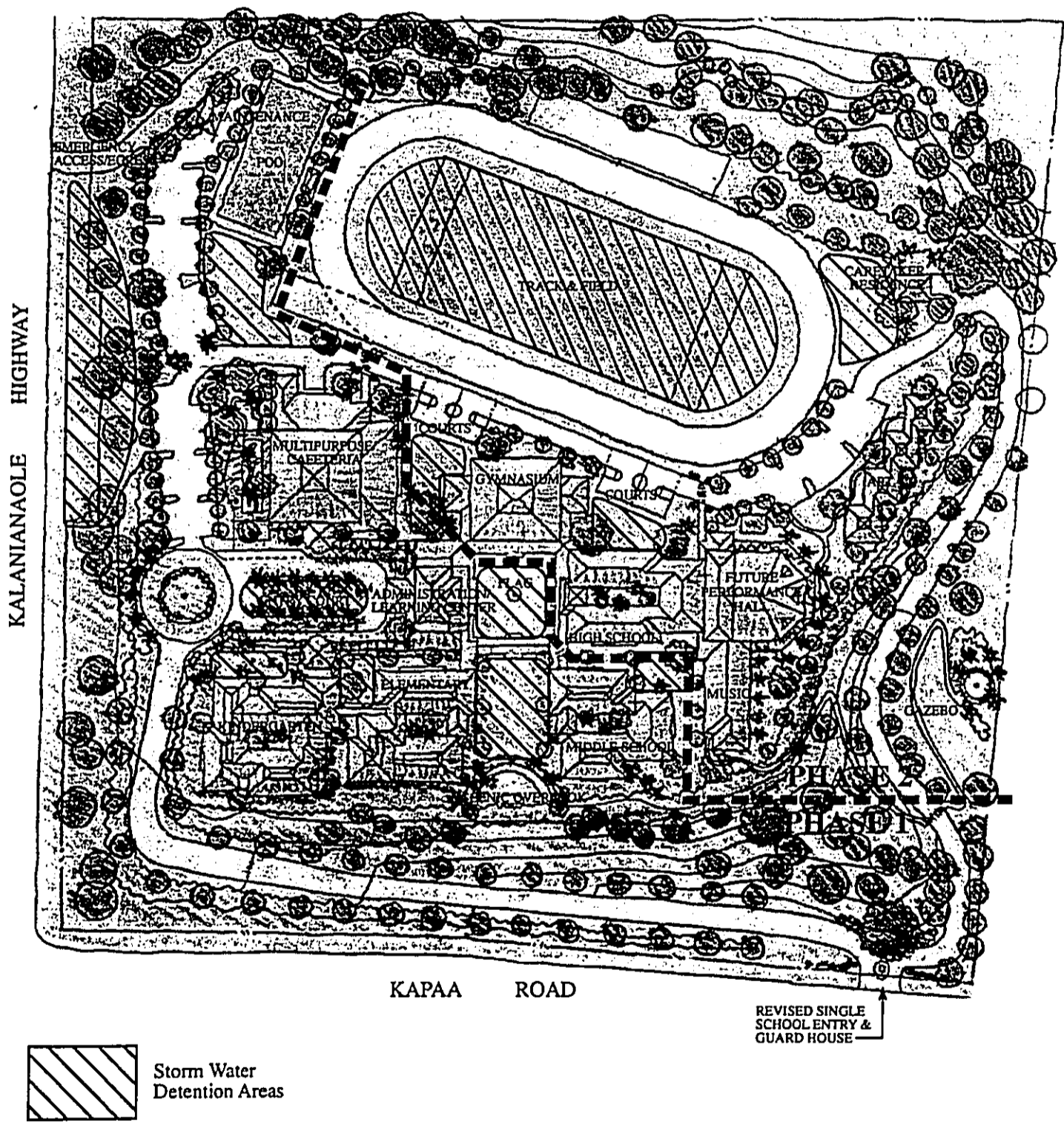
Runoff at Various Storm Frequencies (cfs) for Existing and With School Conditions

<u>Drainage Area</u>	<u>10-yr., 1-hr.</u>	<u>50-yr., 1-hr.</u>	<u>100-yr., 24-hr.</u>
3a - Existing	56.18	75.79	306.69
3a - With School	15.42	22.11	90.48
3b - Existing	28.09	37.90	153.34
3b - With School	7.71	11.06	45.24
<i>% Reduction With School</i>	<i>72.5</i>	<i>70.8</i>	<i>70.5</i>

In the sloped entry road/exit road area of the site (area A=2, 6.56 acres), limited construction and maintenance activities are planned with the majority of the existing paved surface remaining. Only a small reduction in runoff can be achieved in this area through drainage facilities improvements, landscaping and erosion control plantings. Averaged across the entire site (20.33 acres studied), a 45 percent reduction in the overall runoff rate is expected.

Long-term Runoff and Water Quality Considerations. Of critical importance relative to the quality of the receiving waters of Kawai Nui Marsh is the quantity and quality of runoff water from the surrounding watershed, including the project site. The results of the stormwater management analysis indicate a significant reduction in the volume and rate of runoff at the school site. This is due to the measures planned to reduce the amount of impervious surface area and slow the flow of runoff through on-site drainage controls and landscaping. With the anticipated reduction in runoff rate and volume from the former drive-in theater site, there will be a corresponding reduction in the constituent load (suspended sediment) contribution from the site runoff. Figure 2-20 shows proposed landscape depressions integrated with the school facilities in the conceptual site plan.

Importantly, there is also anticipated to be a reduction in the amount of suspended sediment that is carried away by runoff as it passes overland after its release from the school site. About two-thirds of the runoff from the site travels nearly 1,400 feet overland to Kahanai Stream after release from the site. The runoff pathway draining to the marsh includes natural erosion areas in the ravines and along hillsides. With the school's landscaping and drainage improvements, there will be a major reduction in the runoff discharge rate (up to a 70 percent),



Conceptual Site Plan - Storm Water Detention Areas
Le Jardin Academy

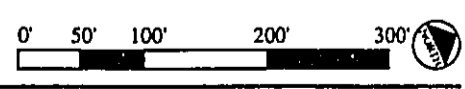


Figure 2-20

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therefore, fewer soil particles will be eroded from these off-site lands and carried to the receiving waters.

As a result of the school project, Kawai Nui Marsh will receive less sediment from storm runoff than it does today. This is consistent with long term management objectives for the marsh (DLNR and Kawai Nui Heritage Foundation), and the current joint Federal and State project to improve the endangered waterbird habitat and flood control capacity of Kawai Nui Marsh.

Leaching of chemicals into the marsh is potentially detrimental to surface water quality, Hawaiian water birds, invertebrates and other elements of the marsh ecology. Redevelopment of the Kailua Drive-in Theater site as proposed for the school represents an opportunity to mitigate past practices and eliminate current contaminant inputs. The 15 acres of asphalt pavement at the Kailua Drive-in site for over 35 years, and the associated vehicle activities at this site, have contributed some petrochemical compounds to runoff. A cesspool served the concession stand at the drive-in, and the wastewater nutrients probably leached into the marsh. These types of inputs to the marsh will be substantially reduced or eliminated with the school.

Existing waste and debris deposited at the site have also been releasing chemicals into surface runoff during the past five years. The surrounding roadway network of Kalaniana'ole Highway and Kapaa Quarry Road also contribute to this runoff, along with constituents from waste and debris deposited along these routes in the vicinity of the marsh.

With respect to the proposed school project, the soil around the proposed buildings will be initially treated to repel termites using chemicals that are approved for use by the Federal and State authorities, and applied in controlled amounts by a licensed pest control operation. The landscaped grounds will be periodically sprayed and fertilized by a grounds manager that is certified in the proper use and storage of chemicals. It is very costly to apply these chemicals, and their use on this site will be strictly limited for both environmental and cost control reasons.

The use of approved chemicals in strictly controlled applications at the school will not cause a significant contribution of biocides in runoff from the site. Even so, there will be some minimal amounts of these chemicals carried from the site. However, with up to 1,400 feet of overland travel for this runoff, and with significant periods of detention containment exposure to sunlight and organic material, and susceptibility to volatilization and natural degradation, the chemicals applied at the site will likely not be detectable in runoff reaching Kawai Nui Marsh. The project is not expected to pose a threat to the water quality and ecology of Kawai Nui Marsh.

C. Mitigative Measures:

(1) Reduction in Impervious Surfaces: The reduction in impervious surfaces on this site will substantially reduce the rate and volume of stormwater runoff from the site. Large portions of the existing pavement will be replaced by landscaped areas, which will increase the infiltration of rainfall. As compared to existing conditions, the rate of discharge to the off-site collection system is anticipated to be decreased by 70 percent.

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(2) Installation of Drainage Controls: An on-site system of depressions and grassed swales will be installed to control stormwater runoff.

(3) Construction Phase Erosion Controls: Several effective soil erosion/silt runoff mitigative measures are planned for implementation at the school construction site, as listed in Section 2.4.1. These planned measures are recommended by the U. S. Department of Agriculture, Natural Resources Conservation Service, with representative detail examples depicted in Appendix B, including straw bale dike, swale sediment trap, silt fence, grass outlet sediment trap and pipe outlet sediment trap. Substantial detention areas will be provided in on-site depressions to detain surface runoff and capture suspended sediment. Figure 2-19 shows the location of proposed grass outlet sediment traps (ST II) during construction. The selection and application of specific control measures is pending final site design and NPDES permit requirements. Silt runoff will be controlled and monitored in compliance with the conditions imposed in the Grading Permit and NPDES Permit requirements.

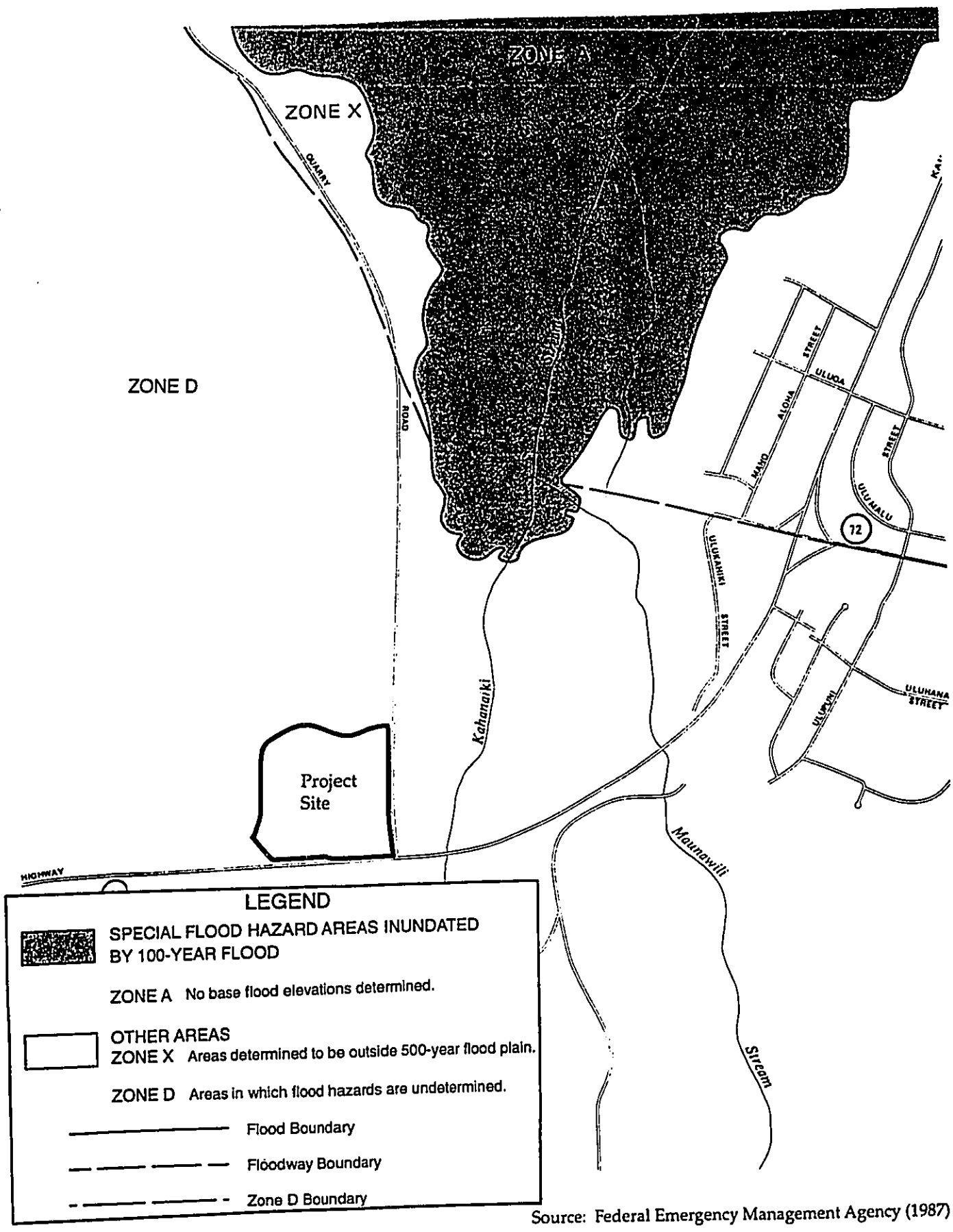
(4) Long-term Runoff and Erosion Controls: After development of the school is completed, the total amount of erosion and sediment transport presently occurring can be expected to decrease. Bare subsoil areas presently found on the site will be covered with a layer of topsoil and planted with landscaping, thereby eliminating areas exposed to erosion forces. In order to minimize the potential for sediment transport while vegetation on the site is becoming established, storm water runoff will be detained on-site in depression areas in the landscape. Figure 2-20 shows proposed landscape depressions integrated with the school facilities in the conceptual site plan.

2.4.4 FEDERAL FIRM ZONE, LUO FLOOD HAZARD DISTRICT, OTHER GEOLOGICAL HAZARDS

The entire site is designated Zone D on the Flood Insurance Rate Map (FIRM) (Refer to Figure 2-21). This rating indicates an area in which flood hazards are undetermined. East of the site is Kawai Nui Marsh which has a Zone A designation indicating that it is within a special flood hazard area inundated by 100-year flood, with no base flood elevations determined.

2.4.5 OTHER INFORMATION PERTINENT TO THE SMA

Portions of the steep slopes on the up-slope (interior) boundary of the site present the possible threat of hillside landslides. This slope area is distant from the proposed school facilities, yet will be adjacent to the Phase II athletic field. The southern edge of the site, which slopes down to Kalaniana'ole Highway, is mostly vegetated and stable. The existing vegetation covering eastern edge of the site sloping down to Kapaa Quarry Road, will be re-established and enhanced. The sloped areas along the perimeter of the site are planned to receive landscaping treatment for not only visual appeal, but for erosion control and improved stability.



Flood Zone Boundary
 Le Jardin Academy

Figure 2-21

Section 3.0
Affected Environment

SECTION 3.0

AFFECTED ENVIRONMENT

This section addresses the potential environmental impacts of the project's construction and long-term operation at the site and surrounding area. Man-made features such as existing park areas, utilities and archaeology are addressed as are natural factors such as flora and fauna. The project's consistency with applicable land use policies set forth in the General Plan and Development Plan are also discussed.

3.1 *Described below is a brief description of the site in relation to the surrounding area as well as a description of the surrounding area; including considerations and information on existing land uses; General Plan and Development Plan land use designations; and zoning.*

3.1.1 Description of site in relation to surrounding area

The site is bordered on its northern and western sides by the slopes of Ulumawao Ridge, on its southern side by Kalaniana'ole Highway and on its eastern side by Kapaa Quarry Road. Surrounding land uses include the HC&D (Kapaa) Quarry, the Kapaa Landfill and the Kapaa Refuse Transfer Station to the north. To the east across Kapaa Quarry Road is Kawai Nui Marsh. Further to the east beyond Kawai Nui Marsh is the town of Kailua. To the south across Kalaniana'ole Highway is the Maunawili subdivision and to the west is the Pali Golf Course and the Hawaii Loa campus of Hawaii Pacific University.

3.1.2 Description of surrounding area

The site is situated across the Kapaa Quarry Road from the Kawai Nui Marsh, the largest freshwater marsh in the State of Hawaii. The Marsh serves several functions. It is a flood control plain for most of the Kailua area as well as a buffer zone and sink for sediment and nutrients caused by natural and human activity. Kawai Nui Marsh provides approximately 3,000 acre feet of flood storage as part of the Oneawa Channel (Kawai Nui Channel) design which conveys runoff into Kailua Bay. The Marsh is fed primarily by springs from Maunawili Valley and two major streams, Maunawili and Kahanaiki, with an average total discharge of 7 million gallons per day (mgd). Kawai Nui Marsh also may receive leachate from the Kapaa landfill. In addition, it is a nesting and feeding area for four endangered endemic Hawaiian waterbirds (Koloa, Hawaiian Gallinule, Hawaiian Coot, and Hawaiian Black-necked Stilt) as well as a variety of other non-indigenous birds. Portions of the Marsh also function as a passive recreational area, agricultural plots for taro and other crops, and grazing pasture for cattle and horses.

The site is bordered to the north and west by the Ulumawao ridge, comprised of vacant natural hillsides within the State Conservation District. To the south of the site, across Kalaniana'ole

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Highway, vacant wooded hillsides slope down toward agricultural and low density residential uses in the lowlands surrounding Kahanaiki Stream.

3.1.3 Considerations and information on existing land uses

The site was formerly developed for the Kailua Drive-in Theater. The drive-in theater site, located entirely within the SMA, is currently vacant except for the deteriorated remains of the paved parking area and miscellaneous trash that has been dumped at the site. The former movie screen, concession stand/restrooms, playground, and sign have all been demolished.

A golf driving range was proposed for this site in 1988, and an SMP and Height Variance (Light Poles) were approved for this use in 1990. The project was never built due to a variety of community and economic issues. The golf driving range would have operated in the evening hours, with substantial lighting that some community members felt could potentially disrupt waterbirds at Kawai Nui Marsh.

An affordable housing project was also proposed for this site, which could potentially house over 300 units in a multi-family configuration. The development of this site for housing was not pursued due to some community issues with this proposed use.

3.1.4 Considerations on Existing Plans and Policies

A. General Plan for the City and County of Honolulu

The following discussion provides an assessment of how the proposed project conforms to and implements the objectives and policies of the General Plan. Relevant objectives and policies of the General Plan pertaining to the proposed action are outlined below.

Population

Objective C. To establish a pattern of population distribution that will allow the people of Oahu to live and work in harmony.

Policy 1. Encourage development within the secondary urban center at Kapolei and the Ewa and Central Oahu urban-fringe and rural areas and to meet housing needs not readily provided in the primary urban center.

Policy 3. Manage physical growth and development in the urban fringe and rural areas so that:
a. An undesirable spreading of development is prevented; and
b. Their population densities are consistent with the character of development and environmental qualities desired for such areas.

Discussion: The development of this project is not anticipated to impact population size or densities as the student body is expected to continue to be composed of students from the windward community. One residence may be included on-site for a caretaker.

Economic Activity

Objective B. To maintain the viability of Oahu's visitor industry.

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Policy 8. Preserve the well-known and widely publicized beauty of Oahu for visitors as well as residents.

Objective F. To increase the amount of Federal spending on Oahu.

Policy 1. Take full advantage of Federal programs and grants which will contribute to the economic and social well-being of Oahu's residents.

Discussion: Public access to the new school site will be provided to organized groups and individuals that make specific arrangements with Le Jardin Academy to view the marsh. Access to the site by the public would not be unlimited because of school activities and security requirements. The organized public use of the scenic overlook area will be encouraged. Specific time periods will be established for such use, including weekends. The community preferences for public access periods will be determined in future meetings with interested groups and individuals.

Le Jardin Academy will take full advantage of Federal programs and grants which will contribute to their educational programs.

Natural Environment

Objective A. To protect and preserve the natural environment.

Policy 1. To protect Oahu's natural environment, especially the shoreline, valleys, and ridges, from incompatible development.

Policy 2. Seek the restoration of environmentally damaged areas and natural resources.

Policy 3. Retain the Island's streams as scenic, aquatic, and recreation resources.

Policy 4. Require development projects to give due consideration to natural features such as slope, flood and erosion hazards, water-recharge areas, distinctive land forms, and existing vegetation.

Policy 6. Design surface drainage and flood-control systems in a manner which will help preserve their natural settings.

Policy 7. Protect the natural environment from damaging levels of air, water, and noise pollution.

Policy 8. Protect plants, birds, and other animals that are unique to the State of Hawaii and the Island of Oahu.

Policy 9. Protect mature trees on public and private lands and encourage their integration into new developments.

Policy 10. Increase public awareness and appreciation of Oahu's land, air, and water resources.

Objective B. To preserve and enhance the natural monuments and scenic views of Oahu for the benefit of both residents and visitors.

Policy 1. Protect the Island's well-known resources: its mountains and craters; forests and watershed areas; marshes, rivers and streams; shoreline, fishponds and bays; reefs and offshore islands.

Policy 2. Protect Oahu's scenic views, especially those seen from highly developed and heavily traveled areas.

Policy 4. Provide opportunities for recreational and educational use and physical contact with Oahu's natural environment.

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Discussion: The proposed action will respect the existing natural slopes and vegetation by minimizing development activities in these areas. The row of mature eucalyptus trees which line the perimeter of the project site along Kalaniana'ole Highway will be maintained and enhanced as a visual buffer. Public access to the new school site may be provided to organized groups and individuals that make specific arrangements with Le Jardin Academy to view the marsh. Kawai Nui Marsh will be protected by the drainage and runoff controls to be developed on the property. These issues are discussed further in Sections 2.4.1, 2.4.3, and 3.5.3.

Physical Development and Urban Design

Objective A. To coordinate changes in the physical environment of Oahu to ensure that all new developments are timely, well-designed, and appropriate for the areas in which they will be located.

Policy 2. Coordinate the location and timing of new development with the availability of adequate water supply, sewage treatment, drainage, transportation, and public safety facilities.

Policy 4. Require new developments to provide or pay the cost of all essential community services, including roads, utilities, schools, parks and emergency facilities that are intended to directly serve the development.

Objective E. To create and maintain attractive, meaningful and stimulating environments throughout Oahu.

Policy 4. Require the consideration of urban design principles in all development projects.

Policy 5. Require new developments in stable, established communities and rural areas to be compatible with the existing communities and areas.

Policy 7. Promote public and private programs to beautify the urban and rural environments.

Discussion: The proposed action will be served by established public infrastructure systems (water, sewer and roads) which have the capacity to accommodate the planned uses. The applicant will be installing sewer system improvements to connect to the municipal sewer at Maunawili subdivision. Le Jardin Academy is currently served by existing utility systems. Urban design principals are considered in the planning and design of the project to ensure its compatibility with the surrounding area. A landscaping program will beautify the campus and the perimeter hillsides.

Health and Education

Objective B. To provide a wide range of educational opportunities for the people of Oahu.

Policy 1. Support education programs that encourage the development of employable skills.

Policy 2. Encourage the provision of informal educational programs for people of all age groups.

Policy 3. Encourage the after-hours use of school buildings, grounds and facilities.

Policy 4. Encourage the construction of school facilities that are designed for flexibility and high levels of use.

Policy 5. Facilitate the appropriate location of learning institutions from the preschool through the university levels.

Discussion: The proposed action will develop new facilities for an existing private educational institution that will serve the windward Oahu community. The facilities will be developed in phases to eventually include a high school. The new facilities will be used on a limited basis

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after hours for a variety of educational and recreational activities. The centralized location of the campus will be convenient for people of the various communities on the windward side of Oahu.

Culture and Recreation

Objective A. To foster the multiethnic culture of Hawaii.

Policy 1. Encourage the preservation and enhancement of Hawaii's diverse cultures.

Policy 2. Encourage greater public awareness, understanding, and appreciation of cultural heritage and contributions to Hawaii made by the city's various ethnic groups.

Policy 3. Encourage opportunities for better interaction among people with different ethnic, social, and cultural backgrounds.

Objective B. To protect Oahu's cultural, historic, architectural, and archaeological resources.

Policy 3. Cooperate with the State and Federal governments in developing and implementing a comprehensive preservation program for social, cultural, historic, architectural, and archaeological resources.

Policy 4. Promote the interpretive and educational use of cultural, historic, architectural, and archaeological sites, buildings, and artifacts.

Policy 5. Seek public and private funds, and public participation and support, to protect social, cultural, historic, architectural, and archaeological resources.

Objective D. To provide a wide range of recreational facilities and services that are readily available to all residents of Oahu.

Policy 6. Provide convenient access to all beaches and inland recreation areas.

Discussion: Educational programs at Le Jardin Academy include environmental, cultural and natural history topics. In addition to the long-standing relationship between the Kawai Nui Heritage Foundation and Le Jardin Academy, the development of the new campus will provide further opportunities for support of community marsh preservation and enhancement efforts, and educate students about the area's cultural assets.

B. Koolaupoko Development Plan

The following discussion provides an assessment of how the proposed action will conform to and implement the Development Plan for Koolaupoko.

Development Plan Common Provisions

Section 4, General Urban Design Principles and Controls

(1) *Public Views - Public views include views along streets and highways, mauka-makai view corridors, panoramic, and significant landmark views from public places, views of natural features, heritage resources, and other landmarks, and view corridors between significant landmarks.*

The design and siting shall reflect the need to maintain and enhance available views of significant landmarks. No development shall be permitted that will block important public views.

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- (2) *Open Space* - Open space areas consist of, but are not limited to, the ocean, beaches, parks, plazas, institutional properties with park-like grounds, streams, inland bodies of water, significant land forms, golf courses, cemeteries and agricultural preservation lands. The functions of open space areas are to provide visual relief and contrast to the built environment, to serve as outdoor space for public use and enjoyment. The preservation and enhancement of areas that are well suited to perform these functions shall be given high priority.

The City's mountains, hills, shoreline and streams shall be considered as major scenic, open space and recreational resources. Adequate public access to these resources shall be incorporated as part of developments adjacent to them. Existing natural streambeds and drainage ways shall be retained wherever possible. Where further channelization must occur, materials that are harmonious with the setting, such as stone, shall be used whenever feasible.

- (3) *Vehicular and Pedestrian Routes* - Landscaping shall be provided along major vehicular arterials and collector streets as a means to increase the general attractiveness of the community and the enjoyment of vehicular travel for visitors and residents.

Discussion: The proposed action will maintain and enhance existing views. The hillside on the north side of the highway has a steep upward slope of 40 to 60 feet that breaks to a level area. Due to this topographic setting, the new facilities will not be readily visible from most locations along the adjoining highway. The existing topography and drainage patterns will not be substantially modified. Landscaping will be provided at the entrance, interior and perimeter of the site. The eroded hillsides surrounding the project site are also planned to be stabilized and re-vegetated through a cooperative effort spearheaded by the school.

Section 6, Identification of areas, sites and structures of historical significance

The principal areas, sites and structures of historical, archaeological or architectural significance include, but are not limited to, those registered under the National and Hawaii Registers of Historic Places, as amended. The continued use, enhancement or preservation of such areas, sites and structures shall be incorporated or promoted in any applicable action by the City. Such actions shall be permitted in all areas designated for any use on the land use map. Adjacent development shall complement registered properties with appropriate building facades, setbacks, scale, heights and compatible uses.

Discussion: The development of Le Jardin's new school will complement the adjacent Kawai Nui Marsh, which is protected as an eligible National Historic Property. School buildings with pitched roofs and deep overhangs will display a neighborhood character. The topography of the site, along with extensive perimeter and interior landscaping, will beautify this site.

Koolaupoko Development Plan Special Provisions

Section 2, Urban Design Principles and Controls for Koolaupoko

- (a) (1) *Open Space.* The visibility, preservation, enhancement and accessibility of open space areas as defined in Section 24-1.4 of the Development Plan Common Provisions shall be given high priority in the design of adjacent and nearby developments in Koolaupoko.

(2) *Public Views.* In order to promote pleasing and attractive living environments and panoramic mauka and makai views from public places, views of major landmarks from public places shall be protected whenever possible.

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Discussion: As discussed previously, the proposed action will not detract from open space and public views, and will create an attractive environment for the education of windward students.

C. Kawai Nui Marsh Resource Management Plan and Master Plan

The property is within the secondary boundaries of the Kawai Nui Marsh Resource Management Area, as designated by the Kawai Nui Marsh Resource Management Plan (1983). This property is also considered within the Kawai Nui Marsh Master Plan (1994). Objectives, policies and recommended actions stated in these documents are addressed in the design and planning of the proposed action.

Objective: Protect compatible natural, cultural and economic resources through management and control of existing and future land uses.

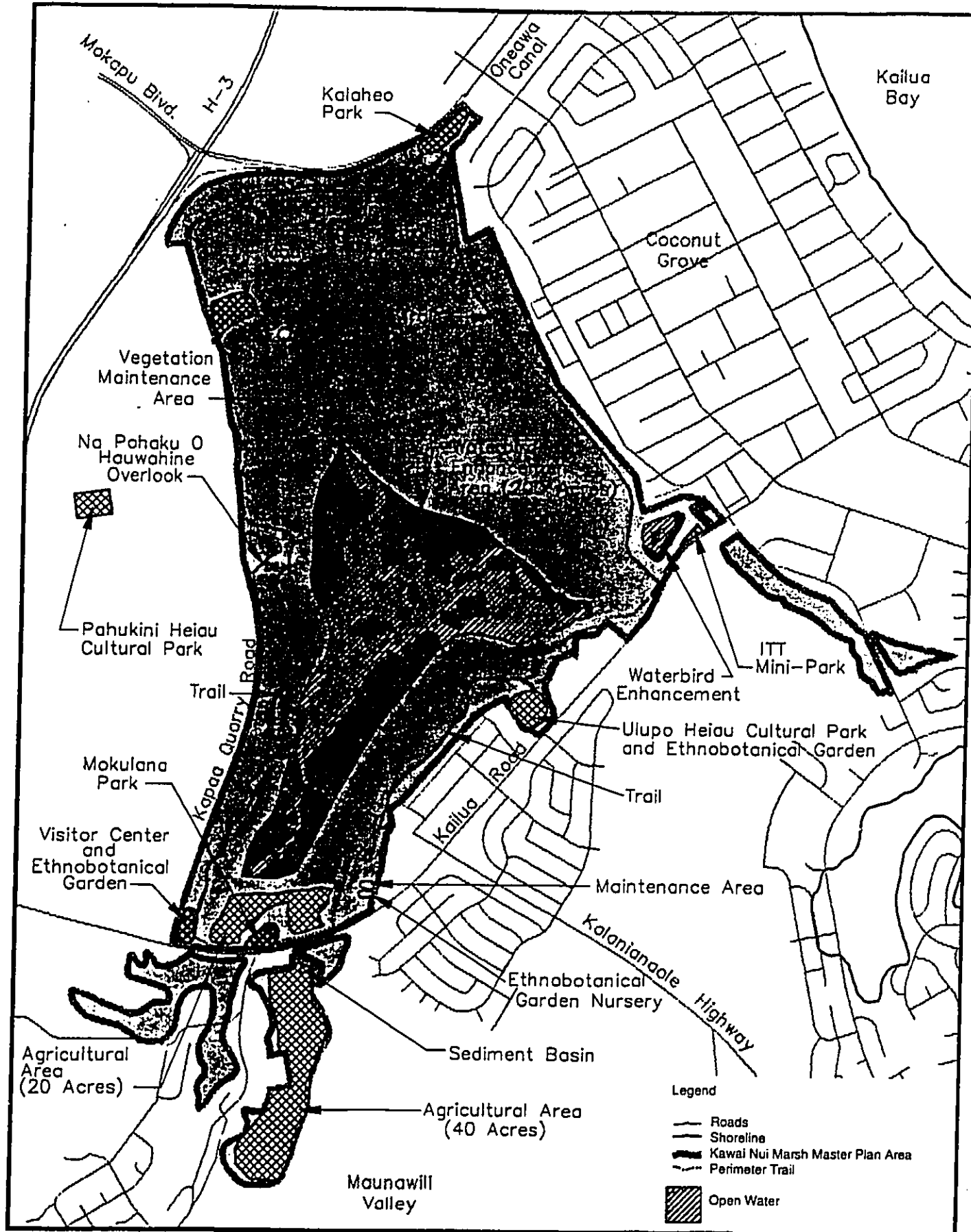
Discussion: The proposed action is consistent with the objectives, policies and recommended actions of the Resource Management Plan (1983) and the Kawai Nui Marsh Master Plan (1994). The new school facilities will be compatible with the protection of natural, cultural and economic resources of Kawai Nui Marsh.

The school project is consistent with Ecological Resources, E. Water Quality, Policy 1. regarding erosion and sedimentation controls. The proposed school project will actually reduce the volume of runoff water and sediment entering the marsh by eliminating large areas of paved impervious surface at the former drive-in site. Construction of the school facilities will employ Best Management Practices for runoff and erosion control, and the project will meet the requirements of the Grading Ordinance and NPDES Permit conditions. Under Cultural Resources, the school project will be consistent with policies under D. Aesthetics, E. Educational and F. Recreational. With this project views of the natural landscape will be reconstructed, cultural education programs will be expanded, and a scenic overlook will be created.

Awareness and understanding of the Kawai Nui Marsh will be increased due to educational programs at Le Jardin Academy which include environmental, cultural and natural history topics. There is a long-standing relationship between the Kawai Nui Heritage Foundation and Le Jardin Academy. The development of the new campus will provide further opportunities for the institution to support the community's marsh preservation and enhancement efforts.

The Kawai Nui Marsh Master Plan (1994) calls for the possible location of a visitor center to be developed on lands across from the project site along Kapaa Quarry Road (Refer to Figure 3-1). This site is one of several alternative sites within the marsh that are proposed for the visitor center. The development of the new educational facilities for Le Jardin Academy will not detract from the quality of the possible visitor center site. At present, there are no known plans to fund and construct the visitor center facility.

Zoning Designations: The existing zoning for the entire property is Preservation (P-2) which does not allow for school development. A zoning change of the entire parcel to General Agricultural (AG-2) allows a



Source: Wilson Okamoto Assoc., Inc. taken from DLNR (July 1994)



Kawai Nui Marsh Master Plan
Le Jardin Academy

Figure 3-1

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D. **Zoning Designations.** The existing zoning designation of the project site is P-2 General Preservation District, which does not allow for development of the proposed school facilities. P-2 zoning allows for several principal uses, including aquaculture, cemeteries and columbaria, crop production, forestry, game preserves, golf courses, livestock grazing, public uses and structures, telecommunications antennas and utility installations (Type A). The former Kailua Drive-in Theater was a legal non-conforming use at this site. Schools are also not allowed as either a special accessory use or a conditional use in the P-2 District. A change in zoning designation is being requested to allow for Le Jardin Academy to develop a school at this site.

A zoning change to AG-2 General Agricultural District will allow for development of school facilities as a principal use. The AG-2 General Agricultural District allows for several principal uses, including aquaculture, crop production, day-care facilities, farm dwellings, forestry, game preserves, kennels, livestock grazing, production, veterinary services, meeting facilities, public uses and structures, schools (elementary, intermediate, high), telecommunications antennas and utility installations (Type A). The AG-2 District Development Standards allow a maximum 10 percent lot coverage for buildings, which is adequate for the planned school facilities. Use of this site under AG-2 zoning for an allowed principle use other than a school could potentially cause comparatively greater environmental impacts, such as increased land disturbance, erosion and runoff.

Other zoning districts besides the AG-2 District allow for school development, including Country, Residential, Apartment, Business and Business Mixed Use. These other zoning districts allow for much greater lot coverage by structures. Le Jardin Academy is requesting the AG-2 District designation because it will allow for its school facilities to be constructed. Le Jardin Academy is not interested in building homes or commercial facilities, which are allowed as principal uses in the other zoning districts.

The surrounding lands have a variety of zoning classifications. The corridor between the Kapaa Quarry Road and the Kawai Nui Marsh, leading to the Kapaa Quarry, is zoned as P-2 General Preservation District. The hillside areas to the north and west of the former drive-in site, and most of Kawai Nui Marsh, are zoned as P-1 Restricted Preservation District (State Conservation District). Agricultural uses (taro cultivation) are planned as part of the State's Master Plan for about 20 acres of Kawai Nui Marsh to the east of the school site (DLNR, 1994). This portion of the marsh is presently used for grazing cattle and horses. The majority of the lands to the south of the project site, including and across Kalaniana'ole Highway, are zoned AG-2 General Agricultural District. Further to the south, the nearby Maunawili community is zoned as Residential District and Country District. The change in zoning designation to AG-2 District at the former Kailua Drive-in Theater site is generally consistent with the uses and designations of the adjoining lands, particularly those lands to the south and east of the site.

The proposed school facilities, or any other type of proposed use at this site as allowed under the AG-2 zoning, are also be subject to Special Management Area (SMA) regulations. Within the AG-2 General Agricultural District, a Site Plan Review approval is also required for the development of day-care facilities, meeting facilities and schools. Le Jardin Academy is seeking approval of both SMA and SPR requests. The Change of Zone, SMA and SPR approvals can typically involve certain conditions imposed by the City to mitigate potential project impacts.

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maximum 10 percent lot coverage for buildings, which is adequate for the planned school facilities.

Unique Features: The project site has no unique physical features which are recognized as a public resource. Most of the site lies out of view from the public thoroughfares. The location of the property is somewhat unique in terms of the surrounding setting and distant scenic vista offered for the future school operations and community uses.

3.1.3 Other Plans and Policies

A. Endangered Species Act of 1973

As discussed further in Section 3.2.2 no endangered species have been documented at the project site. With on-site drainage systems, runoff and erosion control, and mitigative lighting design and operations, endangered waterbirds in Kawai Nui Marsh will not be negatively affected by the school.

B. The Constitution of the State of Hawaii

Conservation and Development of Resources

Section 1. For the benefit of present and future generations, the State and its political subdivisions shall conserve and protect Hawaii's natural beauty and all natural resources, including land, water, air, minerals and energy sources, and shall promote the development and utilization of these resources in a manner consistent with their conservation and in furtherance of the self-sufficiency of the State.

Discussion: Le Jardin Academy is consistent with the goal of conserving and protecting Hawaii's natural beauty and resources. The development of the new school will be completed with sensitivity to protection of the natural beauty of the area and its environmental resources.

C. Hawaii State Plan and State Functional Plans

Sec. 226-11 Objectives and policies for the physical environment - land-based, shoreline, and marine resources.

(a) Planning for the State's physical environment with regard to land-based, shoreline, and marine resources shall be directed towards achievement of the following objectives:

(2) Effective protection of Hawaii's unique and fragile environmental resources.

(b) To achieve the land-based, shoreline, and marine resources objectives, it shall be the policy of this State to:

(2) Ensure compatibility between land-based and water-based activities and natural resources and ecological systems.

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- (3) Take into account the physical attributes of areas when planning and designing activities and facilities.
- (4) Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage.
- (6) Encourage the protection of rare or endangered plant and animal species and habitats native to Hawaii.
- (8) Pursue compatible relationships among activities, facilities, and natural resources.
- (9) Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes.

Discussion: Le Jardin Academy recognizes the significance of Kawai Nui Marsh as the largest freshwater marsh in the state and feels that the new campus will be a supportive partner in marsh preservation and interpretation efforts. Positive long-term impacts will include the improvements in the quantity and quality of surface runoff (as discussed in Sections 2.4.3 and 3.5), increased on-site recharge capacity, and site design which replaces the existing parking and dump area with a residential character school.

Sec. 226-12 Objectives and policies for the physical environment-scenic-natural beauty, and historic resources.

- (a) Planning for the State's physical environment shall be directed towards achievement of the objective of enhancement of Hawaii's scenic assets, natural beauty, and multi-cultural/historical resources.
- (b) To achieve the scenic, natural beauty, and historic resources objective, it shall be the policy of this State to
 - (1) Promote the preservation and restoration of significant natural and historic resources.
 - (3) Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.
 - (4) Protect those special areas, structures, and elements that are an integral and functional part of Hawaii's ethnic and cultural heritage.
 - (5) Encourage the design of developments and activities that complement the natural beauty of the islands.

Discussion: Development of the new Le Jardin campus at this site will contribute to achievement of the above objectives and policies by reducing runoff and providing the possibility for scheduled public access to a viewing area overlooking Kawai Nui Marsh. The site is currently littered with debris and inaccessible to the public. As discussed in Section 3.3, a survey of the project site found no historic sites.

The school will be beautifully designed and landscaped to create, as much as practical, an aesthetic asset for the community. Landscaping will screen most views of the new facilities from the surrounding area, including Kawai Nui Marsh.

Sec. 226-13 Objectives and policies for the physical environment-land, air, and water quality.

- (a) Planning for the State's physical environment with regard to land, air, and water quality shall be directed towards achievement of the following objective:

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- (1) Maintenance and pursuit of improved quality in Hawaii's land, air, and water resources.
- (2) Greater public awareness and appreciation of Hawaii's environmental resources.

(b) To achieve the land, air, and water objectives, it shall be the policy of this State:

- (1) Foster educational activities that promote a better understanding of Hawaii's limited environmental resources.
- (2) Promote the proper management of Hawaii's land and water resources.
- (6) Encourage design and construction practices that enhance the physical qualities of Hawaii's communities.

Discussion: As discussed above and more fully in Sections 2.4 and 3.5, water runoff from the site will be reduced and its quality improved through the removal of 14 acres of continuous asphalt paving. Educational programs for Le Jardin students and community organizations will promote understanding of Kawai Nui Marsh and Hawaii's other environmental resources.

The school will be designed with a neighborhood residential character. Extensive landscaping will screen most views from the surrounding facilities. Construction practices, discussed in Sections 2.2.3 and 5.2, will minimize short-term air quality and erosion concerns.

Sec. 226-15 Objective and policies for facility systems - solid and liquid wastes.

(b) To achieve solid and liquid waste objectives, it shall be the policy of this State to:

- (2) Promote re-use and recycling to reduce solid and liquid wastes and employ a conservation ethic.

Discussion: Le Jardin Academy has been recognized as one of the leading schools in Hawaii for recycling materials used at their institution. A recycling program will be instituted at the school in the first phase of development. Active collection of recyclable materials will continue.

Sec. 226-21 Objective and policies for socio-cultural advancement - education.

(a) Planning for the State's socio-cultural advancement with regard to education shall be directed towards achievement of the objective of the provision of a variety of educational opportunities to enable individuals to fulfill their needs, responsibilities, and aspirations.

(b) To achieve the educational objective, it shall be the policy of this State to:

- (1) Support educational programs and activities that enhance personal development, physical fitness, recreation, and cultural pursuits of all groups.
- (2) Ensure the provision of adequate and accessible services and facilities that are designed to meet individual and community needs.
- (8) Emphasize quality educational programs in Hawaii's institutions to promote academic excellence.

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Discussion: The project will develop new facilities for an existing private school that will serve the greater windward Oahu community. The facilities will be developed in phases to eventually include a high school. School facilities will be made available for organized scheduled use by community organizations.

Sec. 226-23 Objective and policies for socio-cultural advancement - leisure.

(a) *Planning for the State's socio-cultural advancement with regard to leisure shall be directed towards achievement of the objective of the adequate provision of resources to accommodate diverse cultural, artistic, and recreational needs for present and future generations.*

(b) *To achieve the leisure objective, it shall be the policy of this State to:*

- (1) *Foster and preserve Hawaii's multi-cultural heritage through supportive cultural, artistic, recreational, and humanities-oriented programs and activities.*
- (2) *Provide a wide range of activities and facilities to fulfill the cultural, artistic, and recreational needs of all diverse and special groups effectively and efficiently.*
- (3) *Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance.*
- (4) *Promote the recreational and educational potential of natural resources having scenic, open space, cultural, historical, geological, or biological values while ensuring that their inherent values are preserved.*
- (8) *Increase opportunities for appreciation and participation in the creative arts, including the literary, theatrical, visual, musical, folk, and traditional art forms.*
- (10) *Assure adequate access to significant natural and cultural resources in public ownership.*

Discussion: The academic and extracurricular programs of Le Jardin Academy provide students with a rich multi-cultural education. These opportunities will grow as Le Jardin develops its performing arts center and high school programs.

Public access to the new school site will be provided to organized groups and individuals that make specific arrangements with Le Jardin Academy to view the marsh. Access to the site by the public would not be unlimited because of school activities and security requirements. The organized public use of the scenic overlook area will be encouraged. Specific time periods will be established for such use, including weekends. The community preferences for public access periods will be determined in future meetings with interested groups and individuals.

Sec. 226-25 Objective and policies for socio-cultural advancement - culture.

(a) *Planning for the State's socio-cultural advancement with regard to culture shall be directed towards achievement of the objective of enhancement of cultural identities, traditions, values, customs, and arts of Hawaii's peoples.*

(b) *To achieve the culture objective, it shall be the policy of this State to:*

- (1) *Foster increased knowledge and understanding of Hawaii's ethnic and cultural heritages and the history of Hawaii.*

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Discussion: The academic and extracurricular programs of Le Jardin Academy provide students with a rich multi-cultural education. In support of community activities and education, Le Jardin will make its facilities available to community organizations on an individually arranged basis.

State Functional Plan - Recreation

Objective II-A: Plan, Develop, and promote recreational activities and facilities in mauka and other areas to provide a wide range of alternatives.

Policy II-A (1): Plan and develop facilities and areas that feature the natural and historic/cultural resources of Hawaii. Develop interpretive programs for these areas.

Objective II-C: Improve and expand the provision of recreation facilities in urban areas and local communities.

Policy II-C (1): Meet the demand for recreational opportunities in local communities.

Objective III-A: Prevent the loss of access to shoreline and upland recreation areas due to new developments.

Policy III-A (1): Require land use permit applicants to fully address the impact of their projects on trails and public access.

Objective IV-A: Promote a conservation ethic in the use of Hawaii's recreational resources.

Policy IV-A (1): Emphasize an education approach, in coordination with enforcement efforts, to promote environmental awareness.

Discussion: Le Jardin Academy will complement the educational and recreational programs proposed for the marsh by providing organized on-site access to a viewing area overlooking the marsh. In addition, athletic facilities and fields will be made available, by arrangement with Le Jardin Academy, to community groups. Le Jardin Academy hopes to enhance its long-standing cultural and environmental curriculum with its new location across from the proposed marsh visitor center.

**D. Hawaii Environmental Impact Statement Rules
11-200-12 Significance Criteria**

(a) In considering the significance of potential environmental effects, agencies shall consider the sum of effects on the quality of the environment, and shall evaluate the overall and cumulative effects of an action.

(b) In determining whether an action may have a significant effect on the environment, the agency shall consider every phase of a proposed action, the expected consequences, both primary and secondary, and the cumulative as well as the short and long-term effects of the action. In most instances, an action shall be determined to have a significant effect on the environment if it:

(1) Involves an irrevocable commitment to loss or destruction of any natural or cultural resource;

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The project does not involve a loss or destruction of natural or cultural resources.

(2) *Curtails the range of beneficial uses of the environment;*

The site is a private land parcel, which is currently being used as an illegal dump. The school has proposed to allow for organized community and other public use of the site to view Kawai Nui Marsh.

(3) *Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in chapter 344, Hawaii Revised Statutes, and any revisions thereof and amendments thereto, court decisions or executive orders;*

The project does not conflict with state environmental policies in Chapter 344 HRS.

(4) *Substantially affects the economic or social welfare of the community or State;*

The subject property has no economic activity at present. The proposed action will generate short-term economic benefits from construction activity. Total project cost is estimated at approximately \$16 to 20 million for Phases I and II. Long-term economic benefits from Le Jardin Academy will result from employment and on-going expenditures. There will be net economic benefits to the City and State from the school construction and operations.

(5) *Substantially affects public health;*

This project will have no adverse impact on public health. Rather, it will have a positive effect when students are provided larger play areas.

(6) *Involves substantial secondary impacts, such as populations changes or effects on public facilities;*

This project will have no impact on population as the student body will continue to primarily consist of windward residents. Public facilities will not be affected. One residence may be included on-site for the caretaker.

(7) *Involves a substantial degradation of environmental quality;*

Development of Le Jardin Academy will not adversely affect environmental quality. Construction activities will follow strict erosion control measures including cut-off ditches and detention ponds to slow runoff, application of hydromulch to establish temporary ground cover vegetation, implementation of a watering program, and application of various soil stabilization and protection materials.

The amount of runoff will be reduced by as much as 70 percent in the school facilities development area, as 14 acres of pavement will be removed and replaced with buildings and landscaped grounds. With lower runoff volumes and erosion controls, less sediment will be transported from the project site to Kawai Nui Marsh. The quality of

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the runoff will also improve as items such as abandoned cars, car batteries, refrigerators, and other waste are removed from the site in the initial stages of development.

- (8) *Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions;*

Development of the new campus for Le Jardin Academy does not require a commitment for larger actions, and it does not induce further growth.

- (9) *Substantially affects a rare, threatened or endangered species, or its habitat;*

No rare, threatened, or endangered species or habitats will be substantially affected by this project. Several mitigation measures will be implemented to minimize the potential impact of night lighting on the Newell's Shearwater and other birds (Refer to discussion in Section 3.2.2).

- (10) *Detrimentially affects air or water quality or ambient noise levels; or*

A long-term reduction in runoff and soil erosion will improve water quality as a result of the school. Short-term construction period runoff will be carefully controlled and monitored under strict conditions of the Grading Permit and NPDES Permit.

Short-term noise impacts during the construction phase will be mitigated with the proper use and maintenance of mufflers on construction equipment, and should not affect wildlife in Kawai Nui Marsh. Noise from ongoing operation of vehicles accessing the site and period use grounds maintenance equipment may be noticeable at the site boundary. The noise associated with the school is not expected to be significant, particularly in comparison to the major noise sources of Kalaniana'ole Highway traffic and truck traffic along Kapaa Quarry Road.

A watering program will be implemented to help control dust during construction. Vehicles associated with the school will create air emissions that may accumulate slightly under special weather conditions at the project entrance during peak traffic periods when cars are staged to enter or exit the school. Operation of the school will not significantly affect ambient air quality levels with the short-term air emission effects during the peak traffic periods.

- (11) *Affects an environmentally sensitive area such as a flood plain, tsunami zone, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.*

The project has no potential significant effect on an environmentally sensitive area. Kawai Nui Marsh resources are protected by the measures taken by the project to control runoff and erosion and protect public views. Flooding will be reduced by the school's drainage improvements.

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3.2 *Description of the project site in relation to publicly owned or used beaches, parks and recreation areas; rare, threatened, or endangered species and their habitats; wildlife and wildlife preserves; wetlands, lagoons, tidal lands and submerged lands; fisheries and fishing grounds; other coastal/natural resources.*

3.2.1 Project site in relation to publicly owned or used beaches, parks and recreation areas;

The site is located across Kapaa Quarry Road from the Kawai Nui Marsh which is also designated as Kawai Nui Marsh Regional Park. The Kawai Nui Model Airplane Park, a well-maintained open field next to Kapaa Quarry Road near Mokapu Boulevard is used by members of two model airplane clubs. In addition, the Maunawili Neighborhood Park, located near the entrance to the subdivision, offers tennis courts, playground equipment, basketball/volleyball courts, a soccer field, and restrooms facilities. Kailua Beach Park is located approximately four miles from the project site.

3.2.2 Rare, threatened, or endangered species and their habitats; wildlife and wildlife preserves; wetlands, lagoons, tidal lands and submerged lands; fisheries and fishing grounds; other coastal/natural resources.

A. Existing Conditions: The SMA containing the project site has been surveyed for botanical and wildlife resources. There are no endangered, candidate endangered or threatened plant or animal species present at the former drive-in site.

Fauna

The Revised Environmental Assessment for the Windward Park Golf Driving Range (Windward Park, Inc., April 1990) includes a wildlife (terrestrial vertebrate) survey conducted by Dr. Andrew J. Berger in September 1988. Berger inventoried existing wildlife on the site and in the surrounding area. A summary of his report follows.

Introduced Birds - Eighteen (18) species of introduced birds were identified in the field study. Among these species were the cattle egret, pigeon, Chinese and zebra dove, melodious laughing-thrush, red-vented bulbul, white-rumped Shama, Japan Bush warbler, Indian myna and the Japanese white-eye. None of the eighteen types of birds identified are endangered species and some are actually considered to be pests.

Indigenous Birds - Indigenous birds are native to Hawaii but also exist in other parts of the world. The Pacific golden plover (*Pluvialis dominica fulva*) was the only indigenous bird species identified during the survey.

Endemic Birds - Endemic birds are species unique to the Hawaiian Islands and do not live naturally anywhere else in the world. While no endemic species of birds were identified on or adjacent to the site, the following four endemic waterbirds are known to inhabit Kawai Nui Marsh: *koloa* or Hawaiian duck (*Anas wyvilliana*); *'alae 'ula* or Hawaiian gallinule (*Gallinula chloropus sandvicensis*), *'alae ke'oke'o* or Hawaiian coot (*Fulica americana alai*) and the *'ae'o* or Hawaiian stilt (*Himantopus mexicanus knudseni*).

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Mammals - No endemic mammals were found on the proposed school site or adjacent area. Introduced species of rats, mice and mongoose as well as feral cats, dogs and pigs are reasonably assumed to be present in the area. Many of these land mammals presently pose a threat to the nesting areas of the Hawaiian waterbirds in Kawai Nui Marsh.

In summary, Berger's study found no endangered bird or mammal species nor any critical habitat at the proposed school site and the directly adjacent lands.

Flora

A botanical survey of the open space adjacent to the project site was conducted by Char & Associates in September 1988. A botanical survey report is included in the Environmental Assessment for Windward Park (April 1990). Most of the study area is dominated by introduced species and determined to be of "little botanical interest".

Existing vegetation in the perimeter areas of the project site include: *koa-haole* (Leucaena leucocephala), guava (Psidium guajava), Chinese banyan (Ficus retusa), Christmas berry (Schinus terebinthifolius), Lantana (Lantana camara), broomsedge, molasses grass and sleeping grass. Rows of well-developed eucalyptus trees line the old drive-in theater along Kalaniana'ole Highway and Kapaa Quarry Road.

In summary, Char's survey of the project site and the directly adjacent lands did not identify any endangered or threatened plants.

Vegetation in the nearby section of Kawai Nui Marsh can be divided into two types: woody (forest) and marsh meadow. The woody vegetative area consists of koa haole, monkeypod, guava, hau, Java plum and banyan plus forest understory. This area parallels the Kapaa Quarry Road and is closest to the proposed school campus. The marsh meadow vegetation consists primarily of bulrush, cattails and grass communities. It is essentially a bog with layers of plants, roots and peat floating on water.

During a site inspection in February 1996, there were additional botanical findings. On the project site there is an area that was formerly occupied by the concession stand and playground. These facilities were demolished in 1992. There is now a small depression (approximately 600 to 800 square feet) in which fine grain silt and clay material has collected over the existing gravel base course and asphalt concrete paving. Standing water and several wetland indicator plant species, were observed in this depression, including sour bush (Pluchea indica) and umbrella sedge (Cyperus alternifolius). This artificially created lowland area does not contain the necessary soils criteria to be classified as a jurisdictional wetland by the U.S. Army Corps of Engineers, the regulating authority.

B. Potential Impacts:

Fauna

Although there will be temporary disturbance during construction, no significant impact is expected to occur to any wildlife species on the projects site. Several measures will be implemented that will minimize effects on wildlife due to project development. These will

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include: minimized clearing of vegetation, extensive re-vegetation and landscaping planting, and control of biocide application.

Lighting at the project site, particularly the athletic field, poses the potential for spillover and glare into the adjoining lands. Mitigation is planned to minimize indirect lighting and glare effects which could affect waterbirds at Kawai Nui Marsh. A discussion of potential visual conditions in Section 3.4 presents the anticipated lighting conditions and plans for mitigation.

A threatened seabird, the Newell's Shearwater (*Puffinus newelli*) has been documented to be sensitive to some urban lighting situations. These birds breed on the island's forested slopes (Kauai, Hawaii, Molokai primarily) during April to November. Fledglings are disoriented by city lights in the fall months. The birds arrive from sea after dusk and leave before dawn. The period of November/December is when these seabirds could potentially pass over the school site and Kawai Nui Marsh during nighttime hours. The athletic field could be lighted as much as ten to fifteen percent of the nighttime hours during the early winter months. With the planned lighting design, spillover, glare and up-lighting will be minimized. The new athletic field lighting is not expected to adversely affect the behavior of seabirds and waterbirds associated with the marsh.

Of note, waterbirds such as the Hawaiian stilt, Hawaiian coot and Hawaiian gallinule have shown no adverse effects due to the proximity of nighttime lighting at a recent development along Kaelepulu Marsh in the Enchanted Lake area of Kailua. Waterbirds at Kaelepulu are typically considered to be linked to the Kawai Nui Marsh regional habitat system.

In the area surrounding Kawai Nui Marsh, there is already significant nighttime lighting which is comparable or more intense than the planned athletic field lighting at Le Jardin Academy. Kalaniana'ole Highway, Kapaa Quarry and Kailua Town all produce significant light sources which have existed for decades. With the measures planned to minimize indirect lighting from the athletic field, the new facilities are not expected to adversely affect waterbirds and seabirds associated with the marsh.

Noise will be generated during the construction period. The noise levels generated on the site could range from 70 to 90 dBA at 50 feet for typical construction activities. This will be a short term impact, and is not anticipated to have a significant effect on waterbirds at Kawai Nui Marsh. Existing traffic noise at Kalaniana'ole Highway and Kapaa Quarry Road (particularly truck traffic) dominates the noise environment.

Flora

Clearing and grubbing activities during construction will temporarily disturb the existing vegetation and expose the soils to erosion forces. Steps will be taken during the construction phase to reduce erosion tendencies, as discussed in Section 2.4.1. Extensive landscaping will be incorporated into the new campus to provide visual buffering and some noise buffering between the school and surrounding areas. Formal as well as informal landscaped areas will be featured throughout the campus. A series of courtyards along the mauka-makai axis of the campus and courtyards within building complexes will be designed as activity areas in the day-to-day life of the school.

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The low lying depression in the center of the site will be graded during the removal of the asphalt paving to accommodate construction. The loss of this small artificial lowland, and its associated vegetation, is not considered to be a significant loss of habitat. Treatment of this portion of the site will follow the recommendation of the U.S. Army Corps of Engineers, Honolulu District.

Measures will also be taken to alleviate runoff and soil erosion effects on undisturbed vegetation, primarily along the perimeter of the site. The existing well-developed line of Eucalyptus trees along Kalaniana'ole Highway and the vegetation along the slope fronting the Kapaa Quarry Road will be maintained and enhanced.

C. Mitigative Measures:

(1) Minimized Vegetation Clearing: Vegetation that has overgrown the former drive-in parking lot area will be cleared. Existing vegetation will remain in the most steeply sloped areas along the perimeter of the site.

(2) Re-Vegetation of Cleared Areas: Re-vegetation of many cleared areas will occur, with areas replanted with natural ground cover and landscaping vegetation. Extensive ornamental and native landscape vegetation species will be planted and will serve as habitat areas for some wildlife.

(3) Hillside Re-Vegetation: The steep cuts and eroded hillside on the adjoining land is planned to be stabilized and re-vegetated in association with the school development. This effort will enhance vegetation cover in the project area and reduce soil erosion and stormwater runoff.

(4) Native Plants: Native plants will be included in the landscaping of the project site and surrounding hillside area.

(5) Biocide Controls: Use of biocides (herbicides, insecticides, fungicides) will be strictly limited and controlled on the site. Only those compounds which are allowed by law will be applied and, where applicable, alternatives to biocide use will be considered. Applications will be supervised by a trained grounds manager.

(6) Lighting Design Controls: Lighting of the project site is needed for safety and security during night hours. Roads, parking lots, sidewalks, buildings and the athletic field (Phase II) must be lighted for night time activities. The lighting technology available today can virtually eliminate off-site indirect lighting and glare. Le Jardin Academy is planning to utilize lighting fixtures that will avoid creating adverse off-site lighting effects. Light fixtures which focus light rather than disperse it will be utilized at the school. Light poles at the athletic field will be tall enough to cast light downward rather than outward, which occurs with shorter poles. More light poles with fewer sources of light per pole can provide more controlled lighting for the field without installing the large banks of lights typically associated with field lighting (also refer to Section 3.4). See Appendix C.

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(7) Lighting Management: The most sensitive periods for potential light attraction of fledgling shearwaters are during the new moon periods of October and November. Given fallout data compiled by the DLNR, there are two 10-day periods which are clearly the most sensitive periods. Le Jardin Academy has always taken pride in its approach toward environmental conservation. In this regard, the new school will take special measures (on top of the sensitive lighting design) to restrict the night time lighting of the athletic field (Phase II) during these two sensitive 10-day periods in the fall. The night time lighting of the upper portions of the two story academic buildings and taller multi-purpose buildings will also be restricted during this period. Exterior and interior lights that are not absolutely necessary at these buildings will be kept off at night during these two 10-day periods in October and November. Technical coordination and assistance will be sought from the DLNR and the US Fish and Wildlife Service to properly schedule and implement this plan, including appropriate monitoring. The school will also include an educational program for the students to teach them about protection of these threatened seabirds and include students in the monitoring program.

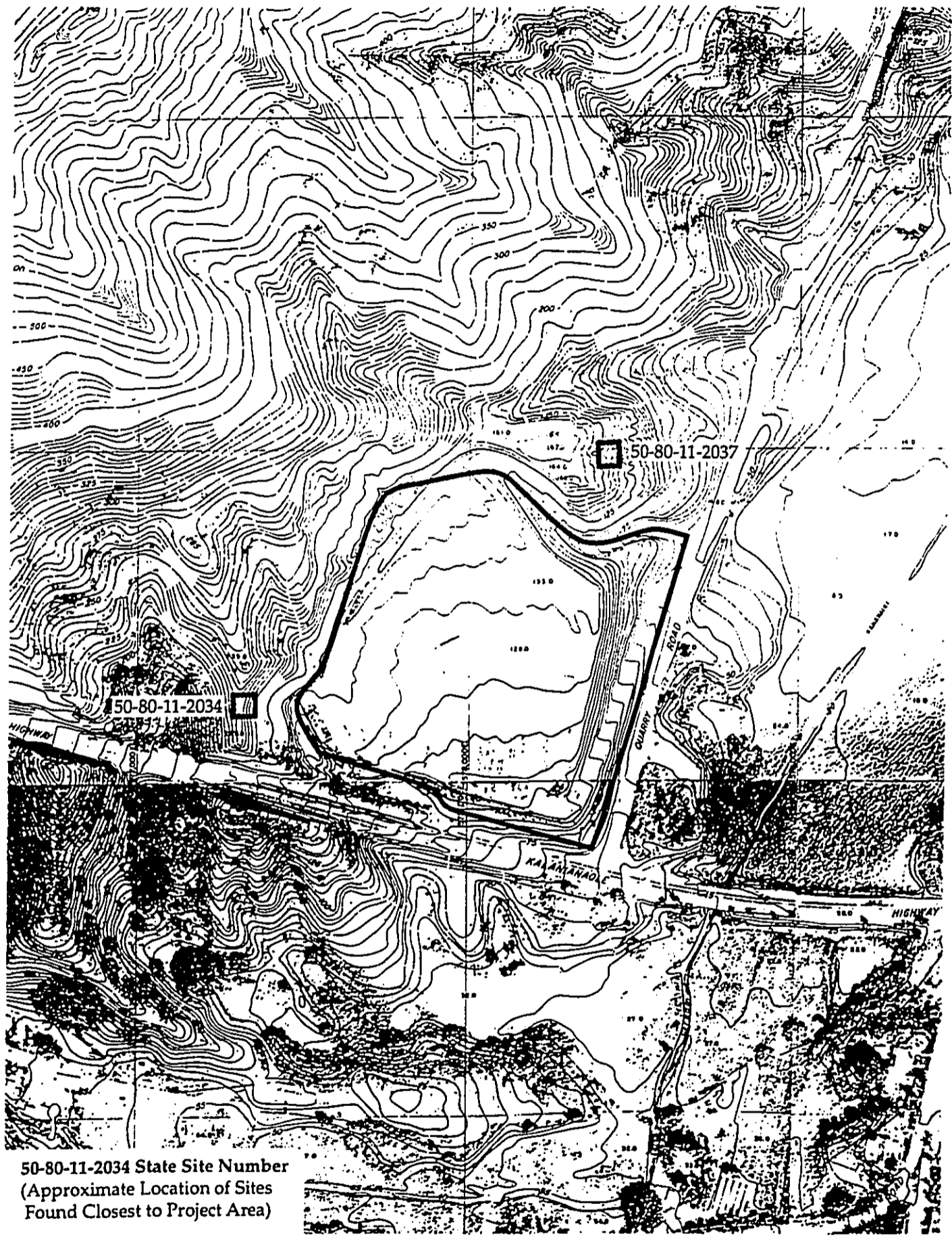
3.3 *The project in relation to historic, cultural, and archaeological resources*

A. Existing Conditions: The Kawai Nui historical-cultural-archaeological complex has been declared eligible for listing on the National Register of Historic Places. Two heiau sites, the Holomakani Heiau and the Pahukini Heiau, are located on the slopes of Ulumawao north of the project area.

The Applied Research Group of the Bishop Museum conducted an archaeological reconnaissance survey of the project site and surrounding area in October 1988. The background historical research, walk-through survey and recommendations regarding future archaeological research are reported by Bishop Museum (February 1989) in the Windward Park EA (1990). The reconnaissance survey identified no surface archaeological sites within the boundaries of the project site, but did identify two sites located within 500 feet of the property (Refer to Figure 3-2).

State Site 50-0A-G6-86, located west of the project site, includes two historic period rock walls one of which is located near the project site. One of the walls may have functioned as a boundary marker. State Site 50-0A-G6-89, identified north of the former drive-in exit roadway, is a complex consisting of five features. A rock-faced terrace was probably a small irrigated agricultural terrace from the prehistoric period. An associated high boulder alignment possibly functioned as a retention wall. An oval-shaped rock mound is located upslope from the terrace remains. A C-shaped alignment may have functioned as a temporary habitation site. Another alignment of basalt boulders is located perpendicular to the dry stream bed north of the driveway.

According to Bishop Museum (February 1989), the two sites found in the adjoining area both are considered to be significant under Criterion D of the National Register of Historic Places. These sites appear to be significant because of their information content and their potential to contribute to our knowledge about the history of the area.



50-80-11-2034 State Site Number
(Approximate Location of Sites
Found Closest to Project Area)

Source: Bishop Museum (1989)

Archaeological Sites in Adjacent Areas
Le Jardin Academy

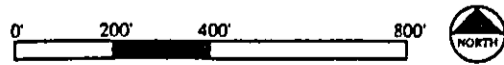


Figure 3-2

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According to the historical research contained in the 1989 (Applied Research Group, Bishop Museum) study, Kawai Nui Marsh was once a large inland fishpond, "a pond belonging to the Ali'i". Oral traditions speak of the fishpond as the home of the goddess Hauwahine.

B. Potential Impacts and Mitigative Measures: The closest archaeological sites are located several hundred feet off-site on lands in the State Conservation District. Sites 50-0A-G6-86 and -89 will not be directly affected by the construction of Le Jardin Academy. The adjoining landowner is aware of the presence of these sites.

The project site was heavily disturbed by extensive grading during the development of the Kailua Drive-in in the early 1960's. Despite the fact that the site has been heavily disturbed, the potential does exist that subsurface remains may be uncovered during development of Le Jardin's new campus. In such a situation, work in the area of such remains would be suspended immediately and the Historic Sites Office of the State Department of Land and Natural Resources would be immediately notified to determine the appropriate course of action.

Le Jardin Academy will continue to include cultural and natural history educational programs as part of their curriculum. Understanding of Kawai Nui Marsh and the area's cultural sites will be enhanced with the school's proximity to the marsh.

3.4 *Description of coastal views from surrounding public viewpoints and from the nearest coastal highway across the site to the ocean or to a coastal landform.*

A. Existing Conditions: The Coastal View Study, prepared by the City's Department of Land Utilization in 1987, does not identify the project site in its inventory of significant coastal views in the Koolaupoko area. It does however, recognize the mountain ridge upslope of the site as an "important coastal landform".

The project site is visible from select locations in the surrounding area. A site photographs key map and photographs of the site are presented in Figures 3-3, 3-4 (A - F). The existing slopes and vegetation growth shields most views of the project site from neighboring roads, public spaces, and the marsh.

B. Potential Impacts and Mitigative Measures: Development of the school campus is planned to preserve and enhance the views of the natural vegetation and topographic features on the property. As discussed in Section 2.2.3, grading operations will make fine adjustments to the existing grades to construct the proposed school facilities. The construction will not cause substantial alteration of the topography. Existing perimeter landscaping will be maintained and enhanced to serve as a visual buffer between the campus and surrounding roads. Views from roads and other public areas towards these mountains will generally not be affected by development of the new campus facilities.

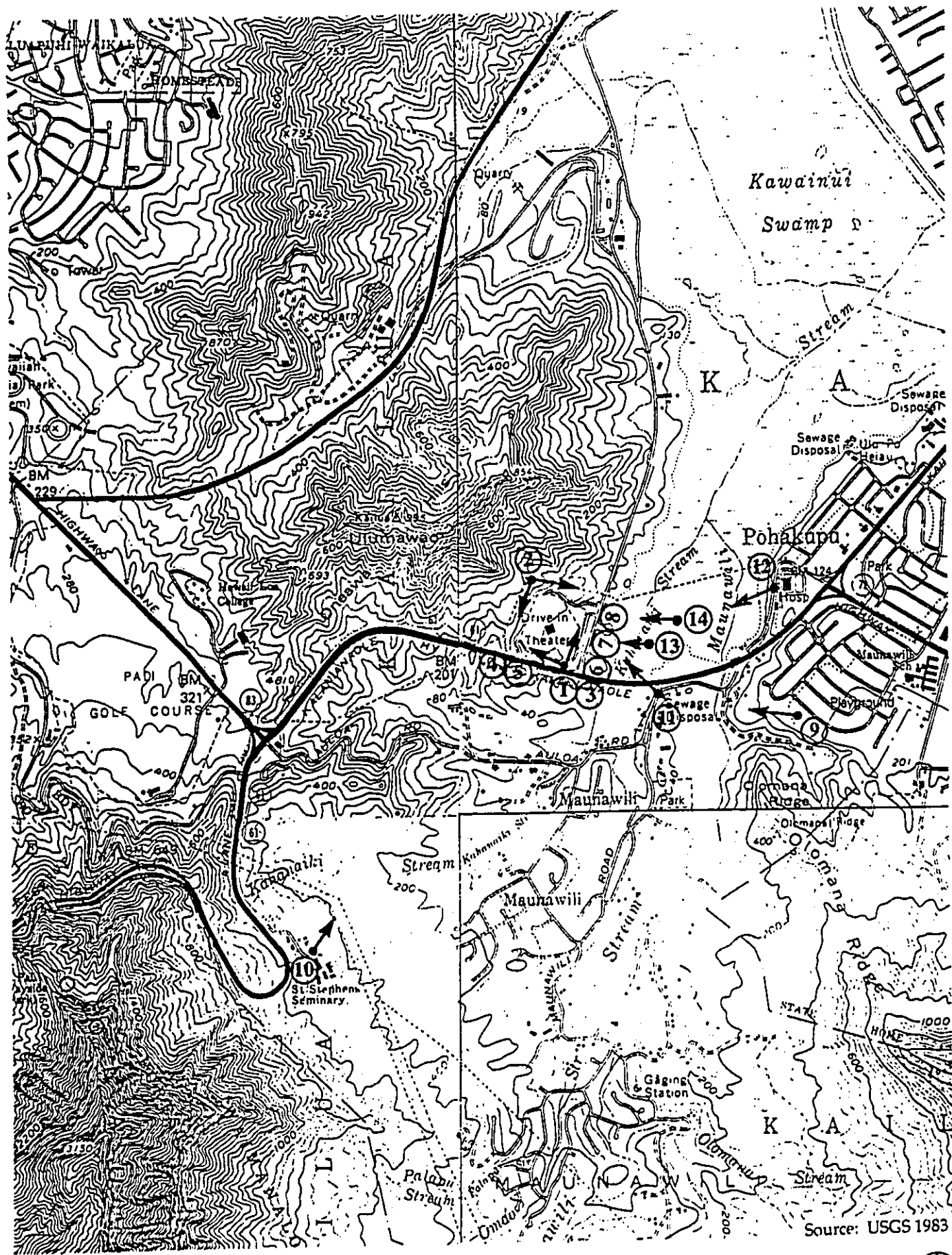
Structures at the new campus will be carefully designed and sited to minimize visual effects to the surrounding areas. Most of the new buildings for Le Jardin Academy will be 25 feet in height or lower. Several facilities will, however, exceed 25 feet in height, including the planned

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gymnasium and performance hall. These taller buildings will be sited toward the interior of the site, with the topography shielding views of these buildings from most locations.

The new structures at Le Jardin Academy will be noticeable from select locations in the surrounding area. Due to the existing slope and vegetation along the roadway frontages, there will be limited views of structures positioned closest to the edge of the main development area. From more distant viewpoints, particularly elevated locations, the new school buildings and site landscaping will be visible. Figures 3-5 and 3-6 show simulated views from Auloa Road and Castle Medical Center respectively, including a preliminary sketch of the proposed facilities and significant trees at full development (2005).

A simulated view of the proposed facilities from Kawai Nui Marsh near Kahanaiki Stream is presented in Figure 3-7. The school will be less visible from the interior of the marsh, as compared with higher elevation areas such as Castle Medical Center or Kalaniana'ole Highway. This is because the school site is elevated, the plateau slopes away from the marsh, and the existing natural vegetation dominates the view and intersects the line-of-sight from the marsh. The new school will complement mauka views with good site planning, well-designed buildings and extensive landscaping. The bare hillsides (photo 13 in Figure 3-4(F)) will become less visible from the marsh with the planting of groundcover and the establishment of site perimeter landscaping.



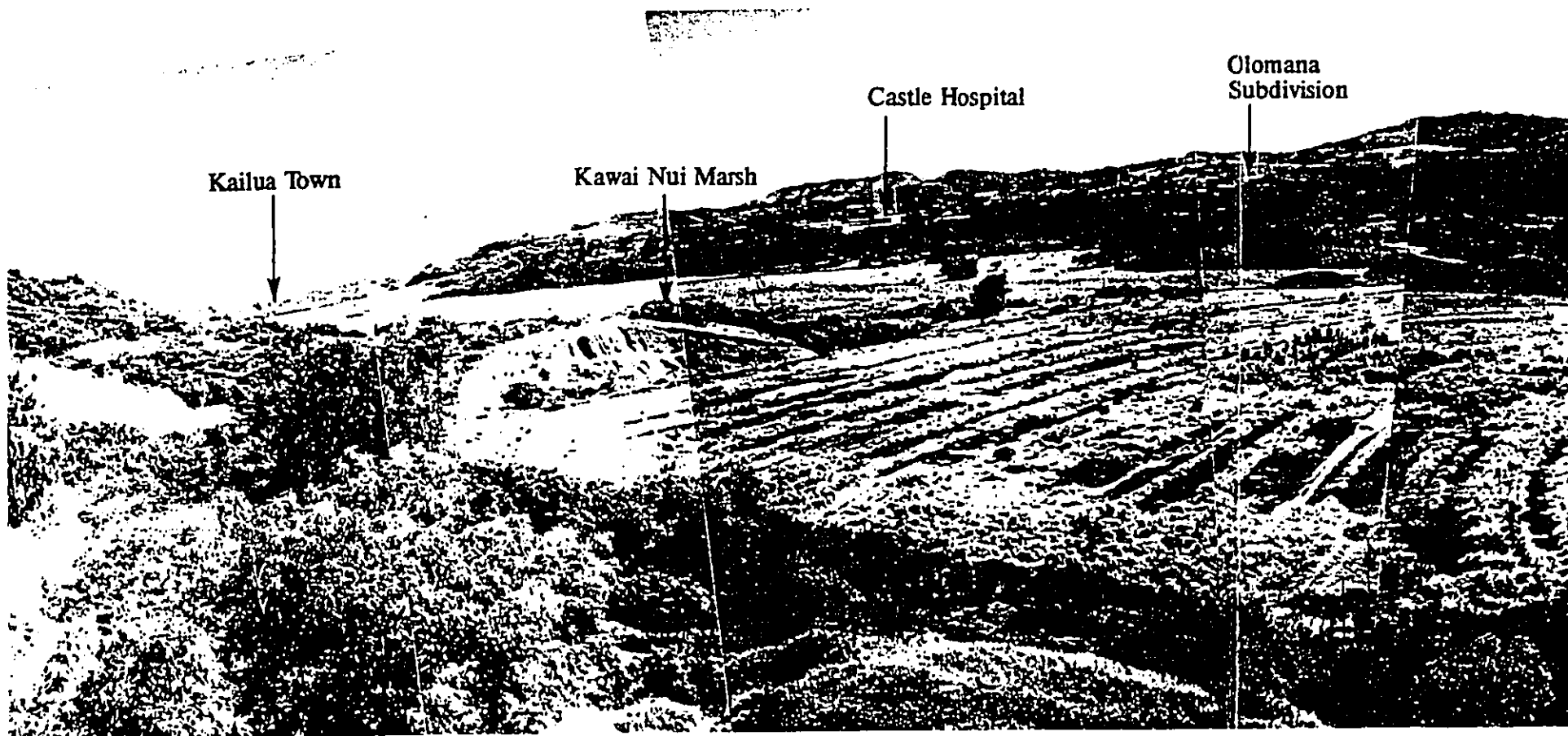
Photograph Key Map
Le Jardin Academy

Figure 3-3

DOCUMENT CAPTURED AS RECEIVED



1. Ground Level View of Project Site



2. Overview of Project Site View and Surrounding Area

Site Photographs

Le Jardin Academy

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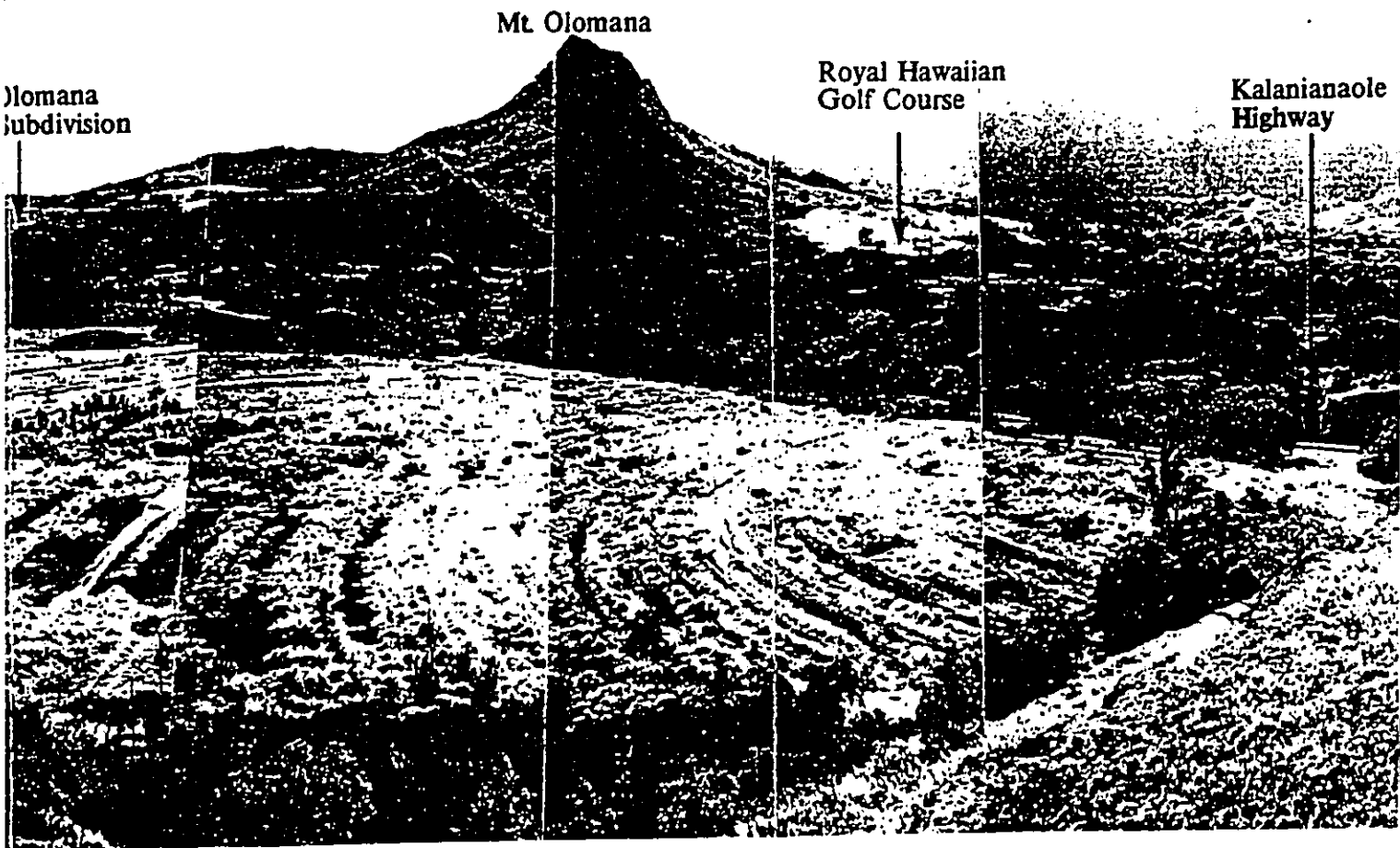
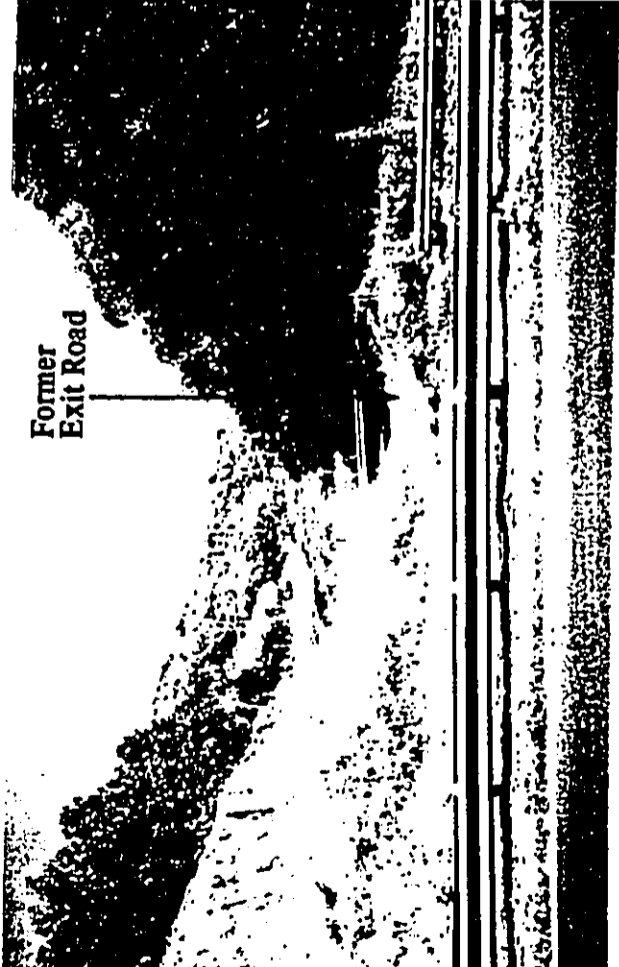


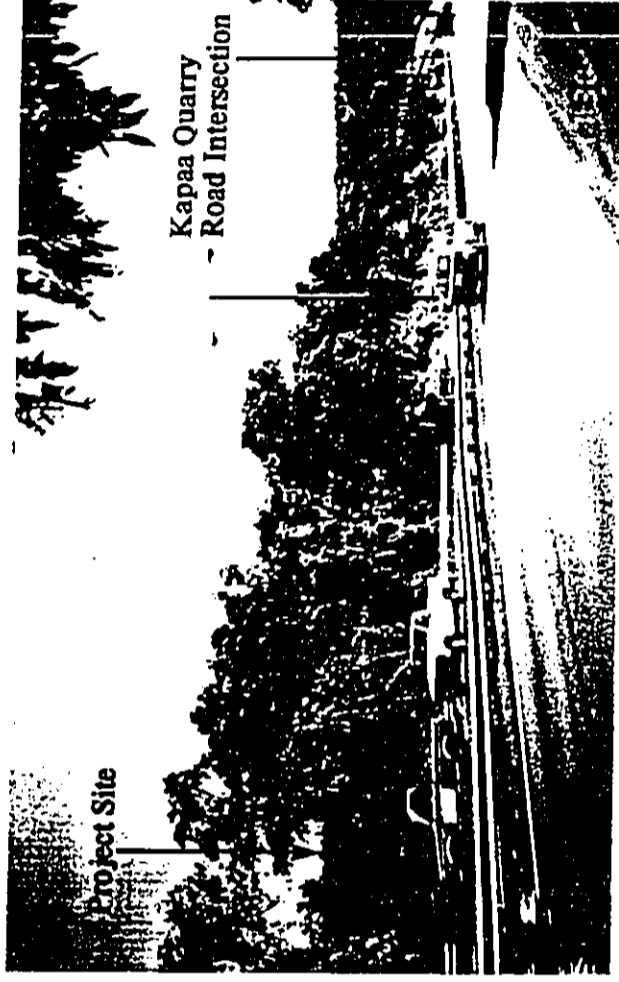
Figure 3-4 (A)



3. View of Project Site at Kalaniana'ole Highway/Kapaa Quarry Road Intersection



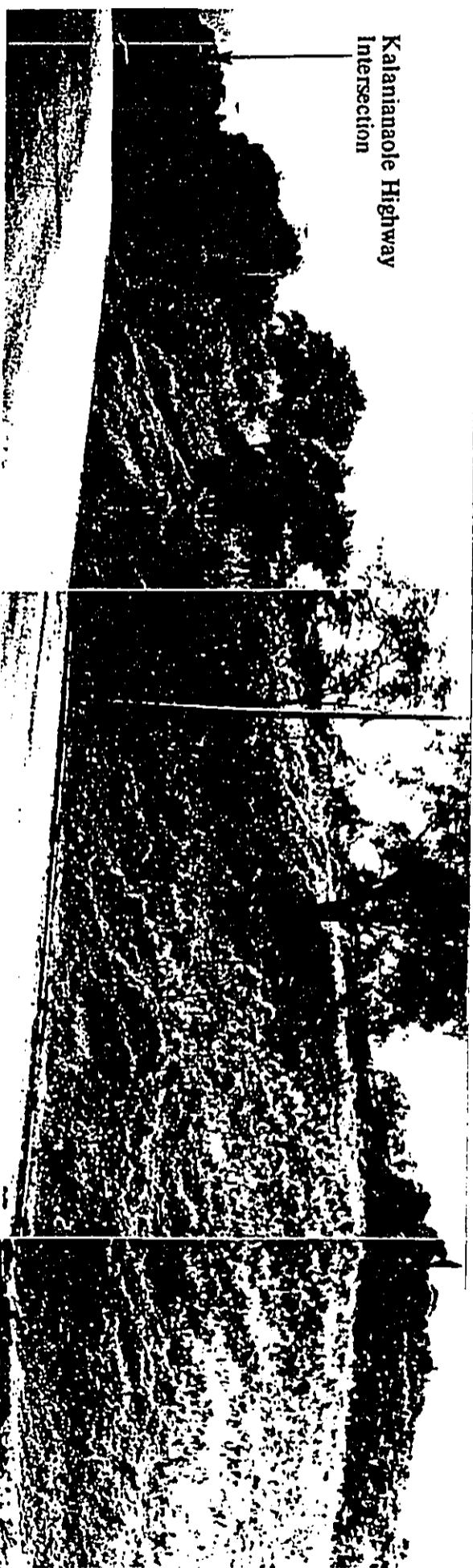
4. View of Former Exit Road to Kalaniana'ole Highway



5. View of Project Site Along Kalaniana'ole Highway

Site Photographs

Le Jardin Academy



6. View of Project Site from Kapaa Quarry Road



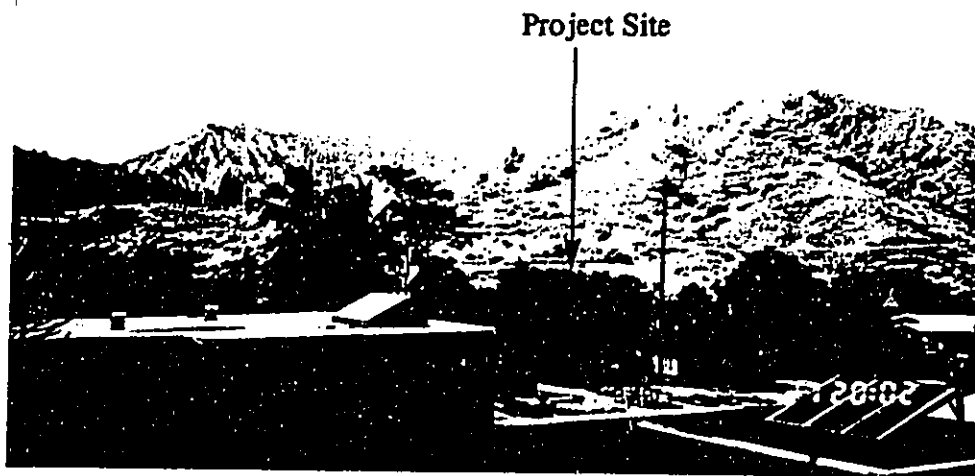
7. View of Project Site from Kapaa Quarry Road



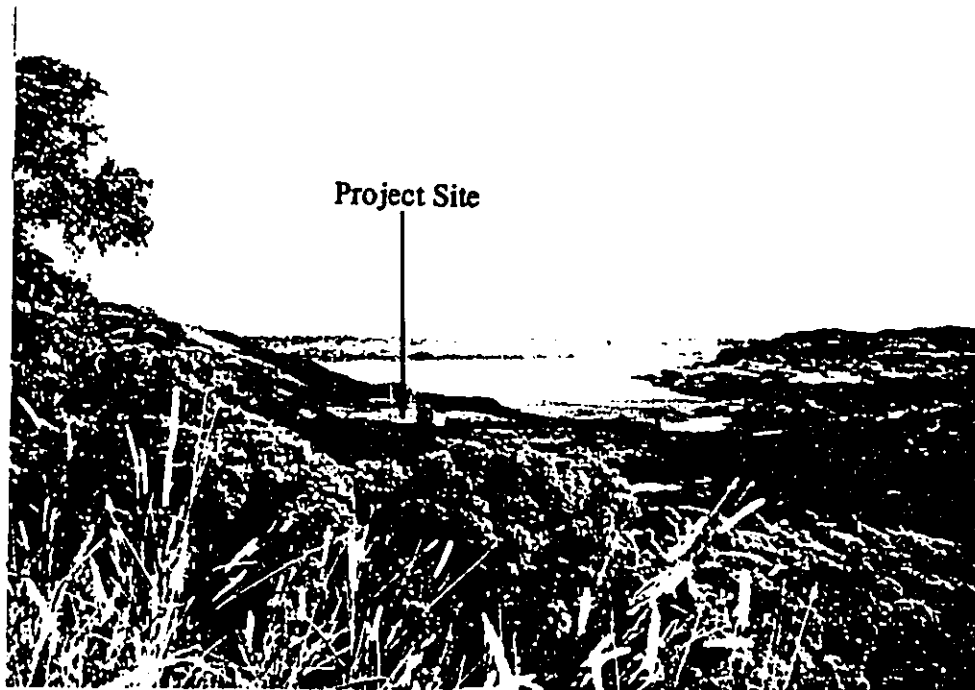
8. View of Project Entrance on Kapaa Quarry Road

Site Photographs

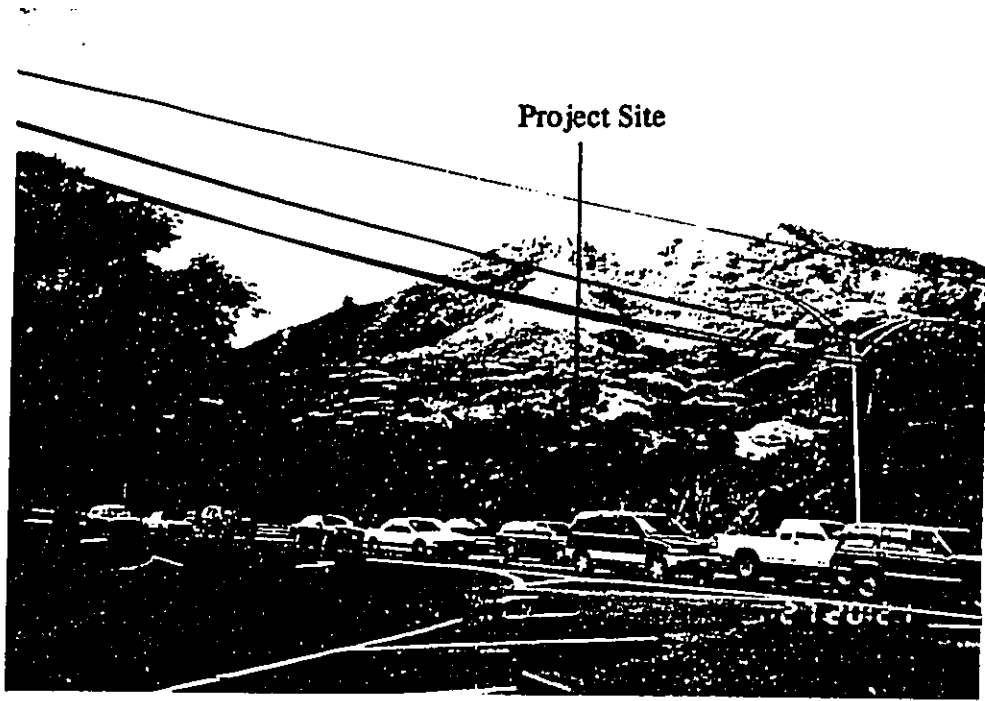
Le Jardin Academy



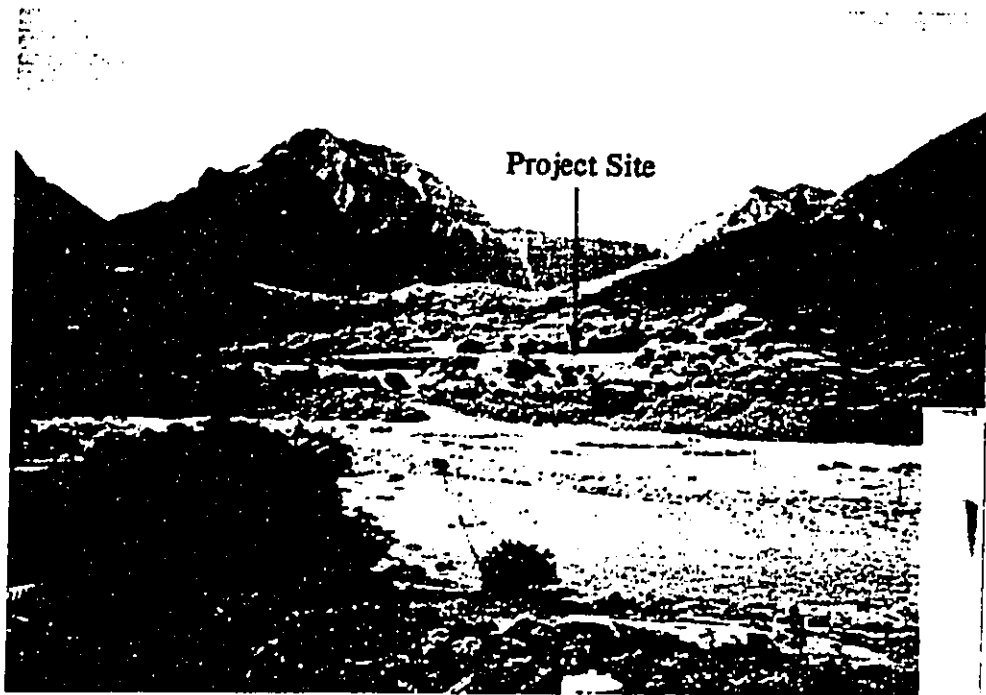
9. View from Olomana Subdivision
1618 Ulupini Place



10. View from Scenic Lookout - Pali Highway



11. View from Auloa Road/Kalaniana'ole Highway Intersection



12. View from Castle Medical Center (3rd Floor)



13. View from Kawai Nui Marsh near Kahanaiki Stream



14. View from Kawai Nui Marsh near Maunawili Stream



Simulated View of Le Jardin Academy (Full Development)
From Auloa Road/Kalaniana'ole Highway Intersection
Le Jardin Academy

4-31

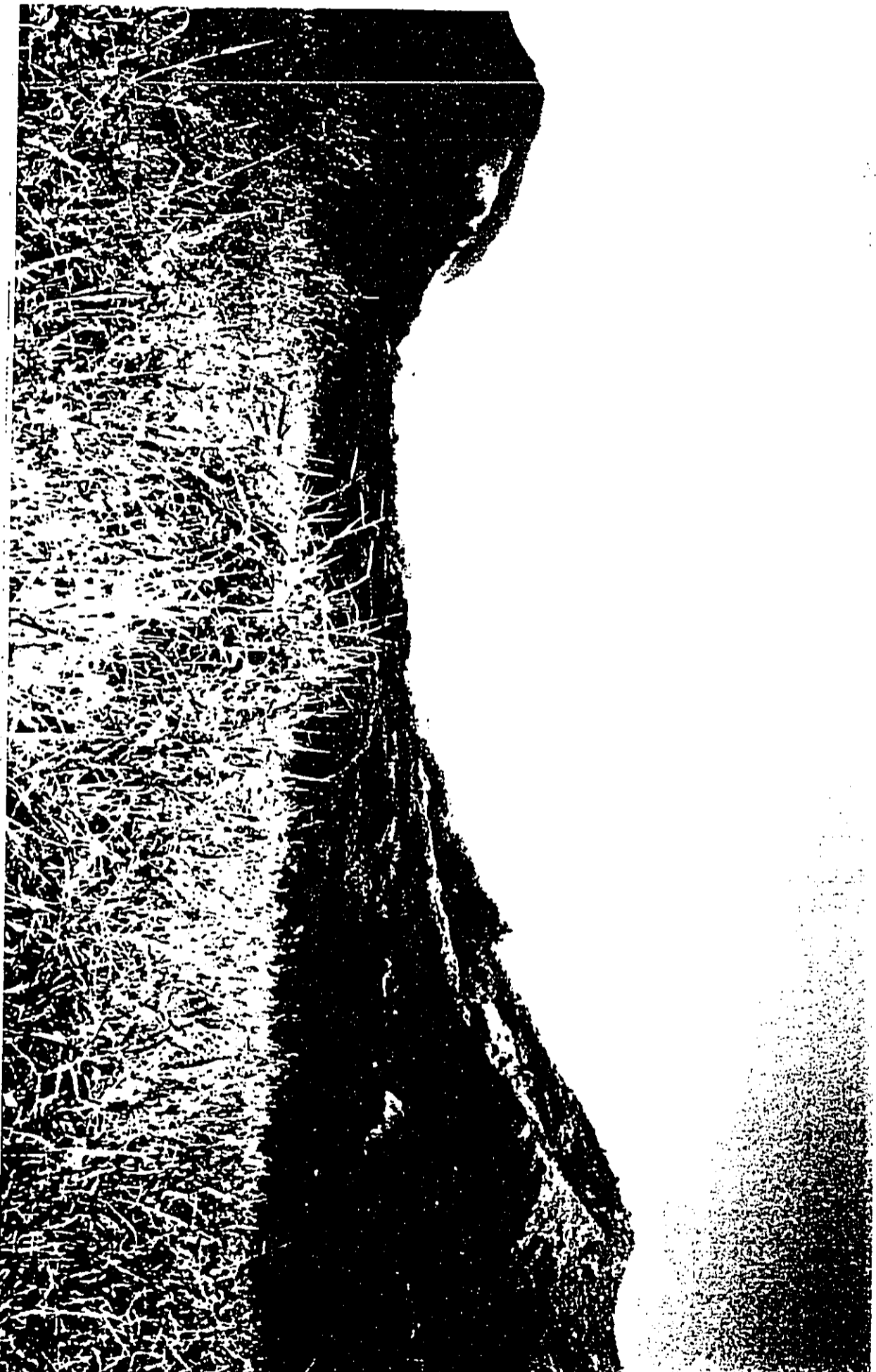
Figure 3-5





Simulated View of Le Jardin Academy (Full Development)
From Castle Medical Center (Third Floor)

Le Jardin Academy



Simulated View of Le Jardin Academy (Full Development)
From Kawai Nui Marsh
Le Jardin Academy

2.33

Figure 3-7

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The school may be visible from the proposed trails at the south west corner of the marsh, however, trails leading north from the proposed Visitor Center will be screened from the school by the many trees along Kapaa Quarry Road. The only view of the school facilities from the marsh will be the roof ridge of building closest to the makai edge of the site and the new landscaping. As the natural vegetation off-site grows taller over the coming years, views of the school site will become substantially screened.

The design concept for the new school buildings is intended to provide a residential scale and feeling. The new buildings will not be typical block-form institutional complex structures. Instead, the scale, style, materials and colors used will be complementary to the existing setting of surrounding natural hillsides and marshlands. Design concepts and elevation drawings for the school facilities will be developed by April-May 1996, and presented in conjunction with land use requests before the City.

Night lighting of the facilities at Le Jardin Academy will be noticeable at the project entrance road. From a distance, lighting in the upper story windows of some buildings may be noticed. Lighting at the athletic field, to be installed in the second phase of development, will be the most noticeable on-site lighting. To reduce visual impacts caused by infrequent nighttime field use, design of the athletic field lighting will be sensitive to spillover light and glare potential at adjoining areas.

One concern is the potential disruption of waterbirds and seabirds associated with Kawai Nui Marsh. Several options for design of the lighting systems at the athletic field are being considered in an effort to minimize light effects to off-site areas. There are numerous variables including: the number of lights, pole heights, beam widths, angle of direction, lighting sources, light intensity, shielding and screening. The system to be installed will include shielding. The direction of lighting will be focused toward the hillside and angled downward. All of these measures will help to minimize off-site spillover lighting and glare effects. The school facilities will create much less nighttime light impacts than would have resulted with the previously approved golf driving range.

3.5 *Description of the quality of receiving waters and groundwater (including potable water) resources. Description of potential effects on the groundwater recharge cycle within the groundwater control area; show existing and proposed well locations with pumping estimates. Description of potential effects on receiving waters - streams and ocean waters.*

3.5.1 Description of potential effects on the groundwater recharge cycle within the groundwater control area

In high rainfall areas such as the Windward side of Oahu, a significant percentage of the annual rainfall percolates below the ground surface to become groundwater. The groundwater in the Koolau Mountain Range is stored in the permeable basaltic lava flows between relatively impervious basaltic dikes. These dikes were formed by molten rock which solidified in the fissures of the volcano. Generally, the underground flow pattern of the groundwater is toward the ocean as higher level groundwater moves into lower head compartments by either flowing over the top of dikes or leaking through fractures in the dikes. Ultimately the groundwater in

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this region is either withdrawn through wells and tunnels, is lost to evapotranspiration, or is discharged into the ocean via streams and offshore/coastal springs.

The project site is perched on the hillside above Kawai Nui Marsh. Rainfall which infiltrates the site does not enter an aquifer used for drinking water. Groundwater at this site primarily flows laterally into Kawai Nui Marsh. Long-term operation of the school is not expected to create adverse impacts on groundwater quality. Use of biocides in landscape maintenance will be carefully controlled on the site by a trained grounds manager. Only those compounds which are allowed by law will be applied, and alternatives to biocide use for landscape maintenance will be instituted, as practicable.

3.5.2 Show existing and proposed well locations with pumping estimates

No wells are planned at the project site. Water for the campus will be supplied by the existing Board of Water Supply system.

3.5.3 Potential effects on receiving waters -- streams and ocean waters

A. **Existing Conditions:** Storm water runoff from the project site (in its current condition) travels overland by sheet flow and is conveyed to Kahanaiki Stream via swales and channels along the north side of Kalaniana'ole Highway. Runoff from the site currently contains soil particles due to erosion and organic debris. Water quality in the receiving waters varies according to the intensity of rainfall events in the watershed. Large events typically cause erosion from the hillsides upslope of the site, evident by the scoured slopes with minimal vegetation cover.

Suspended sediment is the primary water quality concern in the receiving waters at this location. Resource Consultants & Engineers (DLNR, July 1994) completed a technical study of sediment delivery to Kawai Nui Marsh. The project site lies within a 1.92 square mile drainage sub-area and is within the larger (9.61 square mile or 6150 acre) drainage basin feeding into Kawai Nui Marsh. The approximately 20 acre project site represents only 0.3 percent of this 6150 acre drainage basin. Sediment delivery from the surrounding watershed areas to Kawai Nui Marsh during the 2-year runoff event is estimated at over 10 tons per event. Larger storms are estimated to deliver up to seven times this amount. To trap sediment upstream of the marsh, a sediment basin is proposed in the Kawai Nui Marsh Master Plan for an area on the south side of the Kalaniana'ole Highway.

B. **Potential Impacts and Mitigative Measures:** Clearing and grubbing activities during construction will temporarily disturb the soil retention values of the existing vegetation and expose the soils to erosion forces. Despite construction site watering programs, wind erosion will likely cause some limited soil loss. Erosion and silt runoff during the construction phases may result in short-term effects on water quality draining from the site. In addition, construction activities must comply with permit conditions regulated by City and State authorities.

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In order to minimize the potential for suspended sediment transport during and following construction, while vegetation on the site is becoming established, storm water runoff will be diverted through grassed swales and sedimentation/water detention features. A watering program will be implemented to minimize soil loss through fugitive dust particulate emission from the construction site. Other control measures will include good housekeeping on the job-site and landscaping of bare soil areas as quickly as possible after construction. A discussion of construction phase mitigative measures is presented in Section 2.4.1.

The input of silt runoff to Kahanaiki Stream and Kawai Nui Marsh resulting from the proposed project will be relatively insignificant as compared to the huge chronic input of natural silt runoff occurring in each storm event. The project site will institute measures to carefully manage construction site drainage and earthwork operations. The grading activities will be subject to City DPW review and monitoring, and also regulated under an NPDES permit issued by the State DOH Clean Water Branch. Silt runoff must be controlled on-site to comply with permit requirements.

The long-term effect on receiving waters resulting from the project is expected to be a positive improvement over current conditions. The large existing parking lot surface will be substantially replaced with a campus of facilities and extensive landscaped open space. The rate of runoff from the property is anticipated to decrease by nearly fifty percent. Bare subsoil areas presently found on the site will be covered with a layer of topsoil and planted with landscaping, thereby eliminating areas exposed to erosion forces.

As further mitigation and stewardship, other programs could be considered. The surrounding hillside slope adjacent to the school campus is eroded and also presents a potential future aesthetic issue. The school and adjoining landowners, in conjunction with State programs and the larger community, may consider a cooperative program to plant and re-vegetate portions of this hillside. If this program is ultimately implemented, the loss of soils in runoff from this area could be significantly diminished.

3.6 Potential Cumulative and Secondary Impacts.

Cumulative effects are the impacts on the coastal zone which result from the incremental effects of an activity when added to other past present, and reasonably foreseeable future actions, regardless of what agency or person undertake such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Secondary effects are impacts that are associated with, but do not result directly from, an activity. Secondary effects can include growth inducing effects and other effects related to induced changes in the pattern of land use.

The environmental analysis of the proposed school project addresses full development of the facilities in the context of known planned or approved land uses in the vicinity. The only known proposed developments along Kapaa Quarry Road are the Visitor Center and potential expansion of the Industrial Park. The other mauka lands along the Quarry Road are in the State Conservation District, and are not possible development sites without significant new rezoning approvals.

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According to DLNR, there are currently no funds allocated for development of the marsh Visitor Center, yet there is interest in moving this project forward at some point in the future. The site is located at the intersection of Kapaa Quarry Road and Kalaniana'ole Highway, across from the proposed school site. The landowner of the Industrial Park at the northern end of Kapaa Quarry Road is looking into some business expansion within the existing designated industrial zone. Specific business uses have not been determined.

The Visitor Center and the Industrial Park operations will attract vehicles to these sites. The magnitude of these uses *cannot be estimated at this time* due to their undefined preliminary status, however, it is likely that the timing of their traffic will not coincide with the school traffic periods. Traffic interaction with the school should not conflict with the Visitor Center and Industrial Park because of the early start and mid-afternoon (non-peak hour) dismissal times. There may be some potential conflict with truck traffic along Kapaa Quarry Road, however, the truck speeds will be reduced by posting lower speed limits and enforcement in the area of the school.

Runoff from the Visitor Center and Industrial Park uses must meet the same strict requirements faced by the school project. There is a positive effect with the school project, because it reduces the volume of runoff water and silt to the marsh. New facilities in the area of the marsh will be required to manage their wastewater properly. The school is doing this by extending the wastewater collection line from the site to the Maunawili Pump Station. The school project also provides an potential opportunity for cooperative use with the State's Visitor Center to connect to new wastewater infrastructure at the extended sewer line.

In terms of cumulative effects to public views, the Visitor Center will be sensitively designed to complement the natural setting, as will the new school facilities. Further, a positive linkage will result between the Visitor Center and Le Jardin Academy, since the school site will be available for organized scenic viewing of the marsh.

Section 4.0

Project Impacts (Conformance to the
Coastal Zone Program)

SECTION 4.0

PROJECT IMPACTS

(CONFORMANCE TO THE COASTAL ZONE MANAGEMENT PROGRAM)

The objectives of the Hawaii Coastal Zone Management Program, Section 205A-2, HRS, are to protect valuable and vulnerable coastal resources such as coastal ecosystems, special scenic and cultural values and recreational opportunities. The objectives of the program are also to reduce coastal hazards and to improve the review process for activities proposed within the coastal zone.

Described below are the seven objectives of the Hawaii Coastal Zone Management Program and an assessment of the project impacts relative to the CZM objectives and policies.

(1) Recreational Objective

"Provide coastal recreational opportunities accessible to the public."

(A) *Improve coordination and funding of coastal recreation planning and management.*

(B) *Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by:*

- (i) *Protecting coastal resources uniquely suited for recreational activities that cannot be provided in other areas;***
- (ii) *Requiring replacement of coastal resources having significant recreational value, including but not limited to surfing sites and sandy beaches, when such resources will be unavoidably damaged by development; or requiring reasonable monetary compensation to the State for recreation when replacement is not feasible or desirable;***
- (iii) *Providing and managing adequate public access, consistent with conservation of natural resources, to and along shorelines with recreational value;***
- (iv) *Providing an adequate supply of shoreline parks and other recreational facilities suitable for public recreation;***
- (v) *Encouraging expanded public recreational use of county, State, and federally owned or controlled shoreline lands and waters having recreational value;***
- (vi) *Adopting water quality standards and regulating point and nonpoint sources of pollution to protect and where feasible, restore the recreational value of coastal waters;***
- (vii) *Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, artificial reefs for surfing and fishing;***
- (viii) *Encouraging reasonable dedication of shoreline areas with recreational value for public use as part of discretionary approvals or permits by the land use commission, board of land and***

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natural resources, county planning commissions; and crediting such dedication against the requirements of section 46-6.

Discussion: Recreational facilities at the new campus will include athletic fields/courts, a pool, a gymnasium, visual and performance arts space, and a scenic overlook area. These facilities will be privately funded.

Public access to the new school site will be provided to organized groups and individuals that make specific arrangements with Le Jardin Academy to view the marsh. Access to the site by the public would not be unlimited because of school activities and security requirements. The organized public use of the scenic overlook area (formerly labeled as the amphitheater on the concept plan) will be encouraged. Specific time periods will be established for such use, including weekends. The community preferences for public access periods will be determined in future meetings with interested groups and individuals. At this new location, the school will continue and expand its long history of environmental and cultural education programs.

No existing or planned public recreational facilities will be affected by the development of the school at this site. Runoff from the site will be reduced by up to 70 percent in the school facilities development area, thus decreasing the amount of nonpoint source pollution and enhancing the quality of water entering Kawai Nui Marsh.

(2) Historic Resources Objective

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

(A) Identify and analyze significant archaeological resources.

(B) Maximize information retention through preservation of remains and artifacts or salvage operations.

(C) Support State goals for protection, restoration, interpretation and display of historic resources.

Discussion: An archaeological survey completed by Bishop Museum (Applied Research Group, 1989) found no historic resources on the subject property. The State Historic Preservation Division has determined that the development of Le Jardin Academy at this site will not impact any historic sites nor will it affect historical interpretive programs planned for Kawai Nui Marsh (Hibbard, DLNR, 12 April 95).

As discussed in Section 3.3, two historic sites were found just outside the north and west sides of the property. Construction will not impact those historic sites identified off-site. State Site 50-Oa-G6-89, north of the project site, will be physically identified to avoid accidental disturbance of the remains. If subsurface remains are uncovered during development of Le Jardin's new campus, work in the area of such remains would be suspended immediately and

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the Historic Sites Office of the State Department of Land and Natural Resources would be notified to determine the appropriate course of action.

Le Jardin Academy will continue to emphasize cultural and natural history in its curriculum.

3) Scenic and Open Space Resources Objective

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

(A) *Identify valued scenic resources in the coastal zone management area.*

(B) *Insure that new developments are compatible with their visual environment by designing and locating such developments to minimize the alteration of natural landforms and existing public views to and along the shoreline.*

(C) *Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources.*

(D) *Encourage those developments which are not coastal dependent to locate in inland areas.*

Discussion: Although the project is not coastal dependent, it represents a redevelopment that is an improvement over the previous urbanized land use (drive-in theater) and a scenic eyesore today (illegal dumping).

Le Jardin Academy will be designed with the character of a residential neighborhood, with attractive pitched roofs. New landscaping will also be established around the school to improve the visual appeal of the site which is currently used as an illegal dump. As discussed further in Section 3.4, structures at the new campus will be designed and sited to minimize visual effects to the surrounding areas. Specific layout of the site and design of structures will be addressed during the Site Plan Review process.

The topography of the former drive-in sites allows expansive views toward Mt. Olomana and the Koolau Range. At the eastern edge of the site, views of Kawai Nui Marsh, Kailua town, and the ocean are available. Public access to the new school site will be provided to organized groups and individuals that make specific arrangements with Le Jardin Academy to view the marsh. Access to the site by the public would not be unlimited because of school activities and security requirements. This development will be a great improvement over the inaccessible and dangerous existing conditions. While the old drive-in is private property, it is currently used as an unauthorized dumping ground for abandoned cars, refrigerators, other household appliances, etc.

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(4) Coastal Ecosystems Objective

"Protect valuable coastal ecosystems from disruption and minimize adverse impacts on all coastal ecosystems."

- (A) Improve the technical basis for natural resource management.
- (B) Preserve valuable coastal ecosystems of significant biological or economic importance.
- (C) Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs.
- (D) Promote water quantity and quality planning and management practices which reflect the tolerance of fresh water and marine ecosystems and prohibit land and water uses which violate state water quality standards.

Discussion: The project will have no adverse effect on coastal ecosystems. Runoff will be controlled at the project site, and reduced from current levels due to the elimination of large amounts of existing paved surface area. Mitigative measures to reduce runoff for the short-term construction and long-term use of the site are discussed in detail in Sections 2.4.1 and 3.5.3. A runoff mitigation plan will be prepared and submitted with NPDES and grading permit applications. Best management practices will be applied in site construction activities.

(5) Economic Uses Objective

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

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

Discussion: The subject property has no economic activity at present. The proposed action will generate short-term economic benefits from construction activity. Total project cost is estimated at approximately \$20 million for Phases I and II. Long-term economic benefits from

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Le Jardin Academy will result from employment and on-going expenditures. There will be net economic benefits to the City and State from the school operations.

(6) Coastal Hazards Objective

"Reduce hazard to life and property from tsunamis, storm waves, stream flooding, erosion and subsidence."

(A) Develop and communicate adequate information on storm wave, tsunami, flood, erosion, and subsidence hazard.

(B) Control development in areas subject to storm wave, tsunami, flood, erosion, and subsidence hazard.

(C) Ensure that developments comply with requirements of the Federal Flood Insurance Program.

(D) Prevent coastal flooding from inland projects.

Discussion: The project is outside the 100-year and 500-year flood hazard areas as defined by the Federal Emergency Management Agency, Flood Insurance Rate Map (refer to Section 2.4.4). Drainage patterns after development of the site are expected to remain similar to existing conditions. Mitigative measures to reduce erosion and runoff for the short-term construction and long-term use of the site are discussed in detail in Sections 2.4.1 and 3.5.3.

(7) Managing Development Objective

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

(A) Effectively utilize and implement existing law to the maximum extent possible in managing present and future coastal zone development.

(B) Facilitate timely processing of application for development permits and resolve overlapping or conflicting permit requirements.

(C) Communicate the potential short and long-term impacts of proposed significant coastal developments early in their lifecycle and in terms understandable to the general public to facilitate public participation in the planning and review process.

Discussion: Le Jardin Academy is committed to open discourse with citizens, public agencies, and private organizations concerning its plans for the new campus at the former Kailua Drive-in site. Since November, 1994 representatives of Le Jardin Academy have held informational meetings and discussions with the following organizations and individuals:

- City and County of Honolulu, Department of Planning
- City and County of Honolulu, Department of Land Utilization

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- Councilmembers of the City and County of Honolulu
- Mayor Jeremy Harris
- City and County of Honolulu Dept. of Housing and Community Development
- Department of Land and Natural Resources
- Kailua Neighborhood Board
- Kawai Nui Heritage Foundation
- Kaneohe Neighborhood Board
- Pohakupu Kukunono Community Association Board
- Windward Arts Council
- Maunawili Association
- Olomana Neighborhood Association
- Kaneohe Ranch
- Budget Realty
- Kaneohe Rotary
- Lani-Kailua Outdoor Circle
- Windward Rotary
- Lanikai Association
- U.S. Fish and Wildlife Service
- U.S. Army Corps of Engineers
- City and County of Honolulu Dept. of Wastewater Management
- Board of Water Supply
- City and County of Honolulu Dept. of Public Works
- Hawaiian Electric Company

SMA GUIDELINES (Section 25-3.2, ROH)

The review guidelines of Section 25-3.2 of the Revised Ordinances of Honolulu (ROH) are used by the Department of Land Utilization and the City Council for the review of developments proposed in the Special Management Area (SMA). These guidelines are derived from Section 205A-26 HRS. The consistency of the proposed project with the guidelines is discussed below.

(1) All development in the special management area shall be subject to reasonable terms and conditions set by the Council in order to ensure that:

- (a) Adequate access, by dedication or other means, to publicly owned or used beaches, recreation areas, and natural reserves is provided to the extent consistent with sound conservation principles;*
- (b) Adequate and properly located public recreation areas and wildlife preserves are reserved;*
- (c) Provisions are made for solid and liquid waste treatment, disposition, and management which will minimize adverse effects upon special management area resources; and*
- (d) Alterations to existing land forms and vegetation, except crops, and construction of structures shall cause minimum adverse effect to water resources and scenic and recreational amenities and minimum danger of floods, landslides, erosion, siltation or failure in the event of earthquake.*

Discussion: The proposed action will involve roadway and drainage facilities construction, utilities installation, and educational facilities development within the SMA. The project will

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generally be consistent with this policy because no public areas or wildlife preserves are affected by the project. Water and scenic resources will not be adversely affected.

Existing and proposed use of utilities are discussed in detail in Section 2.2.4. Existing electrical, solid waste disposal, and liquid waste disposal systems have adequate capacity to service the new school. It must be noted that the new school will utilize the same systems which are serving the existing campus.

The potential impacts of development on soils and water quality are discussed in Sections 2.4.1 and 3.5.3. Given prior mass grading for development of the Kailua Drive-in Theater, only fine adjustments to the site grades are required for construction of the new campus. Measures will be taken during construction and operation of the school to minimize soil erosion and effects to water quality. Runoff will decrease in the long term with the removal of a substantial amount of the impervious drive-in parking lot surface. Erosion on-site will decrease due to the runoff controls and provision of landscaping over existing bare soil areas.

(2) *No development shall be approved unless the Council has first found that:*

- (a) *The development will not have any substantial, adverse environmental or ecological effect except such adverse effect is minimized to the extent practicable and clearly outweighed by public health and safety, or compelling public interests. Such adverse effect shall include, but not be limited to, the potential cumulative impact of individual developments, each one of which taken in itself might not have a substantial adverse effect, and the elimination of planing options;*
- (b) *The development is consistent with the objectives and policies set forth in Section 25-3.2 and area guidelines contained in Section 205A-26, Hawaii Revised Statutes; and*
- (c) *The development is consistent with the County General Plan, Development Plans, Zoning and subdivision codes and other applicable ordinances.*

Discussion: Unavoidable short-term environmental effects will occur in the SMA during construction, including soils disturbance, erosion, limited clearing, wildlife disturbance, construction noise, dust and exhaust emissions, and views of construction. Following construction, these short-term impacts will cease, and there will be beneficial long-term impacts such as a reduction in runoff and enhancement of landscape vegetation.

The consistency of the proposed action with the objectives and policies of the Hawaii State Plan, County General Plan and Koolauoko Development Plan are described earlier in Section 3.1.4. Upon receipt of the requested zone change and subdivision approvals, the applicant will observe the regulations of the Land Use Ordinance, Subdivision Code and other applicable ordinances.

(3) *The Council shall seek to minimize, where reasonable:*

- (a) *Dredging, filling or otherwise altering any bay, estuary, salt marsh, river mouth, slough or lagoon;*
- (b) *Any development which would reduce the size of any beach or other area usable for public recreation;*

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- (c) *Any development which would reduce or impose restrictions upon public access to tidal and submerged lands, beaches, portions of rivers and streams within the special management area and the mean high tide line where there is no beach;*
- (d) *Any development which would substantially interfere with or detract from the line of sight toward the sea from the State highway nearest the coast; and*
- (e) *Any development which would adversely affect water quality, existing areas of open water free of visible structure, existing and potential fisheries and fishing grounds, wildlife habitats, or potential or existing agricultural uses of land.*

Discussion: For the most part, these review guidelines do not apply to the proposed action. The project will reduce paved surfaces from existing conditions, and control runoff with an on-site system of depressions and swales. . With planned erosion controls, the projects will not adversely affect water quality. Sections 2.4.1 and 3.5.3 provide detailed discussion of these issues.

Section 5.0

Mitigative Measures

SECTION 5.0

MITIGATIVE MEASURES

This section includes a summary presentation of mitigative measures planned to be implemented at the project site to minimize potential impacts. The issues addressed are relevant to SMA issues, and additional mitigation is planned to offset other impacts that are not SMA-related.

5.1 POTENTIAL SHORT-TERM ADVERSE IMPACTS AND MITIGATIVE MEASURES

Project development activities will involve the construction of classroom, academic support, administrative, and multipurpose facilities, as well as outdoor athletic facilities, utilities, and roadways. Short-term construction related impacts on the environment will be generated by the project, and mitigative measures will be implemented to minimize these impacts.

Potential short-term adverse impacts and mitigative measures are listed below.

1. Soils will be disturbed for grading and excavation, and some short-term soil erosion will occur. An Erosion Control and Sedimentation Plan for the construction will be prepared for the project, and must be approved by the City and County of Honolulu Department of Public Works as part of the Grading, Grubbing and Stockpiling Permit. Proposed mitigation will include soils management measures and drainage controls that will substantially minimize soil erosion. Drainage detention basins will be constructed prior to clearing and grading to control runoff during the construction period. Planting programs will be implemented immediately following construction to minimize soil erosion. Refer to Section 2.3.1 and 2.3.3, and Appendix B.
2. There is anticipated to be a slight increase in suspended sediments in storm runoff as a result of some unavoidable soil erosion during the construction period. Proposed soil management measures and drainage controls will minimize soil erosion and subsequent addition of suspended sediments to storm water runoff, as per State Department of Health (DOH) recommended techniques including Best Management Practices and Coastal Nonpoint Pollution Control programs. The project will be monitored under a required NPDES permit for construction of stormwater and erosion controls. Refer to Section 2.3.1 and 2.3.3, and Appendix B
3. Various introduced types of plant and wildlife species occur in areas of the project site will be affected by construction. Wildlife will generally be displaced temporarily during the construction period. Landscape plantings, are expected to provide replacement habitat for common birds and mammal species.
4. Noise will be generated by construction activities on the project site. Construction operations must comply with State DOH regulations and the City and County of

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Honolulu Noise Ordinance, which limits construction operations and resultant noise to daytime hours and specific maximum levels. Construction noise is not anticipated to raise concerns as the nearest residential area, Maunawili, is over 1,200 feet from the project site.

5. Air quality will be affected by the generation of fugitive dust, and construction equipment and worker vehicle emissions. Dust conditions will be controlled by frequent watering of roadways, and other soil management measures. Equipment will be maintained in proper working order to minimize emissions.
6. Construction activities may be visible at the eastern edge of the project site, along Kapaa Quarry Road. Views of the construction operations on the site will be minimized by proper equipment and materials storage, minimized vegetation clearing, sensitive site planning and building design, and expedient re-vegetation after construction.

5.2 POTENTIAL LONG-TERM ADVERSE IMPACTS AND MITIGATIVE MEASURES

Once Le Jardin Academy's new campus is completely developed, some long-term effects will have occurred or will continue to occur. Mitigative measures will be implemented to minimize the long-term adverse effects of the project.

Potential long-term adverse impacts and mitigative measures are listed below.

1. Limited grading will be completed to make fine adjustments to the project site grades for school construction.
2. It is possible that minor contributions of fertilizer constituents and biocides may enter storm water runoff generated on the project site. Intermittent streams will collect and transport some of this runoff during peak precipitation periods. Fertilizers and biocides will be carefully controlled in amounts applied to landscaped areas following an Integrated Pest Management (IPM) program. No applications will occur during high precipitation periods, and applications will be managed by trained personnel.
3. Water for the site will be derived from the City Board of Water Supply system. Wastewater generated on-site will be conveyed to the City's treatment facility. HECO electrical service and private solid waste collection will be required at the new campus. The existing school campus on Kailua Road places a demand on all these services, and this demand will be shifted to the new site.
4. Vegetation clearing will be necessary for school and infrastructure development. Most open land will be re-vegetated with grasses, trees, and other plants as soon as possible after clearing. No significant vegetation or native plants will be affected by the development of the new school campus. The eroded hillside area surrounding the site is planned to be re-vegetated in association with the project.

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5. Existing habitat for birds and other wildlife species in the SMA will be affected. Some wildlife species will be displaced from this area and relocate in adjacent open space areas. Landscape plantings at the new campus will re-establish habitat for wildlife.
6. Suspended sediments in storm runoff from portions of the property may reach the intermittent streams and marsh during peak storm water runoff periods. With the project completed, the concentration of suspended sediments in runoff from the property is expected to be lower than current levels. Small amounts of fertilizer and biocide constituents in runoff from the maintenance operations may be carried off-site. Drainage controls will minimize the introduction of these potential contaminants. Refer to Section 2.3.1 and 2.3.3, and Appendix B.
7. Parts of the new school may be visible from Kalaniana'ole Highway, Kapaa Quarry Road and other select locations in the surrounding area. Landscaping and appropriate site planning and facility design will minimize the visibility of structures from off-site areas. Nighttime lighting will be designed to minimize off-site indirect lighting effects.

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References

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LIST OF REFERENCES AND PERSONAL COMMUNICATIONS

- Berger, Andrew. September 1988. Terrestrial Vertebrate Animals of the Proposed Windward Park, Kailua, TMK 4-2-12: 2 & 4.
- Cabana, G. Board of Water Supply - Customer Service Branch, Personal Communication with S. Tomai, Sam O. Hirota, Inc.
- Ching, B. U.S. Army Corps of Engineers - Planning Division, February 8, 1996. Personal Communication with J. Overton, Group 70 International, Inc.
- City and County of Honolulu, Department of Real Property Assessment. Tax Maps for TMK 4-2-13 and TMK 4-2-14.
- City and County of Honolulu, Department of Land Utilization. 1987. Coastal View Study.
- City and County of Honolulu, Department of Land Utilization. Updated 1995. Zoning Map No. 22. Heeia to Maunawili.
- City and County of Honolulu, Department of Land Utilization. 1985. Koolaupoko Special Management Area (SMA) Map.
- City and County of Honolulu, Planning Department. 1969. Photogrammetric Topography Maps: Oahu 584-72 and 584-78.
- City and County of Honolulu, Planning Department. 1992. General Plan for City and County of Honolulu.
- City and County of Honolulu, Planning Department. Updated 1995. Koolaupoko Development Plan Land Use Map.
- City and County of Honolulu, Planning Department. Updated 1995. Koolaupoko Development Plan Public Facilities Map.
- Coloretti, A. Staff to Councilmember Steve Holmes, February 8, 1996. Personal Communication with J. Overton, Group 70 International, Inc.
- Dye, T. Department of Land and Natural Resources, Historic Preservation Division, February 7, 1996. Personal Communication with J. Overton, Group 70 International, Inc.
- Elliot, S. Hawaiian Electric Company, Inc., February 7, 1996. Memorandum to C. Ruotola, Group 70 International, Inc.

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- Federal Emergency Management Agency. September 4, 1987. Flood Insurance Rate Map, City and County of Honolulu, Panel 90 of 135.
- Hawaii Coastal Zone Management Program (Office of State Planning). December 1995. Hawaii's Coastal Nonpoint Pollution Control Program Draft Management Plan.
- Herlinger, B. Kawai Nui Heritage Foundation, January 30, 1996. Personal Communication with J. Overton, Group 70 International, Inc.
- Land Study Bureau, University of Hawaii. 1972. Detailed Land Classification, Island of Oahu. Bulletin No. 11.
- Linney, George K. and Winona P. Char. October 1988. Botanical Survey, Proposed 18-Hole Golf Course at Windward Park, Kailua.
- Okita, G. Department of Wastewater Management - Collection and Design Section, July 27, 1995, Personal Communication with S. Tomai, Sam O. Hirota, Inc.
- Pantaleo, Jeffrey and Paul L. Cleghorn. February 1989. A Reconnaissance Survey of the Proposed Windward Park, Kailua, Oahu Island. Applied Research Group, Bishop Museum.
- Saavedra, A. Department of Wastewater Management - Public Service Section, July 27, 1995. Personal Communication with S. Tomai, Sam O. Hirota, Inc.
- Smith, D. Department of Land and Natural Resources, State Biologist, February 7, 1996. Personal Communication with J. Overton, Group 70 International, Inc.
- Stahl, M. U.S. Fish and Wildlife Service, February 6, 1996. Personal Communication with J. Overton, Group 70 International, Inc.
- State of Hawaii Land Use Commission. Updated 1995. State Land Use District Map.
- State of Hawaii, Department of Agriculture. January 1977. Agricultural Lands of Importance to the State of Hawaii (ALISH) Maps - Island of Oahu - Kaneohe, Mokapu, Koko Head, and Honolulu Quadrangles.
- State of Hawaii, Department of Land and Natural Resources. 1994. Kawai Nui Marsh Master Plan. Prepared by Wilson, Okamoto and Associates, Inc., Honolulu, Hawaii.
- State of Hawaii, Department of Planning and Economic Development. March 1983. Resource Management Plan for Kawai Nui Marsh.
- State of Hawaii, Office of State Planning. December 1995. Hawaii's Coastal Nonpoint Pollution Control Program Draft Management Plan. Hawaii Coastal Zone Management Program, Honolulu, Hawaii.

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FINAL ENVIRONMENTAL ASSESSMENT

- Takayesu, G. Department of Public Works - Division of Engineering, July 19, 1995. Personal Communication with S. Tomai, Sam O. Hirota, Inc.
- Tano, S. Department of Public Works - Drainage Section, July 28, 1995. Personal Communication with S. Tomai, Sam O. Hirota, Inc.
- U.S. Army Corps of Engineers, Honolulu District. April 1991. Kawai Nui Marsh Flood Control Project: Detailed Project Report and Environmental Impact Statement (Draft).
- U.S. Department of Agriculture, Soil Conservation Service. August 1972. Soil Survey of Islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawaii. Prepared in cooperation with the University of Hawaii Agricultural Experiment Station
- U.S. Geological Survey. 1983. Topographic Quadrangle Maps - Oahu - Kaneohe, Mokapu, Koko Head, and Honolulu
- Windward Park, Inc. April 1990. Windward Park Golf Driving Range Revised Environmental Assessment. Prepared by DHM Planners Inc., Honolulu, HI.
- Wong, D. Kailua Neighborhood Board - Planning Committee, January 16, 1996. Personal Communication with J. Overton, Group 70 International, Inc.
- Yuen, T. Division of Wastewater Management - Planning Section, July 3, 1995. Personal Communication with S. Tomai, Sam O. Hirota, Inc.

Section 7.0

Comments and Responses

LE JARDIN ACADEMY
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SECTION 7.0
COMMENTS AND RESPONSES

Agency/Organization	Comments Received
A. Federal Agencies	
U.S. Fish and Wildlife Service	X
U.S. Department of the Army	X
B. State Agencies	
Department of Health	X
Department of Land and Natural Resources	X
Commission on Water Resource Management	X
Division of Aquatic Resources	X
Division of State Parks	X
Land Division	X
State Historic Preservation Division	X
Department of Transportation	--
Office of Environmental Quality Control	X
Office of Hawaiian Affairs	--
Office of State Planning	X
Representative Cynthia Thielen	--
State Land Use Commission	X
Senator Michael Liu	--
C. City and County of Honolulu	
Board of Water Supply	X
City Councilmembers	
Mufi Hannemann	--
Steve Holmes	--
Donna Mercado Kim	--
Department of Parks and Recreation	X
Department of Public Works	X
Department of Transportation Services	X
Department of Wastewater Management*	X

LE JARDIN ACADEMY
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Agency/Organization	Comments Received
C. City and County of Honolulu (continued)	
Honolulu Fire Department	X
Honolulu Police Department	X
Kailua Neighborhood Board No. 31	X
Kaneohe Neighborhood Board No. 30	-
Planning Department	X
D. Landowners	
Harold K. L. Castle Foundation	-
Nakamura Properties, Inc.	-
Antone S. Teixeira Trust	-
Windward Park, Inc.	-
State of Hawaii DLNR (above)	X
E. Organizations	
Maunawili Estates Community Association	X
Kawai Nui Heritage Foundation	X
Hawaii's 1000 Friends	X
Life of the Land	-
Hawaii Environment Center	-
F. Individuals	
Keith Krueger	-
A. Kimball Thompson	X
K.N. Tsuchiya	X

* Comments submitted regarding the Change of Zone Application



United States Department of the Interior

FISH AND WILDLIFE SERVICE
PACIFIC ISLANDS ECOREGION
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APR 17 1996

GROUP 70

APR 15 1996

In Reply Refer To: MSS

Mr. Patrick Onishi
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Re: Le Jardin Academy Project 96/Z-4 and 96/SMA-015

Dear Mr. Onishi:

The U. S. Fish and Wildlife Service (Service) has reviewed the Environmental Assessment (EA) submitted in support of the February 1996 Special Management Area (SMA) Use Permit Application and the March 1996 application for Change of Zone from P-2 General Preservation District to AG-2 General Agricultural District for the Le Jardin Academy in Kailua, Oahu.

Le Jardin Academy plans to construct a new campus on approximately 20 acres of land located at the site of the former Kailua Drive-In Theater in Koolaupoko, Kailua. The parcel of land is located within the SMA for Kawainui Marsh, which is Hawaii's largest remaining emergent wetland. Besides its size and public value as a flood basin, Kawainui Marsh is also significant because it provides habitat for Hawaii's four federally listed endangered waterbirds and many species of migratory waterfowl and shorebirds.

In an effort to enhance the habitat values of Kawainui Marsh for endangered and migratory waterbirds, the U.S. Army Corps of Engineers and the Hawaii Division of Forestry and Wildlife (DOFAW) are preparing a proposal for a wetland restoration project at the marsh that will be submitted for funding under section 1135 of the Water Resources Development Act. Much of the restoration work will be within proximity to the proposed Le Jardin Academy. Because runoff from the school grounds will enter Kawainui Marsh via Kahanaiki Stream, the Service is concerned that the proposed restoration work and the marsh itself may be impacted by runoff generated at the site both during and after construction of the school.

The EA addresses the potential impacts from runoff, especially sediment-laden runoff, associated with the proposed project and includes a general description of mitigation measures to reduce these impacts. Nevertheless, the Service would like to review a detailed mitigation plan that (1) identifies the type and location of the specific measures to reduce sediment runoff into the marsh during the construction phase and (2) includes post-project monitoring to evaluate runoff characteristics from the school into the marsh. We recommend that the detailed mitigation and monitoring plan be developed in coordination with the Clean Water Branch of the Hawaii Department of Health.

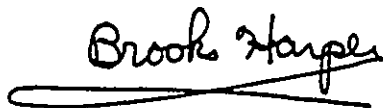
A second concern of the Service that is addressed in the EA is the potential for night lighting at the proposed athletic field to negatively impact migratory seabirds including wedge-tailed shearwaters (*Puffinus pacificus*) and federally threatened Newell's shearwaters (*Puffinus auricularis*). The Service believes that night lighting, despite measures to shield and minimize glare, may attract seabirds, especially between October and November each year when young birds leave interior mountain nest sites for the first time. Interior and exterior lighting at night of multiple story buildings may present similar problems. We recommend that the applicant be required to develop a plan to restrict the use of the athletic field and multiple story buildings at night if seabird fall out is identified as a problem at the school. Alternately, the school should be required to develop a plan in consultation with the DOFAW to monitor areas around the athletic field and any multiple story buildings lighted at night in order to rescue and transport downed seabirds to an authorized rehabilitation facility.

The Service believes that human-generated noise from the proposed amphitheater will not adversely affect waterbirds using the marsh. However, we recommend that sound reduction devices (e.g., mufflers) be used on appropriate construction equipment, whenever possible, to minimize noise disturbance to waterbirds. If the Service or the DOFAW determines that noise levels are adversely affecting endangered waterbirds, the Service will recommend that construction be halted until measures are identified to resolve the problem.

Finally, the Service is concerned that litter, trash, and discarded items may attract and provide breeding sites for predators such as mongoose and feral cats. The applicant should be advised of this concern and the importance of maintaining the school grounds as litter-free as possible.

The Service appreciates the opportunity to provide comments on these applications. If you have questions regarding these comments, please contact Fish and Wildlife Biologist Margo Stahl at 808/541-3441.

Sincerely,



Brooks Harper
Field Supervisor
Ecological Services

cc: DLNR, Honolulu
DOFAW, Honolulu
Group 70, Honolulu



GROUP 70
INTERNATIONAL

May 9, 1996

US Department of the Interior
Fish and Wildlife Service
Ms. Brooks Harper
300 Ala Moana Boulevard, Room 3108
Box 5008
Honolulu, HI 96813

**Subject: Le Jardin Academy, Kailua, Koolaupoko, Oahu, HI
Response to Comments on Draft Environmental Assessment and
Change of Zone Application**

Dear Ms. Harper:

Thank you for providing your comments on the Draft Environmental Assessment and Change of Zone Application for Le Jardin Academy's proposed new campus. We have prepared responses to the issues raised in your letter to Mr. Patrick Onishi.

We are aware of plans for a wetland restoration project at Kawai Nui Marsh and feel that Le Jardin Academy will be a valuable neighbor to the project. Public access to the new school site will be provided to organized groups and individuals that make specific arrangements with Le Jardin Academy to view the marsh. Access to the site by the public would not be unlimited because of school activities and security requirements.

Le Jardin Academy will make every practical effort to protect the marsh from the effects of construction runoff. Numerous measures are planned to mitigate runoff including Best Management Practices. A detailed runoff mitigation plan will be prepared and submitted with permit applications for the Grading, Grubbing and Stockpiling Permit; and NPDES Permit. The mitigation plan will be developed in conjunction with the DOH Clean Water Branch. When it becomes available, we will provide a copy of the mitigation plan to your organization.

Le Jardin Academy will work with the Fish and Wildlife Service and DOFAW to monitor lighted areas and rescue downed seabirds. The school will minimize lighting during periods when the seabirds are most likely to be affected. In particular, use of field lighting and exterior building lights will be minimized during the two-week period around the new moon in October and November. In addition to these safety measures, Le Jardin Academy will use the monitoring activity as an impetus for classroom discussions of the unique seabirds.

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
Sheryl B. Seaman, AIA, ASID
Hitoshi Hida, AIA
Roy H. Nihei, AIA, CSI
James I. Nishimoto, AIA
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Stephen H. Yuen, AIA

Paul P. Chorney, AIA
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Janet M. Bucholdt
Ronald L. Proctor
Charles F. Schriever, AIA
Cathryn A. Tsukano
Roy A. Inouye
Mary J. O'Leary

Letter to Ms. Brooks Harper
U.S. Fish and Wildlife Service
May 9, 1996
page 2

The contractor will be required to use and maintain sound reduction devices such as mufflers on construction equipment. Litter will be disposed of properly during construction and once the school is operating. The Le Jardin campus will be a vast improvement over the current use of the drive-in as an unauthorized dump.

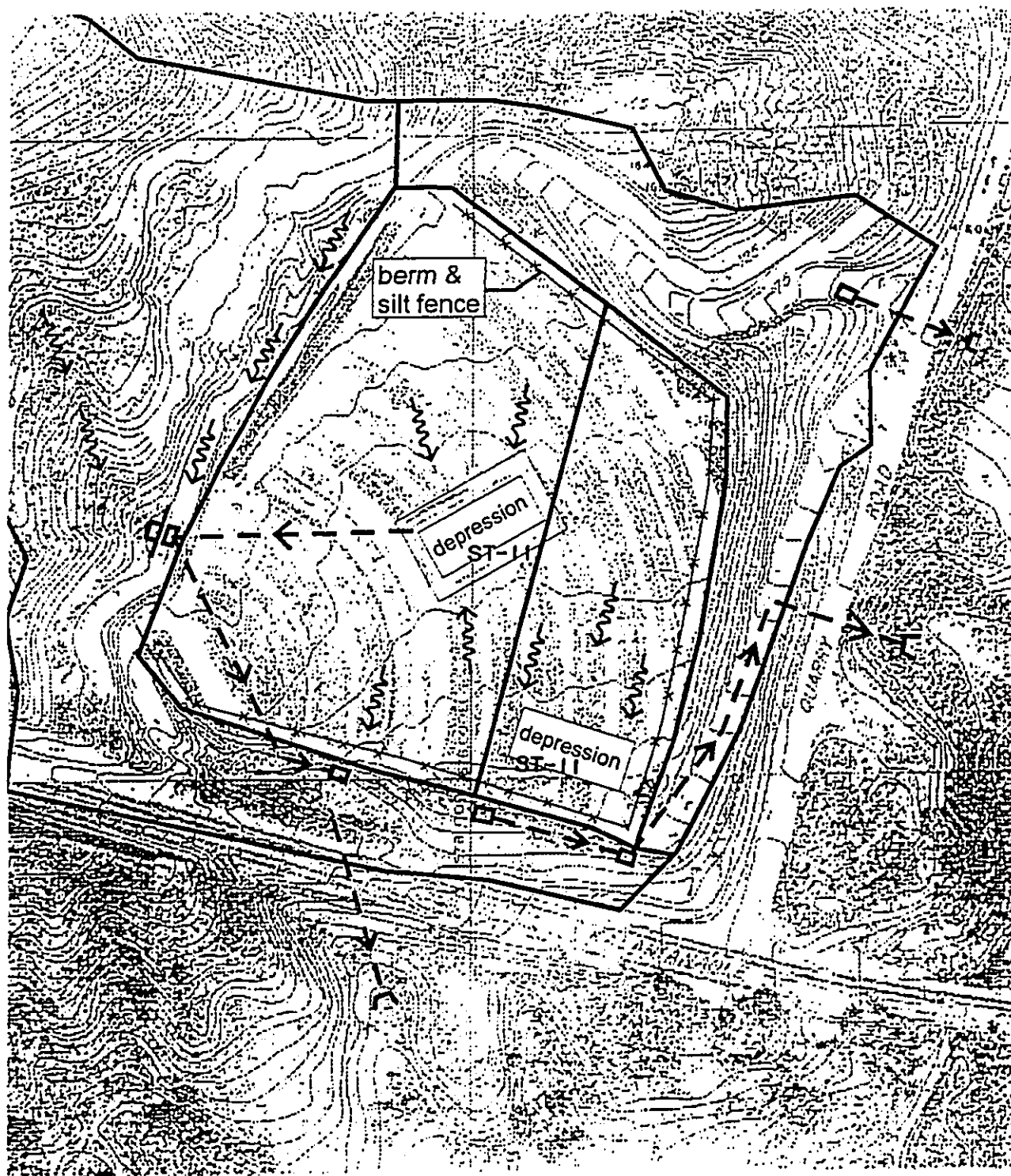
We appreciate your review and comments on the Draft EA and Change of Zone Application. Please contact us if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.


Jeffrey H. Overton, AICP
Chief Environmental Planner

Attachments



Note: ST-II sediment trap and other controls applied per final NPDES permit conditions.



GRAPHIC SCALE



Figure 3: Temporary Erosion Control Measures
Reference: City & County of Honolulu
Planning Department
Photography and Ground Control Survey 1969
Sheet Number: 584-72 & 584-78



REPLY TO
ATTENTION OF

Operations Branch

DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96858-5440

March 20, 1996

1996 MAR 25 AM 9 13

DEPT. OF THE ARMY
ENGINEER DISTRICT
HONOLULU, HAWAII

Mr. Stan Lum, Assistant Headmaster
Le Jardin Academy
1110 A Kailua Road
Kailua, HI 96734

Dear Mr. Lum:

This responds to an inquiry made on your behalf by Mr. George Atta of Group 70 International, Inc. regarding proposed development at the former Kailua Drive-In Theatre site, Kailua, Oahu, Hawaii.

Based on the information provided, the Corps has determined that an area where the projector and concession stand were located exhibits some wetland characteristics. However, the area does not have the necessary hydric soil indicators and therefore, is not a jurisdictional water of the U.S. Consequently, a Department of the Army (DA) permit is not required for the proposed project.

File Number 960000113 has been assigned to this project. Please refer to this number in any future correspondence. If you have further questions regarding this matter, please call me at 438-9258, extension 15.

Sincerely,

Kathleen A. Dadey
Environmental Engineer

Copy Furnished:

U.S. Fish and Wildlife Service, Honolulu, HI
U.S. Environmental Protection Branch, Region IX, San Francisco, CA
Clean Water Branch, Department of Health, Honolulu, HI
Office of State Planning, Coastal Zone Management Program Office, Honolulu, HI
Department of Land and Natural Resources, Honolulu, HI
✓ Department of Land Utilization, Honolulu, HI



GROUP 70
INTERNATIONAL

May 9, 1996

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
Sheryl B. Seaman, AIA, ASID
Hitoshi Hida, AIA
Roy H. Nihei, AIA, CSI
James I. Nishimoto, AIA
Alph E. Portmore, AICP
Stephen H. Yuen, AIA

Department of the Army
U.S. Army Engineer District, Honolulu
Operations Branch - Ms. Kathleen A. Dadey
Ft. Shafter, Hawaii 96858-5440

**Subject: File Number 060000113 - Le Jardin Academy
Kailua, Koolaupoko, Oahu, HI**

Paul P. Chorney, AIA
Dean H. Kitamura, AIA
Norma J. Scott, AIA
Stephen E. Callo, CPA
Walter R. Bell, AIA, CSI, CCS
Walter K. Muraoka
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Linda L. Chung, AIA
Janet M. Bucholdt
Ronald L. Proctor
Charles F. Schriever, AIA
Cathryn A. Tsukano
Roy A. Inouye
Mary J. O'Leary

Dear Ms. Dadey:

We received a copy of your letter to Mr. Stan Lum, dated 20 March 1996, and wish to thank you for your attention to our request for an evaluation of the area located at the former concession building site at the former Kailua Drive-in theater. We understand that no Department of the Army permit is required for the proposed project.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Jeffrey H. Overton
Jeffrey H. Overton, AICP
Chief Environmental Planner

APR-22-96 MON 15:55

LAND UTILIZATION

FAX NO. 8085276743

P. 02
46-01803



DEPARTMENT OF THE ARMY MAR 27 AM 8:40
PACIFIC OCEAN DIVISION, CORPS OF ENGINEERS
FT. SHAFTER, HAWAII 96858-5440
CLERK OF LAND UTILIZATION
CITY & COUNTY OF HONOLULU

March 25, 1996

REPLY TO
ATTENTION OF

Planning and Operations Division

Mr. Patrick T. Onishi, Director
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813


Dear Mr. Onishi:

Thank you for the opportunity to review and comment on the Zone Change for the Special Management Area No. 96/SMA-015 and Environmental Assessment (EA) for the Le Jardin Academy, Kailua, Oahu (TMK 4-2-14: por. 4). The following comments are provided pursuant to Corps of Engineers authorities to disseminate flood hazard information under the Flood Control Act of 1960 and to issue Department of the Army (DA) permits under the Clean Water Act; the Rivers and Harbors Act of 1899; and the Marine Protection, Research and Sanctuaries Act.

a. There are no jurisdictional waters of the U.S. on the project site; therefore, a DA permit is not required (960000113).

b. The flood hazard information provided on page 2-28 of the EA is correct.

Sincerely,


Sr Paul Mizue, P.E.
Acting Chief, Planning
and Operations Division

REC'D
MAR 27 AM 8:40
PLANNING & OPERATIONS DIVISION

DOCUMENT CAPTURED AS RECEIVED



GROUP 70
INTERNATIONAL

May 9, 1996

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
Sheryl B. Seaman, AIA, ASID
Hitoshi Hida, AIA
Joy H. Nihei, AIA, CSI
James I. Nishimoto, AIA
Alph E. Portmore, AICP
Stephen H. Yuen, AIA

Department of the Army
Pacific Ocean Division, Corps of Engineers
Mr. Paul Mizue, P.E.
Ft. Shafter, HI 96858-5440

**Subject: Le Jardin Academy, Kailua, Koolaupoko, Oahu, HI
Response to Comments on Draft Environmental Assessment and
Change of Zone Application**

Tul P. Chornev, AIA
Sean H. Kitamura, AIA
Norma J. Scott, AIA
Stephen E. Callo, CPA
Walter R. Bell, AIA, CSI, CCS
Walter K. Muraoka
George I. Atta, AICP
Jeffrey H. Overton, AICP
Michael A. Garni
Eric G. Crispin, AIA
Linda L. Chung, AIA
Dietrich M. Buchholdt
Ronald L. Proctor
Charles F. Schriever, AIA
Cathryn A. Tsukano
Roy A. Inouye
Mary J. O'Leary

Dear Mr. Mizue:

Thank you for providing your comments on the Draft EA and Zone Change Application for Le Jardin Academy's proposed new campus. We received a copy of your letter to Mr. Patrick Onishi of DLU, dated 25 March 1996.

We understand that no Department of the Army permit is required as there are no jurisdictional waters on the project site.

We appreciate your review and comments on the Draft EA and Zone Change Application. Please contact us if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Jeffrey H. Overton
Jeffrey H. Overton, AICP
Chief Environmental Planner

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

1996 MAY 15 AM 7:59
DEPT. OF LAND UTILIZATION
CITY & COUNTY OF HONOLULU



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

96-02024

LAWRENCE MIKE
DIRECTOR OF HEALTH

In reply, please refer to

May 8, 1996

92-217D/epo

Mr. Patrick Onishi, Director
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Onishi:

Subject: Zone Change No. 96/Z-4
Special Management Area No. 96/SMA-015
Le Jardin Academy
917 Kalaniana'ole Highway - Kailua
TMK: 4-2-14: por. 4

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

Wastewater

It has been determined that the subject project is located within the County sewer service system. As the area is sewerred, we have no objections to the proposed Special Management Area Use Permit Application or zone change application for the development of a new campus for Le Jardin Academy, provided that the project is connected to the public sewers.

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

Should you have any questions on this matter, please contact Ms. Lori Kajiwara of the Wastewater Branch at 586-4294.

Solid Waste

The application for a Change of Zone states that Le Jardin is actively participating in recycling. We request that the Academy make a commitment to continue recycling at its facility. We also

Mr. Patrick Onishi
May 8, 1996
Page 2

request that the Academy commit to incorporating locally produced compost for soil amendment and landscaping purposes at its new site, as well as using recycled content building materials whenever possible. Glasphalt may be used for road paving purposes, and recycled plastic lumber, produced in Hawaii, is a weather resistant building material.

Should you have any questions on this matter, please contact Ms. Carrie McCabe of the Office of Solid Waste Management at 586-4243.

Sincerely,



LAWRENCE MIIKE
Director of Health

c: WWB
OSWM



May 20, 1996

Dr. Lawrence Miike, Director
State of Hawaii
Department of Health
P.O. Box 3378
Honolulu, HI 96801

**Subject: Le Jardin Academy, Kailua, Koolaupoko, Oahu, HI
Response to Comments on Draft Environmental Assessment
and Change of Zone Application**

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
Sheryl B. Seaman, AIA, ASID
Hitoshi Hida, AIA
Roy H. Nihei, AIA, CSI
James I. Nishimoto, AIA
Ralph E. Portmore, AICP
Stephen H. Yuen, AIA

Dear Dr. Miike:

Thank you for providing your comments on the Draft EA and Zone Change Application for Le Jardin Academy's proposed new campus. We have prepared responses to the issues raised in your letter to Mr. Patrick Onishi of DLU, dated 8 May 1996.

Paul P. Chorney, AIA
Dean H. Kitamura, AIA
Norma J. Scott, AIA
Stephen E. Callo, CPA
Walter R. Bell, AIA, CSI, CCS
Walter K. Muraoka
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Kathryn A. Tsukano
Roy A. Inouye
Mary J. O'Leary

As you noted, the project is located within the County sewer service system. According to the Department of Wastewater Management, the municipal sewer system will become adequate after construction of the Kailua WWTP Modification Phase 3 is completed (scheduled for June, 1998). The school wastewater system will connect directly to the Maunawili Sewage Pump Station.

Regarding solid waste, Le Jardin Academy will continue its recycling programs at the new location. Le Jardin plans to utilize locally produced compost. The design team is currently evaluating the feasibility of utilizing glassphalt and recycled plastic lumber.

We appreciate your review and comments on the Draft EA and Zone Change Application. Please contact us if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.


Jeffrey H. Overton, AICP
Chief Environmental Planner

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



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

APR 15 1996

MICHAEL D. WILSON
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTY
GILBERT S. COLOMA-AGARAN

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

Ref.:LM-PEM

Honorable Patrick T. Onishi, Director
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

File No. PM-96-009

Dear Mr. Onishi:

Subject: Review of Environmental Assessment and Zone Change Application for Le Jardin Academy, Kailua, Koolau-poko, Oahu, Tax Map Key: 4-2-14:Por. 4

We have reviewed the subject Environmental Assessment and Zone Change Application prepared for the above project and would like to offer the following comments:

Land Division - Oahu District Land Office

As we understand it, the change in zoning and proposed project will not impact the nearby Conservation zoned lands of the Kawainui marsh and swamp lands which eventually will be turned over to the State by the City and County of Honolulu and consequently turned over to the Department of Land and Natural Resources by Governor's Executive Order.

We do require that the applicant obtain all required Federal, State and County permits for the project prior to the commencement of any construction work. We note that the project is located on the higher sloped areas and will not impact the lower flood zone areas of Kawainui Marsh.

Commission on Water Resource Management

We recommend coordination with the county government to incorporate this project into the county's Water Use and Development Plan.

Hon. Patrick T. Onishi, Director
Page 2

Thank you for the opportunity to review the Environmental Assessment and Zone Change Application. We have no further comments to offer at this time. Should you have any questions, please contact Patti Miyashiro at 587-0430 of our Land Division.

Aloha,

Michael D. Coloma-Gagnan
f MICHAEL D. WILSON

c: Oahu Land Board Members



GROUP 70
INTERNATIONAL

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
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Cathryn A. Tsukano
Richard A. Inouye
Mary J. O'Leary

May 9, 1996

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

**Subject: Le Jardin Academy, Kailua, Koolaupoko, Oahu, HI
Response to Comments on Draft Environmental Assessment
and Change of Zone Application**

Dear Mr. Wilson:

Thank you for providing your comments on the Draft EA and Zone Change Application for Le Jardin Academy's proposed new campus. We have prepared responses to the issues raised in your letter to Mr. Patrick Onishi of DLU, dated 15 April 1996.

We concur with your assessment that the proposed project will not affect the Conservation zoned lands of Kawai Nui Marsh and the lower flood zone areas of the marsh. The engineering consultant for the school has documented that the project will reduce runoff rates and volume, and improve the quality of the runoff water from this site.

Le Jardin Academy will secure all required State and County permits for the project prior to any construction work. The County is responsible for including the project information into the County's Water Use and Development Plan.

We appreciate your review and comments on the Draft EA and Zone Change Application. Please contact us if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Jeffrey H. Overton
Jeffrey H. Overton, AICP
Chief Environmental Planner

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

1996 APR 23 PM 2:18

DEPT. OF LAND UTILIZATION
CITY & COUNTY OF HONOLULU



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

MICHAEL D. WILSON
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTY
GILBERT S. COLOMA-AGARAN

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

Ref.:LM-PEM

Honorable Patrick T. Onishi, Director
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

File No. PM-96-009

Dear Mr. Onishi:

Subject: Review of Environmental Assessment and Zone Change Application for Le Jardin Academy, Kailua, Koolaupoko, Oahu, Tax Map Key: 4-2-14:Por. 4

The following is additional comments regarding the subject Environmental Assessment and Zone Change Application prepared for the above project:

Division of State Parks

Our only concern regarding item 1 of the subject comments was the Le Jardin Academy.

The July, 1994 Kawai Nui Marsh Master Plan proposes a wildlife sanctuary and public park interpretive program development for the marsh and surrounding land. The Le Jardin Academy proposal is located directly across Kapaa Quarry Road from the proposed Kawai Nui Marsh Visitor Center and Ethnobotanical Garden. We are therefore concerned about any impacts the subject proposal will have on the marsh and associated opportunities for public use. The land for the Kawai Nui marsh project has been acquired but no funds have been requested for the development of public facilities.

The following potential impacts the two potential projects will have on each other have been identified.

- ☆ Changes in traffic patterns on Kapaa Road and the Kapaa, Kailua Road intersection and the need to minimize hazardous access into each project area.
- ☆ Development of utilities, especially sewage and water systems which will serve both projects.
- ☆ Possible use of public area by the academy and vice versa.

Hon. Patrick T. Onishi, Director
Page 2

- ★ Need to minimize erosion and other pollutants entering the marsh.
- ★ Need to minimize aesthetic impacts on the natural setting of the marsh.

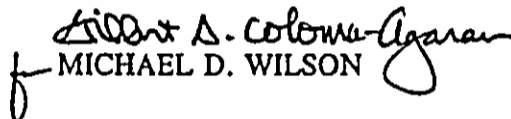
Division of Aquatic Resources

Significant impact adverse to aquatic resources is not expected from the new school campus.

We suggest that construction activities be restricted to periods of minimal rainfall and areas denuded of vegetation which could be susceptible to erosion be appropriately stabilized. Also, precautions should be taken during filling the pond to prevent debris, eroded soil, petroleum products and other potential contaminants from flowing, blowing or leaching into Kawai Nui Marsh.

Thank you for the opportunity to review the Environmental Assessment and Zone Change Application. We have no further comments to offer at this time. Should you have any questions, please contact Patti Miyashiro at 587-0430 of our Land Division.

Aloha,


MICHAEL D. WILSON

c: Oahu Land Board Members .



GROUP 70
INTERNATIONAL

Francis S. Oda, AIA, AICP
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Cathryn A. Tsukano
Roy A. Inouye
Gary J. O'Leary

May 9, 1996

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

**Subject: Le Jardin Academy, Kailua, Koolaupoko, Oahu, HI
Response to Comments on Draft Environmental Assessment and
Change of Zone Application**

Dear Mr. Wilson:

Thank you for providing your comments on the Draft EA and Zone Change Application for Le Jardin Academy's proposed new school. We have prepared responses to the issues raised in your letter to Mr. Patrick Onishi of DLU, dated 22 April 1996.

Division of State Parks

With respect to the relationship between the new school and the proposed Kawai Nui Marsh Visitor Center and Ethnobotanical Garden, the following comments are offered:

Traffic

Traffic associated with the school will be concentrated in the morning drop-off (7:30 - 8:00am) and mid-afternoon (2:40 to 3:00pm) pickup periods. The operating Level of Service at this intersection will not be reduced by the school. The visitor center facilities presented in the 1994 Master Plan are quite modest, and its traffic is not anticipated to conflict with the school traffic.

Utilities

Utilities, when constructed for the school project, will be designed to accommodate the development of the school and the visitor center. Le Jardin Academy plans to receive water from the existing BWS transmission line along Kapaa Quarry Road. The school will extend an 8-inch wastewater collection line from the project site to the Maunawili Subdivision Sewage Pump Station. This line may have the capacity to serve the Kawai Nui Marsh Visitor Center. If DLNR would like to explore the possibilities for combined service, please contact Group 70 (Jeff Overton) or consultant Sam O. Hirota, Inc. (Dennis Hirota 537-9971).

Letter to Mr. Mike Wilson
Department of Land and Natural Resources
May 9, 1996
page 2

Public Access

Le Jardin Academy will complement the educational and recreational programs proposed for the marsh by providing on-site access to a viewing area overlooking the marsh. In addition, classrooms and other spaces may be made available to community organizations for cultural and environmental education purposes. Le Jardin Academy hopes to enhance its long-standing cultural and environmental curriculum with its new location across from the proposed visitor center.

Runoff and Erosion

The quantity and quality of runoff will be positively affected by the development of the school at this site. The amount of runoff will be reduced by up to 70 percent in the school facilities development area, as 14 acres of pavement will be removed and replaced with buildings and landscaped grounds. Removal of much of the impervious surface will facilitate on-site recharge. As compared to current conditions, the school will generate lower runoff volumes and rates. Along with the project landscaping and drainage improvements, less sediment will be transported from the project site to Kawai Nui Marsh than occurs today. The quality of the runoff will also improve as items such as abandoned cars, car batteries, refrigerators, and other waste are removed from the site during the initial stages of development. Erosion of exposed slopes in the surrounding off-site area will be reduced with ground cover established in a cooperative program (see below).

Views

The school will be beautifully designed and landscaped to create, as much as practical, an aesthetic asset for the community. Since the drive-in theater's closing in 1991, the site has been used as an illegal dump site, and trash continues to accumulate. The school project will secure the site and clean up the debris and trash that has accumulated over the past five years. Landscaping will be provided at the entrance, interior and perimeter of the site. Landscaping and topography will screen most views of the new facilities from the surrounding area including from the interior of Kawai Nui Marsh.

Division of Aquatic Resources

We concur with your assessment that no significant effects to aquatic resources are expected from the new school. Regarding specific suggestions made in your letter:

As much as practical, the school intends to limit construction activities to periods of minimal rainfall. The current schedule for development indicates

Letter to Mr. Mike Wilson
Department of Land and Natural Resources
May 9, 1996
page 3

a Spring 1997 start-up with the majority of site disturbance completed by mid-1997.

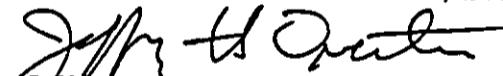
Bare areas will be stabilized with ground cover and other measures to minimize erosion. In conjunction with State/County programs, landowners, and the larger community, Le Jardin Academy will lead a cooperative effort to plant and re-vegetate eroded hillsides mauka of the school site.

Due to the small size and central location of the standing pond on the property, efforts to fill the pond will not result in debris, eroded soil, petroleum products or other potential contaminants flowing, blowing or leaching into Kawai Nui Marsh.

We appreciate your review and comments on the Draft EA and Zone Change Application. Please contact us if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.


Jeffrey H. Overton, AICP
Chief Environmental Planner

APR-22-96 MON 15:58

LAND UTILIZATION

FAX NO. 8085276743

P. 06

96-02276

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

1996 APR 15 AM 9 15
DEPT. OF LAND UTILIZATION
HONOLULU, HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

STATE HISTORIC PRESERVATION DIVISION
33 SOUTH KING STREET, 8TH FLOOR
HONOLULU, HAWAII 96813

MICHAEL D. WALSON, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTY
GILBERT COLOMA-AGAFAAN

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

April 12, 1996

Patrick T. Onishi, Director
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

LOG NO: 16786 ✓
DOC NO: 9604TD09

TRANSMITTED BY FAX (527-6743)

Dear Mr. Onishi:

SUBJECT: Zone Change No. 96/Z-4, Special Management Area No. 96/SMA-015, Le Jardin Academy, 917 Kalaniana'ole Highway Kailua, Ko'olaupoko, O'ahu
TMK: 4-2-14: por. 4

Thank you for the opportunity to review the Environmental Assessment for this proposed project. The project proposes to build a school campus at the site of the old Kailua Drive-In Theater. A review of our records shows that there are no historic sites at the project location; any historic sites that might have been present would have been destroyed during construction of the Drive-In Theater, which involved extensive excavation and grading.

The project area is across Kailua Quarry Road from Kawai Nui Marsh, which has been determined eligible for inclusion on the National Register of Historic Places. We took into account possible indirect effects of this project on Kawai Nui Marsh using information provided in the Kawai Nui Marsh Master Plan (July 1994). The Master Plan includes an approximately 5,000 sq Visitor Center at the opposite corner of Kailua Quarry Road, between the road and the marsh. This location was chosen to provide convenient public access and to maximize aesthetic potential. The proposed Visitor Center will overlook Kahanaiki Stream and the entire southern portion of the marsh, as well as provide views of Olomana and Maunawili Valley. It can also incorporate an ethnobotanical garden in the wetland fringe between the building area and Kahanaiki Stream. The proposed Le Jardin Academy does not interfere with these view planes, and a visitor's attention would be drawn to features in directions away from the proposed Academy. Thus, we believe that

CORRECTION

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

DOCUMENT CAPTURED AS RECEIVED

APR-22-96 MCK 15:58

LAND UTILIZATION

FAX NO. 8085276743

P. 08

96-02276

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

1996 APR 15 11 09 15
DEPT. OF LAND AND NATURAL RESOURCES
HONOLULU



STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

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

April 12, 1996

MICHAEL D. WILSON, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTY
GILBERT COLOMA-AGARAN

AQUACULTURE DEVELOPMENT
PROGRAM

AQUATIC RESOURCES
CONSERVATION AND

ENVIRONMENTAL AFFAIRS
CONSERVATION AND
RESOURCES ENFORCEMENT
CONVEYANCES

FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
DIVISION
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

Patrick T. Onishi, Director
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

LOG NO: 16786 ✓
DOC NO: 9604TD09

TRANSMITTED BY FAX (527-6743)

Dear Mr. Onishi:

SUBJECT: Zone Change No. 96/Z-4, Special Management Area No. 96/SMA-015, Le
Jardin Academy, 917 Kalaniana'ole Highway
Kailua, Ko'olaupoko, O'ahu
TMK: 4-2-14: por. 4

Thank you for the opportunity to review the Environmental Assessment for this proposed project. The project proposes to build a school campus at the site of the old Kailua Drive-In Theater. A review of our records shows that there are no historic sites at the project location; any historic sites that might have been present would have been destroyed during construction of the Drive-In Theater, which involved extensive excavation and grading.

The project area is across Kailua Quarry Road from Kawai Nui Marsh, which has been determined eligible for inclusion on the National Register of Historic Places. We took into account possible indirect effects of this project on Kawai Nui Marsh using information provided in the Kawai Nui Marsh Master Plan (July 1994). The Master Plan includes an approximately 5,000 sf Visitor Center at the opposite corner of Kailua Quarry Road, between the road and the marsh. This location was chosen to provide convenient public access and to maximize aesthetic potential. The proposed Visitor Center will overlook Kahanaiki Stream and the entire southern portion of the marsh, as well as provide views of Olomana and Maunawili Valley. It can also incorporate an ethnobotanical garden in the wetland fringe between the building area and Kahanaiki Stream. The proposed Le Jardin Academy does not interfere with these view planes, and a visitor's attention would be drawn to features in directions away from the proposed Academy. Thus, we believe that

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LAND UTILIZATION

FAX NO. 8085276743

P. 09

Patrick Onishi
Page 2

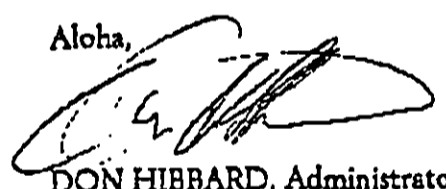
the proposed Academy does not conflict with our Department's plans to provide public access to the marsh and to interpret its history.

A large site that we believe is Holomakani Heiau is located on the adjacent lands north of the proposed Academy. This site is not well described and access is currently restricted by the landowner. The applicant should be aware that we will likely oppose development of the lands near this site, which we believe has the potential to contribute significantly to the historic character of Kawai Nui Marsh.

Because there are no historic sites at the proposed project location, and because construction of a school campus at the old Drive-In Theater site does not conflict with the State's plans to interpret and provide access to Kawai Nui Marsh, we believe that this project will have "no effect" on historic sites.

If you have any questions please call Tom Dye at 587-0014.

Aloha,



DON HIBBARD, Administrator
State Historic Preservation Division

TD:jk

May 9, 1996



GROUP 70
INTERNATIONAL

State of Hawaii
Department of Land and Natural Resources
Historic Preservation Division
Mr. Don Hibbard, Administrator
33 S. King Street, 6th Floor
Honolulu, HI 96813

**Subject: Le Jardin Academy, Kailua, Koolaupoko, Oahu, HI
Response to Comments on Draft Environmental Assessment and
Change of Zone Application**

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
Sheryl B. Seaman, AIA, ASID
Hitoshi Hida, AIA
Roy H. Nihei, AIA, CSI
James I. Nishimoto, AIA
Ralph E. Portmore, AICP
Stephen H. Yuen, AIA

Dear Mr. Hibbard:

Thank you for providing your comments on the Draft EA and Zone Change Application for Le Jardin Academy's proposed new campus. We have prepared responses to the issues raised in your letter to Mr. Patrick Onishi of DLU, dated 12 April 1996.

Paul P. Chorney, AIA
Dean H. Kitamura, AIA
Norma J. Scott, AIA
Stephen E. Callo, CPA
Walter R. Bell, AIA, CSI, CCS
Walter K. Muraoka
George I. Atta, AICP
Jeffrey H. Overton, AICP
Michael A. Garni
Eric G. Crispin, AIA
Linda L. Chung, AIA
Janet M. Bucholdt
Ronald L. Proctor
Charles F. Schriever, AIA
Kathryn A. Tsukano
Roy A. Inouye
Mary J. O'Leary

We understand that there are no historic sites at the project site and that you have concluded that this project will have "no effect" on historic sites. The proposed school does not interfere with view planes from the planned visitor center towards the marsh. Le Jardin Academy will complement the educational and recreational programs proposed for the marsh by providing on-site access to a viewing area overlooking the marsh.

With regard to the Holomakani Heiau site to the north, we are not aware of any plans to develop near this sensitive area. The school site is distant from this significant cultural resource.

We appreciate your review and comments on the Draft EA and Zone Change Application. Please contact us if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Jeffrey H. Overton
Jeffrey H. Overton, AICP
Chief Environmental Planner

DOCUMENT CAPTURED AS RECEIVED

MAY-20-86 MON 17:17

LAND UTILIZATION

FAX NO. 8085276743

P. 01

96-03094

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII

1995 MAY 16 PM 1:22

DEPT. OF LAND UTILIZATION
CITY & COUNTY OF HONOLULU



STATE OF HAWAII
DEPARTMENT OF LAND A
P.O. BOX 10
HONOLULU, HAWAII

Post-It® Fax Note	7071	Date	5/20/96	Pages	1
To	Jeff Overton	From	Sharon Nishiura		
Co./Dept.	Group 70	Co.	DLU		
Phone #		Phone #	527-5023		
Fax #	523-5874	Fax #			

MAY 15 1996

RECEIVED
MAY 21 1996

CONSERVATION AND ENVIRONMENTAL AFFAIRS
CONSERVATION AND RESOURCES ENFORCEMENT
CONVICTANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT
WATER RESOURCE MANAGEMENT

Ref.:LM-PEM

Honorable Patrick T. Onishi, Director
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

GROUP 70

File No. PM-96-009

Dear Mr. Onishi:

Subject: Review of Environmental Assessment and Zone Change Application for Le Jardin Academy, Kailua, Koolaupeko, Oahu, Tax Map Key: 4-2-14:Por. 4

The following is additional comments regarding the subject Environmental Assessment and Zone Change Application prepared for the above project:

Land Division - Engineering Section

We confirm that the project site is located in Zone D, an area in which flood hazards are undetermined.

Potential disruption of water birds and seabirds associated with Kawai Nui Marsh by night lighting should be coordinated with the Division of Forestry and Wildlife.

Thank you for the opportunity to review the Environmental Assessment and Zone Change Application. We have no further comments to offer at this time. Should you have any questions, please contact Patti Miyashiro at 587-0430 of our Land Division.

Aloha,

Michael D. Wilson
MICHAEL D. WILSON

c: Oahu Land Board Members



May 21, 1996

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

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
Sheryl B. Seaman, AIA, ASID
Hitoshi Hida, AIA
Roy H. Nihei, AIA, CSI
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Charles F. Schriever, AIA
Kathryn A. Tsukano
Roy A. Inouye
Mary J. O'Leary

**Subject: Le Jardin Academy, Kailua, Koolaupoko, Oahu, HI
Response to Comments on Draft Environmental Assessment and
Change of Zone Application**

Dear Mr. Wilson:

Thank you for providing your comments on the Draft EA and Zone Change Application for Le Jardin Academy's proposed new school. We have prepared responses to the issues raised by the Land Division - Engineering Section in your letter to Mr. Patrick Onishi of DLU, dated 15 May 1996.

Night lighting will be coordinated with the Division of Forestry and Wildlife to minimize potential disruption of water birds and seabirds associated with Kawai Nui Marsh.

We appreciate your review and comments on the Draft EA and Zone Change Application. Please contact us if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Handwritten signature of Jeffrey H. Overton.

Jeffrey H. Overton, AICP
Chief Environmental Planner

BENJAMIN J. CAYETANO
GOVERNOR



STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

220 SOUTH KING STREET
FOURTH FLOOR
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4186

GARY GILL
DIRECTOR

APR - 9 1996

GROUP 70

April 4, 1996

Mr. Patrick Onishi
Director of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Onishi:

Subject: Draft Environmental Assessment for the Le Jardin Academy

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

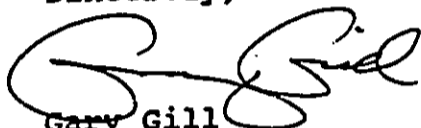
1. Kawai Nui Marsh is across the road from this site. The marsh is a significant resource and several public parks are being planned around it. Views of the site from future parks may be impacted. Please describe the project's impacts on the public view and any mitigation measures to reduce these impacts.
2. Kalaniana'ole Highway in the vicinity of this project is presently congested especially during the morning peak hour. Traffic conditions will worsen with this project. The environmental assessment must evaluate existing and future traffic conditions. Impacts and potential mitigative measures must be disclosed.
3. The environmental assessment claims that this project will reduce the rate and volume of runoff into Kawai Nui Marsh because of the landscaping of the new campus and the reduction of paved asphalt parking areas in comparison to the drive-in theater. How would the above changes in runoff affect Kawai Nui Marsh?
4. Lighting of the athletic field could adversely affect the Newell's Shearwater and other birds that frequent the area. What specific mitigation measures will be applied to minimize spillover, glare and other lighting impacts?

Mr. Onishi
April 4, 1996
Page 2

5. Please provide reasons for supporting the determination based on an analysis of the significance criteria in section 11-200-12 of the Hawaii Environmental Impact Statement Rules. Refer to section D of the enclosed sample as a guideline.

Should you have any questions, please call Jeyan Thirugnanam at 586-4185. Mahalo.

Sincerely,



Gary Gill
Director

c: Stanley Lum
Jeffrey Overton

May 9, 1996



GROUP 70
INTERNATIONAL

Mr. Gary Gill, Director
Office of Environmental Quality Control
220 South King Street, 4th Floor
Honolulu, Hawaii 96813

Subject: Le Jardin Academy, Kailua, Koolaupoko, Oahu, HI
Response to Comments on Draft Environmental Assessment

Dear Mr. Gill:

Thank you for providing your comments on the Draft Environmental Assessment for Le Jardin Academy's proposed new campus. We have prepared responses to issues raised in your letter to Mr. Patrick Orishi dated 4 April 1996.

Views of the site from future parks - impacts and mitigation.

Due to the existing slope and vegetation along roadway frontages, the new school facilities will not be readily visible from most adjacent locations. The new structures at Le Jardin Academy will be noticeable from some distant locations in the surrounding area. The new school buildings and site landscaping will be visible from a distance at elevated locations such as the upper floors of Castle Medical Center.

The school will be beautifully designed and landscaped to create, as much as practical, an aesthetic asset for the community. Since the drive-in theater's closing in 1991, the site has been used as an illegal dump site, and trash continues to accumulate daily. The school project will secure the site and clean up the debris and trash that has accumulated over the past five years. Landscaping will be provided at the entrance, interior and perimeter of the site. Landscaping and topography will screen most views of the new facilities from the surrounding area, including from the interior of Kawai Nui Marsh.

Evaluate existing and future traffic conditions.

A traffic study was prepared and submitted to DLU with the Change of Zone Application (March 1996). The school representatives and their consultants were specifically directed to not include traffic in the SMA EA since traffic is not an SMA objective. Since the studies have been done, we have included the traffic evaluation in the Final EA in the spirit of full disclosure.

The traffic study shows that the project is not expected to delay traffic on Kalaniana'ole Highway at Kapaa Quarry Road. The "Level of Service" (an engineering rating of the intersection operation) will be maintained at existing levels. The majority of students will arrive after 7:30 am when Honolulu-bound traffic on Kalaniana'ole Highway has decreased significantly from earlier morning levels. The morning traffic associated with Le Jardin Academy already

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Roy A. Inouye
Mary J. O'Leary

Letter to Mr. Gary Gill
Office of Environmental Quality Control
May 9, 1996
page 2

exists, given its current location less than two miles away on Kailua Road. Importantly, over 65% of the parents who drop off students are Honolulu commuters that would already be on the highway even if the new school was not built at this location.

School-related traffic will add to the number of vehicles turning right (Honolulu-bound) and left (Kailua-bound) from Kapaa Quarry Road onto Kalaniana'ole Highway. These vehicles are re-entering the highway after dropping off students, and they will have some delay. The nearly 1,000 ft. distance between the highway intersection and the entry to the school will provide ample storage for vehicles waiting to re-enter Kalaniana'ole Highway. A signal timing adjustment will provide more time for vehicles to turn onto the highway with no serious delay to the Honolulu-bound lanes. Shuttle bus service for Kailua students is also being considered as a possibility.

Runoff

The quantity and quality of runoff will be positively affected by the development of the school at this site. A technical study of drainage and runoff is included in the Final EA. The amount of runoff will be reduced by up to 70 percent in the school facilities development area, as 14 acres of pavement will be removed and replaced with buildings and landscaped grounds. Removal of much of the impervious surface will facilitate on-site recharge. As compared to current conditions, the school will generate lower runoff volumes and rates.

With lower runoff volumes and erosion controls, less sediment will be transported from the project site to Kawai Nui Marsh. The quality of the runoff will also improve as items such as abandoned cars, car batteries, refrigerators and other wastes are removed from the site in the initial stages of development.

Lighting Impacts

Several mitigation measures will be implemented to minimize the potential impact on the Newell's Shearwater and other birds. Light fixtures which focus light rather than disperse it will be utilized at the school. Light poles at the athletic field will be tall enough to cast light downward rather than outward, which occurs with shorter poles. More light poles with fewer sources of light per pole can provide more controlled lighting for the field without installing the large banks of lights typically associated with field lighting.

In addition, Le Jardin Academy will coordinate with the U.S. Fish and Wildlife Service and DOFAW to monitor the lighted areas and rescue downed seabirds. The school will minimize its use of field lighting during periods when the seabirds are most likely to be affected. In particular, use of field lighting and exterior building lights will be minimized during the two-week period around the new moon in October and November.

Letter to Mr. Gary Gill
Office of Environmental Quality Control
May 9, 1996
page 3

Light emanating from second story classrooms and offices will be subdued by the pitched roofs and deep overhangs characteristic of the residential design of the school buildings.

**Hawaii Environmental Impact Statement Rules
11-200-12 Significance Criteria**

(a) *In considering the significance of potential environmental effects, agencies shall consider the sum of effects on the quality of the environment, and shall evaluate the overall and cumulative effects of an action.*

(b) *In determining whether an action may have a significant effect on the environment, the agency shall consider every phase of a proposed action, the expected consequences, both primary and secondary, and the cumulative as well as the short and long-term effects of the action. In most instances, an action shall be determined to have a significant effect on the environment if it:*

(1) *Involves an irrevocable commitment to loss or destruction of any natural or cultural resource;*

The project does not involve a loss or destruction of natural or cultural resources.

(2) *Curtails the range of beneficial uses of the environment;*

With new organized public access allowed to an on-site viewing area, this project enhances the range of beneficial uses of the environment.

(3) *Conflicts with the state's long-term environmental policies or goals and guidelines as expressed in chapter 344, Hawaii Revised Statutes, and any revisions thereof and amendments thereto, court decisions or executive orders;*

The project does not conflict with state environmental policies in Chapter 344 HRS.

(4) *Substantially affects the economic or social welfare of the community or State;*

The subject property has no economic activity at present. The proposed action will generate short-term economic benefits from construction activity. Total project cost is estimated at approximately \$20 million for Phases I and II. Long-term economic benefits from Le Jardin Academy will result from employment and on-going expenditures. There will be net economic benefits to the City and State from the school construction and operations.

Letter to Mr. Gary Gill
Office of Environmental Quality Control
May 9, 1996
page 4

(5) *Substantially affects public health;*

This project will have no adverse impact on public health. Rather, it will have a positive effect when students are provided larger play areas.

(6) *Involves substantial secondary impacts, such as populations changes or effects on public facilities;*

This project will have no impact on population as the student body will continue to primarily consist of windward residents. Public facilities will not be affected. One residence may be included on-site for the caretaker.

(7) *Involves a substantial degradation of environmental quality;*

Development of Le Jardin Academy will not adversely affect environmental quality. Construction activities will follow strict erosion control measures including cut-off ditches and detention ponds to slow runoff, application of hydromulch to establish temporary ground cover vegetation, implementation of a watering program, and application of various soil stabilization and protection materials.

The amount of runoff will be reduced by approximately 50 percent as the 15 acres of pavement is removed and replaced with buildings and landscaped grounds. With lower runoff volumes and erosion controls, less sediment will be transported from the project site to Kawai Nui Marsh. The quality of the runoff will also improve as items such as abandoned cars, car batteries, refrigerators, and other waste are removed from the site in the initial stages of development.

(8) *Is individually limited but cumulatively has considerable effect upon the environment or involves a commitment for larger actions;*

Development of the new campus for Le Jardin Academy does not require a commitment for larger actions, and it does not induce further growth.

(9) *Substantially affects a rare, threatened or endangered species, or its habitat;*

No rare, threatened, or endangered species or habitats will be substantially affected by this project. Several mitigation measures will be implemented to minimize the potential impact of night lighting on the Newell's Shearwater and other birds.

(10) *Detrimentially affects air or water quality or ambient noise levels; or*

Letter to Mr. Gary Gill
Office of Environmental Quality Control
May 9, 1996
page 5

A reduction in runoff and soil erosion will improve water quality as a result of the project. Construction noise will be mitigated with the use of mufflers, and should not affect wildlife in Kawai Nui Marsh. A watering program will be implemented to help control dust during construction. Operation of the school will not detrimentally affect air or water quality or ambient noise levels.

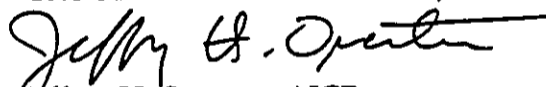
(11) *Affects an environmentally sensitive area such as a flood plain, tsunami zone, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal waters.*

The project has no potential significant effect on an environmentally sensitive area. Kawai Nui Marsh resources are protected by the measures taken by the project to control runoff and erosion and protect public views.

We appreciate your review and comments on the Draft Environmental Assessment. Please contact us if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.



Jeffrey H. Overton, AICP
Chief Environmental Planner

APR-12-96 FRI 12:42

LAND UTILIZATION

FAX NO. 8085276743

P. 03

96-02157



OFFICE OF STATE PLANNING

Office of the Governor

MAILING ADDRESS: P.O. BOX 3540, HONOLULU, HAWAII 96811-3540
STREET ADDRESS: 250 SOUTH HOTEL STREET, 4TH FLOOR
TELEPHONE: (808) 587-2848, 587-2800

DEPT. OF LAND UTILIZATION
CITY & COUNTY OF HONOLULU

BENJAMIN J. CIVETANO, Governor

FAX: Director's Office 587-2848
Planning Division 587-2824

Ref. No. Z-0072

April 3, 1996

1996 APR 10 AM 8:10
DEPT. OF LAND UTILIZATION
CITY & COUNTY OF HONOLULU

The Honorable Patrick T. Onishi
Director
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

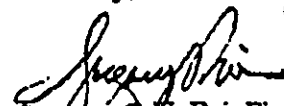
Dear Mr. Onishi:

We have reviewed the Environmental Assessment of Le Jardin Academy project and offer the following comment.

The discussion on page 4-1, regarding the conformity of the project to the Coastal Zone Management Program, should be expanded to include all ten objectives and policies in Chapter 205A-2, HRS.

If there are any questions, please call Charles Carole at 587-2804.

Sincerely,


Gregory G. Y. Pai, Ph.D.
Director



GROUP 70
INTERNATIONAL

May 9, 1996

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
Sheryl B. Seaman, AIA, ASID
Hitoshi Hida, AIA
Roy H. Nihei, AIA, CSI
James I. Nishimoto, AIA
Alph E. Portmore, AICP
Stephen H. Yuen, AIA

The Honorable Gregory G.Y. Pai, Director
Office of State Planning
Office of the Governor
P.O. Box 3540
Honolulu, Hawaii 96811-3540

Subject: Le Jardin Academy, Kailua, Koolauapoko, Oahu, HI
Response to Comments on Draft Environmental Assessment

Paul P. Chorney, AIA
Dean H. Kitamura, AIA
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Stephen E. Callo, CPA
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Dear Mr. Pai:

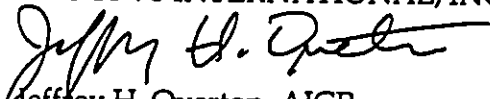
Thank you for providing your comment letter, dated April 3, 1996, to the Department of Land Utilization regarding Le Jardin Academy's Draft Environmental Assessment.

The discussion of project conformance with the Coastal Zone Management program has been expanded to include all objectives and policies in Chapter 205A-2, HRS. Please refer to Chapter 4 of the Final Environmental Assessment for this discussion.

We appreciate your review and comments on the Draft Environmental Assessment. Please contact us if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.


Jeffrey H. Overton, AICP
Chief Environmental Planner

APR- 8-96 MON 15:41

LAND UTILIZATION

FAX NO. 8085276743

P. 03

95-61773

BENJAMIN J. CAYETANO
GOVERNOR

1996 MAR 25 10 58 AM
DEPT. OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM
LAND USE COMMISSION



ESTHER UEDA
EXECUTIVE OFFICER

STATE OF HAWAII
DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM
LAND USE COMMISSION
P.O. Box 2359
Honolulu, HI 96804

Telephone: 597-3822

March 21, 1996

Mr. Patrick T. Onishi, Director
Department of Land Utilization
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Onishi:

Subject: Application for Change of Zone (96/Z-4) and Environmental Assessment (EA) for Special Management Area (SMA) Application (96/SMA-015) for Le Jardin Academy, Kailua, Hawaii, TMK 4-2-14: por. 4

We have reviewed the change of zone application and EA for the subject project transmitted by your letter dated March 14, 1996, and have the following comments:

- 1) It appears that there are discrepancies in the configuration of the project site in the change of zone application and EA. The project site, as represented on Figure 3-1 of the application, appears to be located within the State Land Use Urban and Conservation Districts. Please refer to Boundary Interpretation No. 92-40 dated September 15, 1992, which depicted the location of the district boundaries in this area.
- 2) With respect to your request for an evaluation of the impact of the project on public facilities and services, we have no comments to offer inasmuch as the Commission does not plan or provide facilities or services as such but rather acts on boundary amendments (which may involve the provision of public facilities and/or services) that are submitted to the Commission for consideration.

We have no further comments to offer at this time. We appreciate the opportunity to provide comments on this matter.

Should you have any questions, please feel free to call me or Bert Saruwatari of our office at 587-3822.

Sincerely,

ESTHER UEDA
Executive Officer

EU:th

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GROUP 70
INTERNATIONAL

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
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Inet M. Bucholdt
Ronald L. Proctor
Charles F. Schriever, AIA
Cathryn A. Tsukano
Roy A. Inouye
Mary J. O'Leary

May 9, 1996

State of Hawaii
Land Use Commission
Ms. Esther Ueda, Executive Officer
P.O. Box 2359
Honolulu, HI 96804

**Subject: Le Jardin Academy, Kailua, Koolaupoko, Oahu, HI
Response to Comments on Draft Environmental Assessment
and Change of Zone Application**

Dear Ms. Ueda:

Thank you for providing your comments on the Draft EA and Change of Zone Application for Le Jardin Academy's proposed new campus. We have prepared responses to the issues raised in your letter to Mr. Patrick Onishi of the Department of Land Utilization, dated 21 March 1996.

All development of the Le Jardin Academy campus at the former Kailua Drive-in site will occur within the State Land Use Urban District. Per our consultation with Bert Saruwatari (April 10, 1996), Draft EA Figure 2-7 has been modified to accurately reflect the project site's relationship to the boundary between the State Land Use Urban and Conservation Districts.

We appreciate your review and comments on the Draft EA and Change of Zone Application. Please contact us if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Jeffrey H. Overton, AICP
Chief Environmental Planner

Department of Land Utilization
Summary Description
96/2-4(SN)
Page 2

Board of Water Supply
Department

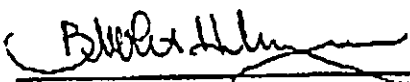
Comments:

The existing water system cannot provide adequate fire protection as required by our water system standards. Our standards require a fire hydrant to be located within 125 linear feet (l.f.) and provide a flow of 2,000 gallons per minute (gpm) for schools. The existing fire hydrant is located approximately 1,500 l.f. away and can only provide a flow of approximately 1,100 gpm. Therefore, the developer will be required to install the necessary water system improvements to upgrade the fire protection in accordance with our water system standards. The construction drawings should be submitted for our review and approval.

The availability of water to the proposed zone change will be confirmed when the building permit is submitted for our review and approval. When water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission and daily storage.

If a three-inch or larger meter is required, the construction drawings showing the installation of the meter should be submitted for our review and approval.

If you have any questions, please contact Alan Distajo at 527-6122.


FOR RAYMOND H. SATO Date 4/2/96
Manager and Chief Engineer

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May 9, 1996

GROUP 70
INTERNATIONAL

City and County of Honolulu
Board of Water Supply
Mr. Raymond H. Sato, Manager and Chief Engineer
630 S. Beretania Street
Honolulu, HI 96813

**Subject: Le Jardin Academy, Kailua, Koolauoko, Oahu, HI
Response to Comments on Change of Zone Application**

Dear Mr. Sato:

Thank you for providing your comments on the Change of Zone Application for Le Jardin Academy's proposed new campus. We have prepared responses to your letter to the Department of Land Utilization dated 20 March 1996.

We understand that the existing water system serving this site cannot provide the level of fire protection required. Le Jardin Academy will install the necessary improvements to provide a fire hydrant within 125 linear feet of the site and with a flow of 2,000 gallons per minute. Construction drawings will be submitted for the review and approval of the Board of Water Supply.

We appreciate your review and comments on the Change of Zone Application. Please contact us if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Jeffrey H. Overton
Jeffrey H. Overton, AICP
Chief Environmental Planner

Francis S. Oda, AIA, AICP
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Ronald L. Proctor
Charles F. Schriever, AIA
Cathryn A. Tsukano
Roy A. Inouye
Mary J. O'Leary

APR-22-96 MON 15:57

LAND UTILIZATION

FAX NO. 8065278743

P. 07

96-02322

1996 APR 16 AM 11:16
DEPT. OF LAND UTILIZATION
JEREMY HARRIS
MAYOR

DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU

880 SOUTH KING STREET
HONOLULU, HAWAII 96813



DONA L. HANAIKE
DIRECTOR

ALVIN K.C. AU
DEPUTY DIRECTOR

April 12, 1996

TO: PATRICK T. ONISHI, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM: DONA L. HANAIKE, DIRECTOR

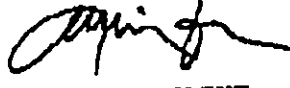
SUBJECT: ZONE CHANGE NO. 96/Z-4
SPECIAL MANAGEMENT AREA NO. 96/SMA-015
LE JARDIN ACADEMY, KAILUA, OAHU, HAWAII
TAX MAP KEY 4-2-14: POR. 4

This responds to your request for comments on the subject environmental assessment report.

Based on our review of the proposed project, we are offering the following comments.

We have no objections to the project at this time. It is anticipated that the proposed project would not have any significant impact on our park facilities in the area.

Should there be any questions, please contact Brian Suzuki of our Advance Planning Branch at extension 6316.


For DONA L. HANAIKE
Director

DLH:ei

We Add Quality to Life



GROUP 70
INTERNATIONAL

May 9, 1996

Francis S. Oda, AIA, AICP
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James I. Nishimoto, AIA
Lalph E. Portmore, AICP
Stephen H. Yuen, AIA

City and County of Honolulu
Department of Parks and Recreation
Ms. Dona Hanaike, Director
650 S. King Street
Honolulu, HI 96813

**Subject: Le Jardin Academy, Kailua, Koolaupoko, Oahu, HI
Response to Comments on Draft Environmental Assessment and
Change of Zone Application**

Paul P. Chorney, AIA
Dean H. Kitamura, AIA
Norma J. Scott, AIA
Stephen E. Callo, CPA
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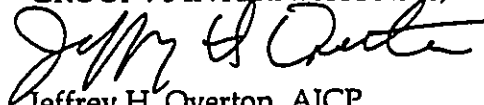
Dear Ms. Hanaike:

Thank you for providing your comments on the Draft EA and Zone Change Application for Le Jardin Academy's proposed new campus. We received a copy of your letter to Mr. Patrick Onishi of DLU, dated 12 April 1996, stating that the proposed project will not have any significant impact on City and County park facilities in the area.

We appreciate your review and comments on the Draft EA and Zone Change Application. Please contact us if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.


Jeffrey H. Overton, AICP
Chief Environmental Planner

APR-22-96 MON 15:56

LAND UTILIZATION

FAX NO. 8085276743

P. 05

96-02318

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU

850 SOUTH KING STREET
HONOLULU, HAWAII 96813



JEREMY HARRIS
MAYOR

KENNETH E. SPRAGUE
DIRECTOR AND CHIEF ENGINEER

IN REPLY REFER TO:

96-14-0234

April 12, 1996

MEMORANDUM

TO: MR. PATRICK T. ONISHI, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM: *[Signature]*
KENNETH E. SPRAGUE, DIRECTOR AND CHIEF ENGINEER
DEPARTMENT OF PUBLIC WORKS

SUBJECT: YOUR MEMORANDUM 96/SMA-015(JT) AND 96/Z-4(SN) OF
MARCH 14, 1996, RELATING TO AN APPLICATION FOR A ZONE
CHANGE AND SPECIAL MANAGEMENT AREA PERMIT, LE JARDIN
ACADEMY, 917 KALANIANAOLE HIGHWAY, KAILUA, TMK: 4-2-14: POR. 4

1996 APR 18 02: 7: 43
DEPT. OF LAND UTILIZATION
CITY & COUNTY OF HONOLULU

We have reviewed the application and have the following comments:

ENGINEERING:

Show the location of detention basin and culvert crossing Kalanianaole Highway. Also provide culvert size and ownership of easement for detention basin. Should there be any questions, please contact Dennis Toyama at extension 4931.

Frontage improvements, including corner rounding, in accordance with City standards and the Americans with Disabilities Act Accessibility Guidelines will be required. Improvements shall be in accordance with use rather than zoning. Standard drop driveway shall be constructed.

Guard house shall be located such that the flow of traffic within the right-of-way is not impeded. Should there be any questions, please contact Faith Kunimoto at extension 5084.

Zone Change:

Section 7.3, Drainage and Surface Runoff - describe ownership of roads fronting the project (Kapaa Quarry Road and Kalanianaole Highway). If within City jurisdiction, add note that storm drain connection will require a license from the Department of Public Works. Who maintains existing detention basin? Does Le Jardin Academy have a written agreement to continue to discharge to detention basin in the future?

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APR-22-96 MON 15:57

LAND UTILIZATION

FAX NO. 8085276743

P. 06 /

Mr. Patrick Onishi
Page 2
April 12, 1996

Environmental Assessment:

Page 1-1, address future plans for balance of 300-acre lot. Will water quality measures for this parcel be completely independent from remainder of parcel? Page 1-5, what are comments of agencies contacted? Will comments be included in any documents? Also, address storm water quality comments for zone change application. Should there be any questions, please contact Gerald Takayasu at extension 6104.

REFUSE COLLECTION

The project indicates that refuse collection will be handled by a private hauler. This arrangement is satisfactory to us. Should there be any questions, please contact David Shiraihi at extension 5697.

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Charles F. Schriever, AIA
Kathryn A. Tsukano
Roy A. Inouye
Mary J. O'Leary

May 9, 1996

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

**Subject: Le Jardin Academy, Kailua, Koolaupoko, Oahu, HI
Response to Comments on Draft Environmental Assessment and
Change of Zone Application**

Dear Mr. Sprague:

Thank you for providing your comments on the Draft EA and Zone Change Application for Le Jardin Academy's proposed new campus. We have prepared responses to the issues raised in your letter to Mr. Patrick Onishi of DLU, dated 12 April 1996.

We understand that frontage improvements will be required in accordance with City standards and the American with Disabilities Act Accessibility Guidelines. These elements and the location of the guard house are in the process of being designed and will be addressed during the Site Plan Review process.

Kalaniana'ole Highway is a State-owned and maintained roadway. Kapaa Quarry Road is privately owned but is maintained by the City due to its use for access to the dump. There are no storm drain inlets in Kapaa Quarry Road near the project site.

The location of detention basin and culvert crossing is shown in the Final EA. The culvert is a 36 in. concrete pipe. The detention basin is owned by H.L. Castle Foundation.

Le Jardin Academy is obtaining a long-term lease for this 20-acre parcel of land. The balance of the 328 acre lot contributes some runoff to the former drive-in site, which is addressed in the drainage/runoff study in the Final EA. Water quality measures will be implemented on-site as addressed in Section 2.4.3 of the Environmental Assessment.

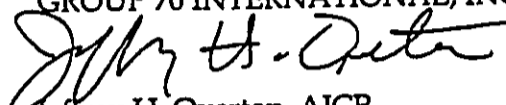
Comments from various agencies regarding this project and responses by the school are provided in the Final Environmental Assessment.

Letter to Mr. Kenneth Sprague
Department of Public Works
May 9, 1996
page 2

We appreciate your review and comments on the Draft EA and Zone Change Application. Please contact us if you have any questions or require additional information.

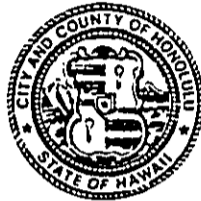
Sincerely,

GROUP 70 INTERNATIONAL, INC.


Jeffrey H. Overton, AICP
Chief Environmental Planner

DEPARTMENT OF TRANSPORTATION SERVICES
CITY AND COUNTY OF HONOLULU

PACIFIC PARK PLAZA
711 KAPIOLANI BOULEVARD, SUITE 1200
HONOLULU, HAWAII 96813



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APR 10 1996

CHARLES O. SWANSON
DIRECTOR

JEREMY HARRIS
MAYOR

GROUP 70

3/96-01012R

April 9, 1996

Mr. Stanley Lum
Le Jardin Academy
1110-A Kailua Road
Kailua, Hawaii 96734

Dear Mr. Lum:


Subject: Draft Environmental Assessment for Special Management Area Use
Permit Application for Le Jardin Academy

We reviewed the subject document that was transmitted on February 28, 1996 and have the following comments:

1. Adequate sight distance should be provided at all driveway locations. Landscaping and foliage should not obstruct vehicular sight lines.
2. Driveway widths, along with their directional characteristics, should be specified on the site plan.
3. Driveway grades should not exceed five percent (5%) for a minimum distance of 35 feet from the edge of pavement.
4. The guard house at the school entry should be recessed as far into the project as possible to minimize the potential for vehicular queuing onto Kapaa Quarry Road.
5. The driveway and entry road should be designed such that school buses can maneuver into the entry road in a safe manner.
6. The need for separate turn lanes at the project driveway should be addressed.

Should you have any questions regarding these comments, please contact Faith Miyamoto of the Transportation System Planning Division at 527-6976.

Respectfully,

for 
CHARLES O. SWANSON
Director

cc: Ms. Joan Takano, Department of Land Utilization
✓ Mr. Jeffrey Overton, Group 70
Office of Environmental Quality Control



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Charles F. Schriever, AIA
Kathryn A. Tsukano
Roy A. Inouye
Mary J. O'Leary

May 9, 1996

City and County of Honolulu
Department of Transportation Services
Mr. Charles O. Swanson, Director
711 Kapiolani Boulevard, Suite 1200
Honolulu, HI 96813

Subject: Le Jardin Academy, Kailua, Koolauoko, Oahu, HI
Response to Comments on Draft Environmental Assessment

Dear Mr. Swanson:

Thank you for providing your comments on the Draft EA for Le Jardin Academy's proposed new campus. We have prepared responses to the issues raised in your letter to Mr. Stanley Lum of Le Jardin Academy, dated 9 April 1996.

As the site planning progresses for this project, the items listed in your letter will be accommodated in the design. The campus driveway and guard house will be designed for safe and efficient use. The guard house location, driveway widths and directional characteristics will be identified on the site plan.

We appreciate your review and comments on the Draft EA. Please contact us if you have any questions or require additional information.

Sincerely,

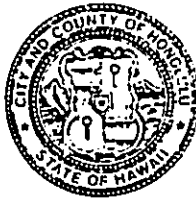
GROUP 70 INTERNATIONAL, INC.

Jeffrey H. Overton
Jeffrey H. Overton, AICP
Chief Environmental Planner

PLANNING DEPARTMENT
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET
HONOLULU, HAWAII 96813

JEREMY HARRIS
MAYOR



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APR 23 1996

GROUP 70

CHERYL D. SOON
CHIEF PLANNING OFFICER

CAROLL TAKAHASHI
DEPUTY CHIEF PLANNING OFFICER

MH 3/96-0679

April 16, 1996

MEMORANDUM

TO: PATRICK T. ONISHI, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM: CHERYL D. SOON, CHIEF PLANNING OFFICER
PLANNING DEPARTMENT

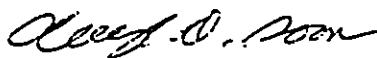
SUBJECT: ZONE CHANGE NO. 96/Z-4 AND SPECIAL MANAGEMENT AREA NO. 96/SMA-015, LE JARDIN ACADEMY, 917 KALANIANA'OLE HIGHWAY, KAILUA, OAHU, TAX MAP KEY: 4-2-14; POR. 4

In response to your department's request of March 14, 1996, we have reviewed the subject Zone Change and Special Management Area Use Permit applications and have the following comments to offer:

1. We confirm that the subject site is currently designated for Preservation use on the Koolaupoko Development Plan Land Use Map.
2. The Koolaupoko Development Plan Public Facilities Map shows a symbol for publicly funded Transit Station (Kailua Park-and-Ride Facility) and Corporation Yard (Windward Division Bus Facility II), site undetermined, beyond six years, in the vicinity of the subject site.
3. We are currently processing a Development Plan Land Use Map amendment for the Le Jardin Academy project in the 1996 Annual Amendment Review. Therefore, we are still studying the proposed project and will detail our findings and recommendations in our report on the proposed amendment (96/KP-1).

Patrick T. Onishi, Director
Department of Land Utilization
April 16, 1996
Page 2

Should you have any questions, please contact Matthew Higashida of our staff at 527-6056.


CHERYL D. SOON
Chief Planning Officer

CDS:js

cc: Le Jardin Academy
Analytical Planning Consultants
Group 70 International, Inc.



GROUP 70
INTERNATIONAL

Francis S. Oda, AIA, AICP
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Roy A. Inouye
Mary J. O'Leary

May 9, 1996

City and County of Honolulu
Planning Department
Ms. Cheryl D. Soon, Chief Planning Officer
650 S. King Street, 8th Floor
Honolulu, HI 96813

**Subject: Le Jardin Academy, Kailua, Koolaupoko, Oahu, HI
Response to Comments on Draft Environmental Assessment and
Change of Zone Application**

Dear Ms. Soon:

Thank you for providing your comments on the Draft EA and Zone Change Application for Le Jardin Academy's proposed new campus. We received a copy of your memorandum to Mr. Patrick Onishi of DLU, dated 16 April 1996.

We understand that you are processing a Development Plan Land Use Map amendment and will detail your findings and recommendations in your report. It is hoped that the information presented in this Final EA will be helpful in your review of the proposed project.

We appreciate your review and comments on the Draft EA and Zone Change Application. Please contact us if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Jeffrey H. Overton
Jeffrey H. Overton, AICP
Chief Environmental Planner

DEPARTMENT OF WASTEWATER MANAGEMENT
CITY AND COUNTY OF HONOLULU
650 SOUTH KING STREET
HONOLULU, HAWAII 96813

JEREMY HARRIS
MAYOR



FELIX B. LIMTIACO, P.E.
DIRECTOR

CHERYL K. OKUMA-DEFE, ESQ.
DEPUTY DIRECTOR

In reply refer to:
WCC 96-34

March 20, 1996

MEMORANDUM

TO: MR. PATRICK ONISHI, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

FROM: FELIX B. LIMTIACO, DIRECTOR
DEPARTMENT OF WASTEWATER MANAGEMENT

SUBJECT: ZONE CHANGE NO. 96/2-4
LE JARDIN ACADEMY
917 KALANIANA'OLE HIGHWAY - KAILUA
TMK: 4-2-14: POR. 4

1996 MAR 21 PM 3:30
DEPT. OF LAND UTILIZATION
CITY & COUNTY OF HONOLULU

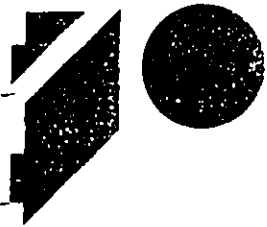
Our response relating to the availability and adequacy of the municipal sewer system for the subject project is as follows:

- Municipal Sewer System Available and Adequate
(This statement shall not be construed as confirmation of sewage capacity reservation. Sewage capacity reservation is contingent on submittal and approval of a "Sewer Connection Application" form.)
- Municipal Sewer System Not Available
- Municipal Sewer System Not Adequate
- Liable for Payment of a Wastewater System Facility Charge
- Other: The Municipal Sewer System will become adequate after construction of the Kailua WTP Modification Phase 3 (Effluent Pump Station, Phase 2) project is completed. This project is projected to be completed in June, 1998. Le Jardin Academy shall connect directly to the Maunawili Subdivision Sewage Pump Station.

Contact Person:

Tessa Yuen, Ext. 4956

FELIX B. LIMTIACO
DIRECTOR



GROUP 70
INTERNATIONAL

May 9, 1996

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
Sheryl B. Seaman, AIA, ASID
Masatoshi Hida, AIA
Toshiyuki H. Nihei, AIA, CSI
James I. Nishimoto, AIA
Ralph E. Portmore, AICP
Stephen H. Yuen, AIA

City and County of Honolulu
Department of Wastewater Management
Mr. Felix Limitiaco, Director
650 S. King Street
Honolulu, HI 96813

**Subject: Le Jardin Academy, Kailua, Koolau-poko, Oahu, HI
Response to Comments on Change of Zone Application**

Paul P. Chorney, AIA
Sean H. Kitamura, AIA
Norma J. Scott, AIA
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Dear Mr. Limitiaco:

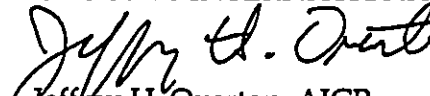
Thank you for providing your comments on the Change of Zone Application for Le Jardin Academy's proposed new campus. We have prepared responses to the issues raised in your letter to Mr. Patrick Onishi of the Department of Land Utilization, dated 20 March 1996.

The projected completion of the Kailua WWTP Modification Phase 3 in June, 1998 will coincide with the planned opening of the pre-kindergarten through eighth grades of Le Jardin Academy in the fall of that year. The campus wastewater system will connect directly to the Maunawili Sewage Pump Station.

We appreciate your review and comments on the Change of Zone Application. Please contact us if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.


Jeffrey H. Overton, AICP
Chief Environmental Planner

APR- 8-98 MON 15:43

LAND UTILIZATION

FAX NO. 8085278743

P. 08

FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU
337E KAPAKA STREET, SUITE 4425
HONOLULU, HAWAII 96819-1869

96-0769

JEREMY HARRIS
MAYOR



ANTHONY J. LOPEZ, JR.
FIRE CHIEF

ATTILIO R. LEONARDI
FIRE DEPUTY CHIEF

March 20, 1996

TO: PATRICK T. ONISHI, DIRECTOR
DEPARTMENT OF LAND UTILIZATION

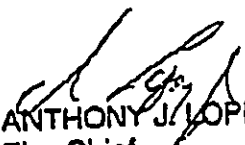
FROM: ANTHONY J. LOPEZ, JR., FIRE CHIEF

SUBJECT: ZONE CHANGE NO. 96/Z-4
LE JARDIN ACADEMY
917 KALANIANAOLE HIGHWAY - KAILUA
TAX MAP KEY: 4-2-14: POR. 4

The Honolulu Fire Department (HFD) has reviewed the subject material and has no objections to the requested zone change.

The Developer shall provide fire apparatus accessibility and on-site hydrants. The on-site hydrants shall flow 2,000 gallons per minute at 20 psi. Plans are to be submitted to the Building Department and HFD for review and approval. Off-site fire flow requirements shall be determined by the Board of Water Supply.

Should you have any questions, please call Battalion Chief Charles Wassman at 831-7778.


ANTHONY J. LOPEZ, JR.
Fire Chief

AJUCW:jl



GROUP 70
INTERNATIONAL

May 9, 1996

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
Sheryl B. Seaman, AIA, ASID
Masashi Hida, AIA
Roy H. Nihei, AIA, CSI
James I. Nishimoto, AIA
Thomas E. Portmore, AICP
Stephen H. Yuen, AIA

City and County of Honolulu
Honolulu Fire Department
Anthony J. Lopez, Jr., Fire Chief
3375 Koapaka Street, Suite H425
Honolulu, HI 96819-1869

**Subject: Le Jardin Academy, Kailua, Koolaupoko, Oahu, HI
Response to Comments on Change of Zone Application**

William P. Chorney, AIA
William H. Kitamura, AIA
Norma J. Scott, AIA
Stephen E. Callo, CPA
Christopher R. Bell, AIA, CSI, CCS
Walter K. Muraoka
George I. Atza, AICP
Jeffrey H. Overton, AICP
Michael A. Garni
Eric G. Crispin, AIA
Linda L. Chung, AIA
Robert M. Bucholdt
Ronald L. Proctor
Charles F. Schriever, AIA
Shirley A. Tsukano
Roy A. Inouye
Mary J. O'Leary

Dear Chief Lopez:

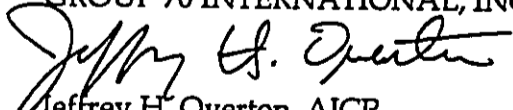
Thank you for providing your comment letter to the Department of Land Utilization, dated March 20, 1996, regarding the Change of Zone Application for Le Jardin Academy's proposed new campus.

Le Jardin Academy will provide fire apparatus accessibility and on-site fire hydrants in accordance with Building Department and HFD requirements. Le Jardin Academy will work with the Board of Water Supply to meet off-site fire flow requirements.

We appreciate your review and comments on the Change of Zone Application. Please contact us if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.


Jeffrey H. Overton, AICP
Chief Environmental Planner

76-0708-

1996 APR -0 PM 3:25

DEPT. OF LAND UTILIZATION
CITY & COUNTY OF HONOLULU

File No.: 96/Z-4(SN)

DEPARTMENT OF LAND UTILIZATION

SUMMARY DESCRIPTION

APPLICANT : Le Jardin Academy
 LANDOWNER : Harold K. L. Castle Foundation
 REQUEST : Zone Change from P-2 General
 Preservation District to AG-2
 General Agricultural District
 LOCATION : 917 Kalaniana'ole Highway - Kailua
 TAX MAP KEY : 4-2-14: por. 4
 LAND AREA : 19.617 acres
 DEVELOPMENT PLAN :
 LAND USE MAP : Preservation
 PUBLIC FACILITIES MAP : Additional right-of-way and new
 streets beyond 6 years, transit
 station, corporation yard
 EXISTING ZONING : P-2 General Preservation District
 EXISTING USE : Vacant (formerly Kailua Drive-In
 theater)
 SURROUNDING LAND USE : Undeveloped lands, Kawai Nui Marsh
 PROPOSAL : Develop new academic,
 administrative and support
 facilities for pre-kindergarten
 through 12th grade students

Honolulu Police

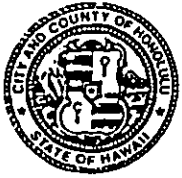
Department

Comments: File No. 96/Z-4(SN)

This project should have no significant impact on the operations of the Honolulu Police Department.



By Date
 EUGENE UEMURA, Asst. Chief
 Administrative Bureau



KAILUA NEIGHBORHOOD BOARD NO. 31

P.O. BOX 487 • KAILUA, HAWAII 96734

96-07105
1996 APR -8 PM 3:22

DEPT. OF LAN UTILIZATION
CITY & COUNTY OF HONOLULU
April 5, 1996

Mr. Patrick T. Onishi, Director
Department of Lan Utilization
City and County of Honolulu
650 North King Street
HonOLULu, Hawaii 96813

Dear Mr. Onishi:

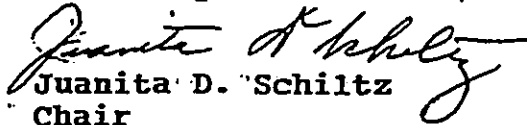
The Kailua Neighborhood Board at its regularly scheduled meeting April 4, 1996, a motion to approve the proosal of Le Jardin Academy for a new campus on 20 acres of the former Kailua Drive-In Theater, trusting the applicant to comply with all environmental requirements of the federal, state and local governments. To the best of my ability, the above stated motion faithfully describes its intent, with a description added to make certain identification of the project. The motion carried with 11 votes in favor, 6 opposed, 1 abstention because of conflict of interest and 1 member absent on the Mainland for National Guard training. A copy of the meeting minutes will be furnished upon publication and approval as recorded.

Committee concerns made known to Acaemy officials and Group 70 included traffic, runoff and lighting. Full board discussion questioned sewer capacity adequacy and provision of bus stops and pedestrian crosswalks on Kalaniana'ole. Uppermost concerns are impact on Kawai Nui Marsh, need for change of zoning and traffic.

Abundant tesimony was heard from adults and children attesting to the need. A Kawai Nui Marsh Foundation reiterated concern about the marsh and will, I am sure, address you directly.

We appreciate your including our views in your decision making process.

Sincerely,


Juanita D. Schiltz
Chair

Cy to Director, State OEQC
Headmaster, Le Jardin
Group 70 International



Oahu's Neighborhood Board System - Established 1973

96-07001

1996 APR -3 PM 2:13

DEPT. OF LAND UTILIZATION
CITY & COUNTY OF HONOLULU

MAUNAWILI ESTATES COMMUNITY ASSOCIATION

Post Office Box 107, Kailua, Hawaii 96734

Re: 96/SMA-015(JT)

April 1, 1996

Mr. Patrick T. Onishi
Director
Department of Land Utilization
City & County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

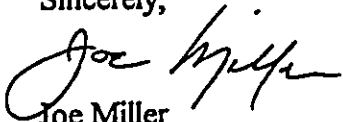
Dear Mr. Onishi:

I am in receipt of your letter of March 14, 1996, concerning the Environmental Assessment prepared for the Le Jardin Academy project within the Special Management Area in Kailua.

Upon initial review of the proposed plan for the project, the Maunawili Estates Community Association has no comment at this time. We (MECA) will be monitoring the Le Jardin project as it progresses.

I thank you for providing the material for our review and keeping our community informed

Sincerely,



Joe Miller

President

Maunawili Estates Community Association



GROUP 70
INTERNATIONAL

May 9, 1996

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
Sheryl B. Seaman, AIA, ASID
Masatoshi Hida, AIA
Roy H. Nihei, AIA, CSI
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Stephen H. Yuen, AIA

City and County of Honolulu
Honolulu Fire Department
Anthony J. Lopez, Jr., Fire Chief
3375 Koapaka Street, Suite H425
Honolulu, HI 96819-1869

**Subject: Le Jardin Academy, Kailua, Koolau-poko, Oahu, HI
Response to Comments on Change of Zone Application**

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Cathryn A. Tsukano
Roy A. Inouye
Mary J. O'Leary

Dear Chief Lopez:

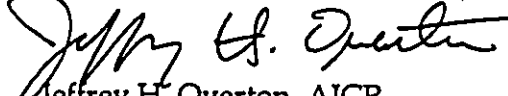
Thank you for providing your comment letter to the Department of Land Utilization, dated March 20, 1996, regarding the Change of Zone Application for Le Jardin Academy's proposed new campus.

Le Jardin Academy will provide fire apparatus accessibility and on-site fire hydrants in accordance with Building Department and HFD requirements. Le Jardin Academy will work with the Board of Water Supply to meet off-site fire flow requirements.

We appreciate your review and comments on the Change of Zone Application. Please contact us if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.


Jeffrey H. Overton, AICP
Chief Environmental Planner

APR-12-96 FRI 12:43

LAND UTILIZATION

FAX NO. 8085276743

P. 05

46-02001

1996 APR -3 PM 2:13

DEPT. OF LAND UTILIZATION
HONOLULU

MAUNAWILI ESTATES COMMUNITY ASSOCIATION
Post Office Box 107, Kailua, Hawaii 96734

Re: 96/SMA-015(JT)

April 1, 1996

Mr. Patrick T. Onishi
Director
Department of Land Utilization
City & County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

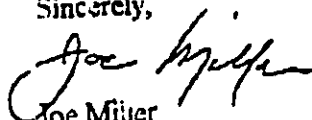
Dear Mr. Onishi:

I am in receipt of your letter of March 14, 1996, concerning the Environmental Assessment prepared for the Le Jardin Academy project within the Special Management Area in Kailua.

Upon initial review of the proposed plan for the project, the Maunawili Estates Community Association has no comment at this time. We (MECA) will be monitoring the Le Jardin project as it progresses.

I thank you for providing the material for our review and keeping our community informed

Sincerely,



Joe Miller

President

Maunawili Estates Community Association



GROUP 70
INTERNATIONAL

May 9, 1996

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Hitoshi Hida, AIA
Roy H. Nihei, AIA, CSI
James I. Nishimoto, AIA
Ralph E. Portmore, AICP
Stephen H. Yuen, AIA

Mr. Joe Miller
Maunawili Estates Community Association
P.O. Box 107
Kailua, HI 96734

Subject: Le Jardin Academy, Kailua, Koolau-poko, Oahu, HI
Response to Comments on Draft Environmental Assessment

Paul P. Chorney, AIA
Dean H. Kitamura, AIA
Norma J. Scott, AIA
Stephen E. Callo, CPA
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Janet M. Bucholdt
Ronald L. Proctor
Charles F. Schriever, AIA
Cathryn A. Tsukano
Roy A. Inouye
Mary J. O'Leary

Dear Mr. Miller:

Thank you for providing your response letter, dated April 1, 1996, to the Department of Land Utilization. The applicant, Le Jardin Academy, is obligated to respond in writing to all comment letters received on the Draft EA.

We appreciate your review and look forward to your continued interest as the project proceeds. Please contact us if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.

Jeffrey H. Overton, AICP
Chief Environmental Planner

DOCUMENT CAPTURED AS RECEIVED



*Ke aloha o ko kākou 'Āina, 'Ōia ka mana kū pā'a. Pānoanoa ka 'Āina, Mānoanoa ka po'a.
The Love of our land, is the power for us to stand fast. Rare is the land, many are the people.*

April 5, 1996

APR - 9 1996

Le Jardin Academy
1110 A Kailua Road
Kailua, Hawai'i 96734

GROUP 70

Attention: Stanley Lum

- Subject: Le Jardin Academy
- Environmental Assessment for Special Management Area(SMA) Use Permit Application
 - Application for Koolaupoko Development Plan Land Use Map Amendment.
 - Application for a Change of Zone

This proposed project site is entirely within the Special Management Area (SMA) and requires a Special Management Area Use Permit; an Amendment of the Koolaupoko Development Plan Land Use Map; a City and County of Honolulu Zone Change from P-2 General Preservation to AG-2 General Agriculture; a Site Plan Review; and a conveyance subdivision.

This assemblage of initial constraints in and of themselves make mandatory the full development of a comprehensive Environmental Impact Statement. That you attempt to effect approval of the Special Management Area Use Permit with this woefully inadequate Environmental Assessment is unprofessional and irresponsible. You demonstrate contempt for the requirements of law, for the millions of taxpayer dollars already expended on behalf of protection and enhancement of the adjacent Kawai Nui Marsh, and for the resident population when you pretend there will be no impacts on the only resource of its kind in Hawai'i, if not America.

Hawaii's Thousand Friends (HTF) advocates the public interest, in the belief that all land use decisions and actions are a process in which the entire community should participate. We have a long experience of working on behalf of the richly valuable Kawai Nui Cultural, Historic and Archaeological District, a complex protected as an eligible National Historic Property. Defense of the beauty and values of Kawai Nui Marsh was Hawaii's Thousand Friends' first effort more than fifteen years ago.

Kawai Nui is also a haven to migratory waterfowl and is habitat for the native Hawaiian Gallinule ('Alae Ula), Hawaiian Coot ('Alae Ke'oke'o), Hawaiian Duck (Koloa Maoli), and Hawaiian Stilt (Kukulu'ae'o). HTF would be remiss in its chartered duty to "defend the public interest in maintaining Hawaii's beauty and natural resources, while insuring responsible growth," if we did not protest the sophistry of this poorly disguised attempt to manipulate the process while seeking to close off all public options for this site without a worthy examination of those options. Defense of the beauty and values of Kawainui Marsh was Hawaii's Thousand Friends' first effort more than fifteen years ago.

This project, worthy as it might be located in a less sensitive site, is an extensive development requiring a host of site manipulation to accommodate the Phases listed in the EA which, cumulatively, cannot be justified in this locale. The extremely limited, albeit slick, Environmental Assessment (EA) is seriously flawed:

1. Special Management Area Use Permit: The development of this project is not contingent on its being located in the Coastal Zone, while the site, itself, has great significance and value for public use, as reflected in the State's 1983 Management Plan for Kawainui. The landowner's agent was a participant in the development of those plans, which have now culminated in State Implementation Plans since the acquisition of Primary area lands central to holistic park and habitat development in the flood plain. This site, immediately adjacent in the Secondary Area, the use of which will affect water quality, traffic, endangered waterbird species, one of the largest Cultural Districts in the state, and the largest freshwater marsh in Hawai'i, is incompatible for the private interests which would open the entire area mauka of Kawainui to inappropriate development. None of these issues can be, nor are, adequately addressed in an EA. An Environmental Impact Statement is essential.

2. Preservation Designation: A former city administration placed this site in preservation in a cooperative attempt to support state planning for the Kawai Nui wetlands and its periphery. It would be a travesty if the present Administration, presenting itself as the "Environmental Administration" were to reduce its high standards to accommodate exclusivity. When Kailua Drive-In was open, the public could access the property during the day to view the Kailua watershed, mauka to makai. The view of Kawai Nui Marsh is spectacular, and of the ahupua'a, is all-encompassing. Development of this project forecloses this option to the public. Why wasn't public access to the site for viewing not discussed? Is access for viewing an option? Maintaining an obstructed view plain from within the Marsh is critical to providing a natural wilderness experience. Why weren't such views addressed in the EA?

3. Sewerage: Without the analysis provided by a fully developed EIS, to include the numbers of students, staff, faculty, events and programs that could be logically projected to utilize this large development, no sane estimate can be made of the strains on a system limited to Kailua population numbers by the Environmental Protection Agency at the time of Interceptor Sewer construction. Where are the details of how sewerage would be transported along an elevated highway above protected wetlands and cultural features of the District Complex, before connection at a sorely limited pumping station? Will NPDES permits be required? If so, how many and for what projects? Is there adequate sewage capacity at the Kailua sewage treatment plant? How long will the construction of the 1,000 foot pipe line across Kalaniana'ole Highway take? What is the pipe route? What would the working hours be?

4. Water Supply: What strains will be placed on a system which the Board of Water Supply, itself, has said is inadequate in Windward O'ahu? To what extent might this development, if approved, trigger massive public expenditures for an expanded water system? Since the EA admits that additional information will have to be forthcoming to address the specifics of "storage and distribution requirements" for the Board of Water Supply, we believe the public should have a chance to evaluate such information before the commitment of finite, unique resources which might accept lesser demands under other uses.

Since water is a finite resource it is critical that the ability to provide an adequate water supply at full buildout in 2005 be shown prior to approval of any permits. Why wasn't the long term water availability issue addressed in the EA? Is there adequate water to meet the needs of this facility with a potential full buildout population of 1,200 in 2005? Is this project dependent on the development of Reservoir 272? Where will the water come from?

5. Electrical Supply: The existing above-surface electrical transmission cannot be assumed to remain when full park plans are implemented, as wires of the antiquated system are already hazardous to present marsh wildlife, and even more dangerous for the numbers of increased wildlife expected as waters are opened for the native species and increased migratory waterfowl. We are aware of a recent "kill" of a Hawaiian gallinule through impact with overhead electrical lines, as reported by the head of State Forestry and Wildlife. In addition, such lines are disruptive to the kind of wilderness experience desired in a world-class park. If underground facilities would service this large school complex, how would they tie into the existing overhead facilities over the wetlands for the near and foreseeable future? How much power will be required? Will underground facilities traverse the Quarry Road? How will this add to traffic problems for the landfill, Quarry operations, Quarry Road commuters and the

Quarry/Kalaniana'ole intersection?

6. Solid Waste Disposal: All of Kailua has a vested interest in the amounts of solid waste generated on O'ahu, as too much of it now finds a "home" in Kailua. An increase in solid wastes at this specific site, however, may mean a great deal of wind-blown trash entering the critical habitat areas in the upper reaches of Kawainui, especially during Kona weather, and during hurricane season.

7. Utility Requirements: Since cumulative and individual water, sewer and electrical construction activities could potentially impact adjacent streams and Kawainui Marsh why wasn't a comprehensive erosion, siltation and runoff mitigation plan outlined in the EA? How will these construction needs affect road safety?

8. Traffic Impact: We disagree with the School's consultant that "traffic conditions are not a special management area issue." Hawai'i Coastal Zone Management law clearly requires analysis of all cumulative impacts of any proposed project in the Coastal Zone, taking precedence over County authority, as demonstrated by the need for a CZM consistency Certification by the State. It is sheer folly for those proposing this project in this sensitive area to try to convince agencies and knowledgeable citizens that traffic will not be horrendous every morning and evening during the school year, placing even greater strain on Kalaniana'ole Highway commuter traffic by parents dropping off and picking up their children, while en route to and from work or, for non-working spouses, on crossing traffic to return home. The mix of this kind of "family traffic" with the huge garbage trucks, and construction vehicles of all types should be evaluated prior to any land use decisions being made.

Other stresses will be with the unmentioned need for additional public transportation (The Bus) to accommodate intermediate and high school students, the distance from existing bus stops, the hazards for children without sidewalks along one of Hawaii's busiest highways, and the absence of crosswalks anywhere in the area. Where will students cross the highway? Are there plans to add new bus stops? Will sidewalks and safety railings need to be added, if so who pays? The volume of trucks using the Quarry Road and the Quarry/Kalaniana'ole Highway intersection is high, creating a dangerous situation. Why weren't safety measures considered and addressed for children crossing the intersection and walking along Quarry Road? Since the Quarry Road is a private road who has the liability-the owner or the City? Can the Quarry Road handle the additional capacity?

The Koolaupoko Development Plan Public Facilities Map(Attachment I) shows "additional right of way and new streets beyond 6 years" for Kalaniana'ole Highway and the Quarry/Highway intersection. Since this information is included in the EA (Figure

2-5) why weren't the cumulative impacts to the coastal zone included since the road work will occur during the development time frame?

9. Economic and Social Characteristics: The EA is utterly mute on the kinds of **Public Economics** and **Public Social Characteristics** one normally finds in an assessment. There is subjective mention only of costs and goals limited to the school's vision of itself. This is not even an assessment, as required under the law. There are at least ten million taxpayer dollars invested to date in studies, acquisition costs, legal costs, planning costs, and flood control costs, involving Kawai Nui Marsh. This document reflects little of the community's vision of itself. We believe the cumulative affects of the proposed development would only begin with actual construction, large as twenty acres may be in comparison with any public school facilities of the area: it is in the nature of schools (public or private) to grow, if successful. Private schools, having a greater incentive for the acquisition of income than that shown by public schools, may grow rapidly in eras when public schools are held in poor esteem, as now. We believe they would further impact the upland slopes, even as the Kamehameha Schools and Punahou have done over time, but with far greater damage in an un-urbanized area, both aesthetically and environmentally. How would Le Jardin grow? What are the public social benefits? If social benefits are provided how will the public be assured that they will be honored-via Conditional Use Permits, and/or unilateral agreements?

10. Environmental Characteristics: Existing soil erosion is barely mentioned, and reference is made to outdated (1972) University of Hawai'i evaluations of the site for purposes of agriculture, at a time when the Drive-In was profitable. Using data irrelevant to the requirements of assessing environmental impact is unprofessional. If "ground cover" can be found to "stabilize" the steep cuts of the past, we're sure the State Department of Transportation would like to know as they have never been able to find a way (even with the willing help of the Outdoor Circle) to stabilize the cuts along the Kalaniana'ole Highway in these same soils through Kailua and en route to Waimanalo.

We are suspicious of "drainage systems" consisting of "swales, depressions and detention ponds" as the nearby Kapa'a landfill(s) and Ameron Quarry have tried to ameliorate these problems with a notable lack of success: all such waters ultimately end up in Kawai Nui, probably because water runs downhill. The minute the rains begin, such basins cannot be contained. What type of ground cover will be used? What other measures are proposed should initial ground covers not work? Why weren't mitigation measures proposed to avoid transport of contaminants to streams and Kawainui Marsh?

The current practice of diverting on site stormwater runoff into a drainage canal which runs parallel to Kalaniana'ole Highway

and empties directly into Kahanaiki Stream and then into Kawainui Marsh is unacceptable. Two enemies of the Marsh are pollution and siltation and this direct conduit contributes both directly to Kawai Nui. Why weren't alternatives investigated? What other alternatives are available? Is a stormwater runoff permit required? In what step of the permitting process is a stormwater permit required? While the EA asserts that the "site will reduce the water and volume of runoff into Kawainui Marsh" there is no substantiating data. Why wasn't data provided?

11. Mitigative Measures: This whole portion of the EA provides no comfort, by virtue of its lack of specificity. In a fully developed Environmental Impact Statement, such weasel words as "typically implemented," "to the greatest extent possible" would have to be backed up by what these terms mean within the precise context of the site and through those actions cumulative impacts on the public resource lying below. And, incidentally, the basins mentioned above are here described as "temporary." Will there be permanent basins and retention ponds? Why wasn't a map included showing where the silt fences, straw bale barriers, sediment basins etc. are to be placed plus descriptions of how they will work and what they are to accomplish? This information is necessary to evaluate proposed mitigation measures. Where is the off-site discharge collection system located?

Section 2.0, "Description of the Proposed Action". Under Site Plan Review it states "The SPR will address Phase I improvements. Since the school is an entirely new facility what is meant by improvements? Why isn't Phase II being considered in the Site Plan Review? Isn't it piece-mealing in the coastal zone to not consider all aspects of a master planned development? Not considering all phases of development, impacts from future road widening and intersection improvements as well as impacts from and to the Visitor Center, proposed for the makai corner of Quarry Road and Kalaniana'ole Highway, in the application stage and SPR are examples of how cumulative impacts to the coastal zone are being ignored.

There is a discrepancy between the EA/SMA and the Environmental Notice. The Notice lists "caretaker residence" as being in Phase I. The EA/SMA Figure 2-1 and page 2-1 lists the "caretakers residence" as being in Phase II. Which is correct? If the "residence" is to be built in Phase I then infrastructure impacts such as road grading, lot clearing etc. need to be addressed? Is piece-mealing master plans legally acceptable in the coastal zone? It is HTF's experience that it is not legal.

In Section 3.0, "Affected Environment," the Marsh is mentioned as a neighbor "across Kapaa Quarry Road." It does not describe the proposed project site as being in an area of **no other urbanized development**, which is of great significance in the larger context. The former Kailua Drive-In is gone and the

land is now designated for preservation for a purpose. That purpose played a large role in assisting citizens in opposition to inappropriate development of the site for either a golf course or for housing. This proposal, too, is a major development, unevaluated. The Applicant, unsurprisingly, cites that part of the General Plan relating to education. We contend that environmental policies surely require precedence in this one-of-a-kind setting. An expandable urban environment elsewhere in Kane`ohe or Kailua could surely be found for a private school's use.

Indeed, it was found in the Coconut Grove neighborhood when Le Jardin purchased the old Windward Prep campus. Instead of "gentrifying" the area they already owned, they maximized their investment by selling the property. We have no guarantees that, if they obtain another land use designation for this Preservation site, that they will not again "maximize" their investment in order to afford a less difficult site elsewhere, with the landowner's blessing. What are the terms of the lease? Is there an escape clause should Le Jardin not receive all the necessary permits?

The school complex will have many lighted facilities; athletic field, parking lots, performance hall and amphitheater in addition to night class room use yet nowhere in the EA/SMA application is the issue of cumulative impacts from night lighting discussed. While the EA/SMA omits any lighting reference to the swimming pool, we assume that this facility will also have night lighting. Is this a correct assumption? If so why wasn't it referenced in the EA/SMA? Why wasn't the cumulative impact from all night lighting sources addressed? What impact will cumulative lighting have on animal life within the Marsh, seabirds and nearby neighborhoods? What impact would it make on a nature park?

FOR ALL THE ABOVE REASONS SHOWING THE MANY NEGATIVE IMPACTS TO THE COASTAL ZONE WE OPPOSE THE GRANTING OF A SPECIAL MANAGEMENT AREA PERMIT FOR THIS PROJECT.

Text and information of the three documents overlaps so the following are comments specific to CHANGE OF ZONE and DP LAND USE MAP AMENDMENT:

CHANGE OF ZONE

Section 1.0 Project Summary: If the "former exit onto Kalaniana'ole Highway" is being considered as an "future optional driveway" why wasn't it included in the EA/SMA or traffic studies? Are left turns in and out of the property from this driveway an option for the future?

Section 2.0 General Plan and Development Plan Objectives. We disagree with section 2.1(8) Public Safety that no policies and objectives are applicable. General Plan Policy 6, VIII Public Safety reads; *Reduce hazardous traffic conditions.*

Section 3.0 Consistency with the State Land Use District Boundary Map. The existing Drive-In exit road, shown on Figure 1-5 is in the Conservation District. This issue was never addressed in any of the documents. Doesn't the applicant need to apply to the Land Use Commission(LUC) for redesignation of the road parcel before proceeding? Why wasn't this done? Will a redesignation application be filed with the LUC? The LUC application should run concurrently with the applications we are addressing-why isn't it?

Section 4.0 Consistency with Article 5 of the Land Use Ordinance. While this section states that some buildings will be 25 feet and others will exceed 25 feet there is no discussion on the cumulative impact of so many buildings exceeding the maximum height of 15 feet or with height setbacks 25 feet. A good many of the facilities will exceed the height limit; the administration building, high school(number of buildings not listed), gymnasium, performance hall, athletic field lights and portions of elementary and middle school so how many variances will be needed? When will the variances be requested? Should the swimming pool have lights will they exceed the height limit? What about parking lights?

Appendix A Traffic Impact Assessment Report for Le Jardin Academy. This section neglects to address the impact that changing the light at the Quarry/Kalaniana'ole Highway intersection, in favor of Quarry Road traffic, will have on cars going up the highway towards town. This is especially critical in the morning rush hour since every time traffic stops cars must accelerate from a stopped position thus slowing down traffic even further.

The traffic study is wholly inadequate: manual counts were only taken one day, modifications to the signal at the Quarry/Kalaniana'ole Intersection are the proposed traffic solutions yet the impact on town bound traffic due to more frequent signal changes is not discussed, and the intersection is on a hill thus making acceleration more difficult yet impacts from these issues are not discussed. Table 2 only discusses ingress and egress during morning and afternoon peak hours and doesn't address the impact to the highway traffic flow for other hours. Nowhere in the traffic assessment does it discuss the impact from after school and night activities. These are major omissions since facilities will include an athletic field, performance hall, and swimming pool.

FOR THE ABOVE CITED REASONS SHOWING THAT THIS DEVELOPMENT IS INCOMPATIBLE WITH KAWAINUI MARSH WE OPPOSE THE GRANTING OF A ZONE CHANGE FROM PRESERVATION TO AGRICULTURE.

APPLICATION FOR KOOLAUPOKO DEVELOPMENT PLAN LAND USE MAP AMENDMENT

Section 2.0 Land Use Information. This section is misleading. The adjoining lands are designated conservation not agriculture.

Figure 4 identifies the site for a corporation yard and transit station yet there is no mention in any document regarding relocation of these functions. Where will these facilities be relocated? Why wasn't relocation addressed?

Figure 10 shows the school development going outside the urban designated area into the conservation designated area. Under Phase II an application will be filed in "1997 or later" to redesignate approximately 3.9 acres from Conservation to Agriculture. Shouldn't this redesignation be done before any County approvals are granted? Why is the applicant waiting until 1997? The building placement on Figure 10 is different from Figure 2-1 in the EA/SMA and Figure 1-5 in the Change of Zone. Which figure is correct? Will the current Conservation designated 3.9 acres be needed/used for the school complex? Again, is this an attempt to piece-meal the process?

FOR THE ABOVE CITED REASONS SHOWING THAT THIS DEVELOPMENT IS INCOMPATIBLE WITH KAWAINUI MARSH WE OPPOSE THE GRANTING OF A ZONE CHANGE FROM PRESERVATION TO AGRICULTURE.

This section outlines applicable laws, objectives and policies showing why the proposed development is inappropriate at this site.

COASTAL ZONE MANAGEMENT ACT

Section 307: Federal Consistency

(2) Private activities affecting the land or water uses in the coastal zone for which federal licenses and permits are required must be consistent with state programs

Section 307 requires that any activity that a Federal agency conducts or supports within a state's coastal zone be consistent with the Federal approved state management program. Various Federal permits have been required and granted for work done in the Marsh such as the current Army Corp of Engineers Flood Control Project. The Public Trust Doctrine is automatically passed down to states and Hawaii has incorporated the Public Trust Doctrine into enforceable policies.

Cumulative and secondary impacts

Cumulative effects are the impacts on the coastal zone which result from the incremental effects of an activity when added to the past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions.

cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Secondary effects are impacts that are associated with, but do not result directly from, an activity. Secondary effects can include growth inducing effects and other effects related to induced changes in the pattern of land use.

The cumulative and secondary effects of development in the coastal zone are perhaps the most intractable management issues faced by states and local governments. Coastal wetlands are often altered or destroyed by piecemeal development, and coastal water quality is slowly eroded as land uses spread to the water's edge with the twofold effect of contributing pollutants and eliminating the filtering effect of natural vegetation and wetlands. (Coastal Zone Act Reauthorization Amendments of 1990)

The Kailua Drive-In site is in area designated secondary by the 1994 Kawai Nui Marsh Master Plan. None of the documents address cumulative or secondary impacts. Examples of cumulative impacts are; proposed Visitor Center, proposed enlarging the industrial park to the Quarry Road, proposed Auloa/Kalaniana'ole Highway improvements, proposed highway widening, and necessary infrastructure road work. Examples of secondary impacts include; future Kalaniana'ole Highway widening, Quarry Road/Kalaniana'ole Intersection and Quarry Road safety improvements, future expansion of the school into the hillsides, and pressure from adjacent Conservation land landowners for redesignation for future development adjacent to a developed area.

COASTAL ZONE MANAGEMENT ACT OF 1972
TITLE III-MANAGEMENT OF THE COASTAL ZONE
§1452 Congressional declaration of policy.

The Congress finds and declares that it is the national policy; to preserve, protect, develop with proper environmental safeguards, and where possible, to restore or enhance, the resources of the Nation's coastal zone for this and succeeding generations.

This policy recognizes the nations and individual states Public Trust responsibilities.

§1453 Definitions

(18) The term "special area management plan" means a comprehensive plan providing for natural resource protection and reasonable coastal-dependent economic growth containing a detailed and comprehensive statement of policies; standards and criteria to guide public and private uses of lands and waters...

As set forth in this definition a project within the SMA should be coastal dependent. While Le Jardin teaches about the uniqueness of Kawai Nui Marsh its location is not coastal dependent.

As identified in the **ENDANGERED SPECIES ACT OF 1973** the Act recognizes a nation wide need to protect endangered species. The Act established criteria and means for future cooperation between States and the Federal government. The U.S. Fish and Wildlife Service defined a program to establish wildlife recovery teams at the State level.

Kawainui provides habitat for four native endangered water birds native Hawaiian Gallinule (*`Alae Ula*), Hawaiian Coot (*`Alae Ke`oke`o*), Hawaiian Duck (*Koloa Maoli*), and Hawaiian Stilt (*Kukulu`ae`o*). In 1975 two recovery plans were prepared and approved. The Waterbird Recovery Plan identifies Kawainui Marsh as a high priority recovery area.

HAWAII STATE CONSTITUTION
ARTICLE XI, Section 1.

For the benefit of present and future generations, the state and its political subdivisions shall conserve and protect Hawaii's natural beauty and all natural resources, including land, water, air, minerals and shall promote the development and utilization of these resources in a manner consistent with their conservation and in furtherance of the self-sufficiency of the State.

All public natural resources are held in trust by the State for the benefit of the people.

The Hawaii State Constitution recognizes the trustee responsibilities of the state through the State legislature and delegated trust powers and duties. The public is the beneficiary of the trust whose clear purpose is to: preserve and continuously assure the public's ability to fully use and enjoy public trust lands, waters and resources for certain public uses.

HAWAII COASTAL ZONE MANAGEMENT

§205A-2 Coastal zone management program: objectives and policies.

Objectives:

- (1)(A) Provide coastal recreational opportunities accessible to the public.
- (2)(A) Protect, preserve and where desirable, restore those natural...historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture.
- (3)(A) Protect, preserve, and where desirable, restore or improve the quality of coastal scenic and open space resources.
- (4)(A) Protect valuable coastal ecosystems from disruption and minimize adverse impacts on all coastal ecosystems

Policies:

- (1)(B) Provide adequate accessible, and diverse recreational opportunities in the coastal zone management area...
- (2)(C) Support state goals for protection, restoration, interpretation, and display of historic resources.

- (3)(A) Identify valued scenic resources in the coastal zone management area.
- (C) Preserve, maintain, and where desirable, improve and restore shoreline open space and scenic resources.
- (4)(B) Preserve valuable coastal ecosystems of significant biological or economic importance.
- (C) Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses...
- (7)(C) Communicate the potential shore and long-term impacts of proposed significant coastal developments early in their life-cycle...

Kawai Nui Marsh, is a valuable coastal ecosystem and a recreational, economic, open space, historic, scenic, cultural and prehistoric resource. This largest and most significant marsh meets the objectives and policies of the Hawaii and federal CZM programs.

SPECIAL MANAGEMENT AREAS

§205A-21 Findings and purposes

- (2) No development shall be approved unless the authority has first found:
 - (a) That the development will not have any substantial adverse environmental or ecological effect, except as such adverse effect is minimized to the extent practicable and clearly outweighed by public health, safety, or compelling public interests. Such adverse effects shall include, but not be limited to, the potential cumulative impact of individual developments, each one of which taken in itself might not have a substantial adverse effect, and the elimination of planning options.

The public interest is in preservation and protection of this ancient culturally sensitive ecosystem from the cumulative and secondary impacts of piecemeal development.

HAWAII STATE PLAN

Section 226-11 Objectives and policies for the physical environment-land-based, shoreline and marine based resources.

- (a)(1) Effective protection of Hawaii's unique and fragile environmental resources.
- (b)(6) Encourage the protection of rare or endangered plant and animal species and habitats native to Hawaii.
- (8) Pursue compatible relationships among activities, facilities and natural resources.
- (9) Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes.

Section 226-12 Objectives and policies for the physical

environment-scenic, natural beauty, and historic resources.

- (b)(1) Promote the preservation and restoration of significant natural and historic resources.
- (3) Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features
- (4) Protect those special areas, structures, and elements that are an integral and functional part of Hawaii's ethnic and cultural heritage.

Section 226-13 Objectives and policies for the physical environment-land, air and water quality

- (a)(2) Foster educational activities that promote a better understanding of Hawaii's limited environmental resources.

Section 226-23 Objectives and policies for socio-cultural advancement-leisure

- (a)(1) Foster and preserve Hawaii's multi-cultural heritage through supportive cultural, artistic, recreational, and humanities-oriented programs and activities.
- (2) Provide a wide range of activities and facilities to fulfill the cultural, artistic, and recreational needs of all diverse and special groups effectively and efficiently.
- (3) Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities...
- (4) Promote the recreational and educational potential of natural resources having scenic, open space, cultural, historical, geological, or biological values while ensuring that their inherent values are preserved.
- (10) Assure adequate access to significant natural and cultural resources in public ownership.

Over the past thirty years the rare and unique Kawainui Marsh has been studied by the scientific and Hawaiian community, provided an historic tapestry for cultural/artistic and recreational experiences as well as provide needed habitat for rare and endangered flora and fauna. Thus preservation, conservation and protection of this valuable resource meets the Hawaii State Plan criteria.

STATE FUNCTIONAL PLANS

RECREATION

Objective 11-A: Plan, develop, and promote recreational activities and facilities in mauka and other areas to provide a wide range of alternatives.

Policy 11-A(1): Plan and develop facilities and areas that feature the natural and historic/cultural resources of Hawaii. Develop interpretive programs for these areas.

Objective VI-A: Increase recreational access and opportunities in Hawaii's wetlands

Policy VI-A(1): Identify existing wetlands with the

potential for recreational development without significantly affecting wetland resources, with an emphasis on passive recreation and education.

Objective VI-C: Assure the protection of the most valuable wetlands in the state.

Policy VI-C(1): Develop a coordinated approach to wetlands protection, acquisition, and management, as well as to the provision of public education programs.

TOURISM

Objective III.A: Enhancement of respect and regard for the fragile resources which comprise Hawaii's natural and cultural environment. Increased preservation and maintenance efforts.

Policy III.A.(2): Assist in preserving, perpetuating and interpreting cultural, historic and archaeological resources.

Both the 1983 Resource Management Plan and 1994 State Implementation Plan identify and promote recreational, cultural and educational activities, and assure wetland and habitat protection. To affect these ideals the State has systematically purchased critical areas. Past, present and future actions demonstrate meets the above Functional Plans criteria.

GENERAL PLAN

ECONOMIC ACTIVITY

Objective B - To maintain the viability of Oahu's visitor industry

Policy 8 - Preserve the well-known and widely publicized beauty of Oahu for visitors as well as residents

NATURAL ENVIRONMENT

Objective A - To protect and preserve the natural environment

Policy 1 - To protect Oahu's natural environment, especially the shoreline, valleys, and ridges, from incompatible development.

Policy 8 - Protect plants, birds, and other animals that are unique to the state of Hawaii and the Island of Oahu.

Objective B - To preserve and enhance the natural monuments and scenic views of Oahu for the benefit of both residents and visitors.

Policy 1 - Protect the island's well-known resources; its mountains and craters; forests and watershed areas; marshes, rivers,...

CULTURE AND RECREATION

Objective B - To protect Oahu's cultural, historic, architectural, and archaeological resources.

Policy 3 - Cooperate with the State and Federal governments in developing and implementing a comprehensive preservation program for social, cultural, historic, architectural, and archaeological resources

Objective D - To provide a wide range of recreational facilities and services that are readily available to all residents of

Oahu.

Policy 8 -encourage ocean and water-oriented recreation activities that do not adversely impact on the natural environment.

Through the years the City has encouraged and cooperated with the State in protecting Kawainui Marsh through various ways: flood control, vegetation clearing, placing public facilities outside of the Marsh, and conducted public meetings to discuss and develop a master plan for the Marsh. City participation in the 1983 and 1994 shows the City's continuing interest in protecting and preserving this natural resource.

DEVELOPMENT PLANS COMMON PROVISIONS

Public Views - Public views include views along streets and highways, mauka-makai view corridors, panoramic, and significant landmark views from public places, views of natural features, heritage resources and other landmarks....

Open Space - 1) Open space areas consist of, but are not limited to, the ocean, beaches, parks, plazas, institutional properties with park-like grounds, streams, inland bodies of water...

2) The City's mountains, hills, shoreline and streams shall be considered as major scenic, open space and recreational resources.

Section 6 IDENTIFICATION OF AREAS, SITES AND STRUCTURES OF HISTORICAL SIGNIFICANCE

The principal areas, sites and structures of historical, archaeological or architectural significance include, but are not limited to those registered under the National and Hawaii Registers of Historic Places, as amended.

Kawainui Marsh is identified in Section 2, (a)(1) Open Space as a "high priority" and is eligible for listing on the National Register of Historic Places. Thus demonstrating that protection and preservation of Kawai Nui Marsh meets the criteria in this section.

DEVELOPMENT PLANS SPECIAL PROVISIONS FOR KOOLAUPOKO

Section 2, (a)(1) Open Space. The visibility, preservation, enhancement and accessibility of open space areas....shall be given high priority in the design of adjacent and nearby developments in Koolaupoko.

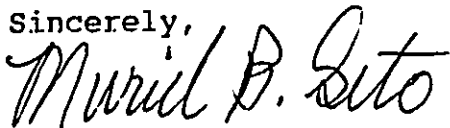
(2) Public Views. In order to promote pleasing and attractive living environments and panoramic mauka and makai views from public places, views of major landmarks from public places shall be protected whenever possible.

Kawainui Marsh is identified in Section 2, (a)(1) Open Space as a "high priority". Thus demonstrating that the preservation, enhancement and accessibility of Kawai Nui Marsh meets the above provisions.

HTF a received a letter dated March 14, 1996 from Patrick Onishi, Director of the Department of Land Utilization, telling us that our reply to the EA/SMA was due April 15, 1996. (Attachment II). This confused us since the March 23, 1996 Environmental Notice stated that the comment reply deadline was April 8, 1996.

The processing of these three documents for comprehensive comments in a short length of time has been confusing and difficult. The conflicting dates added to the confusion. While we appreciated the additional response time we wonder: which is the correct date, does the Director of DLU, any person or agency have the authority to change a reply date once a notice is published in the Environmental Notice and if HTF or others had not replied until the 15th. would our comments be considered late and thus not addressed by decision makers?

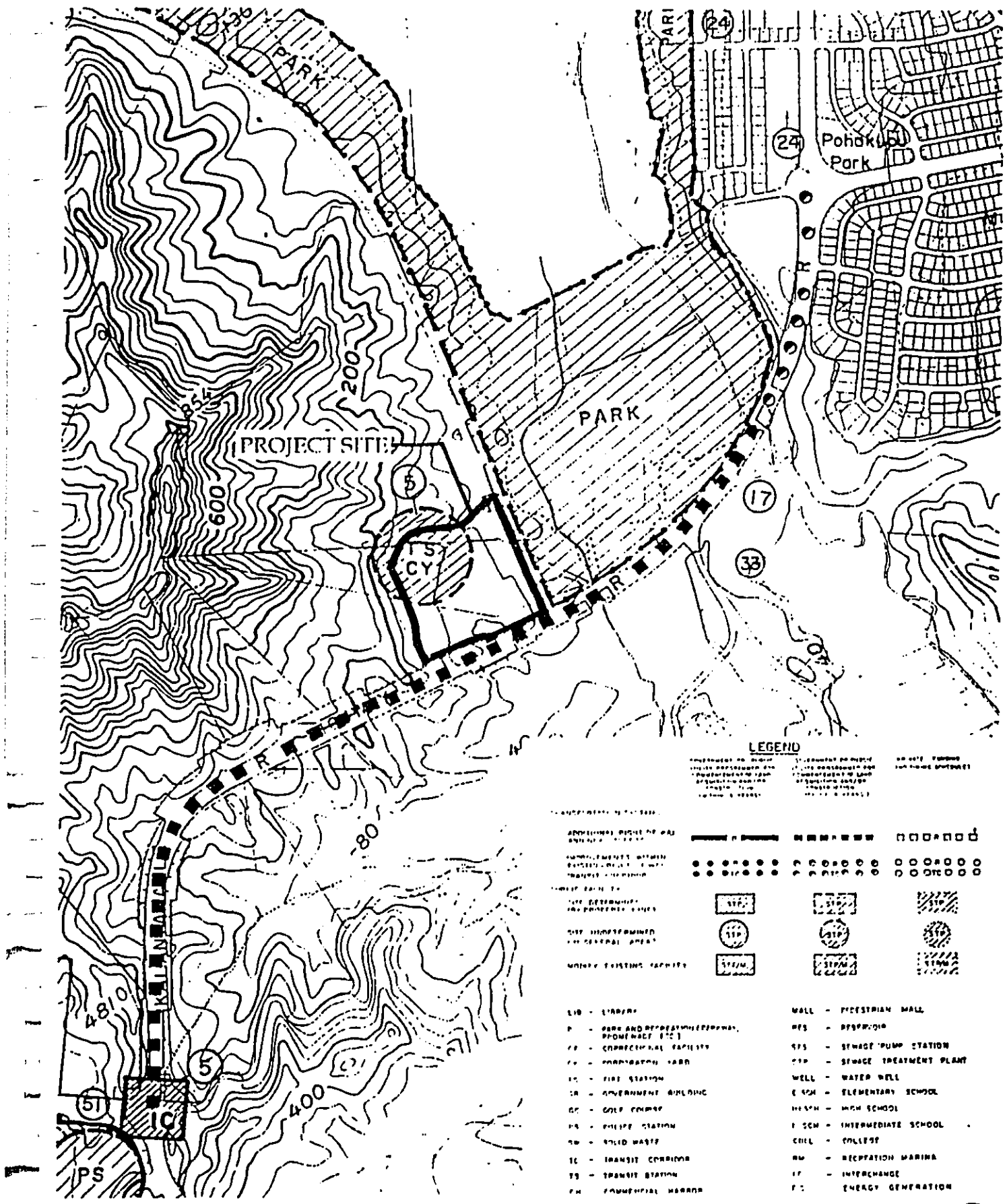
Sincerely,



Muriel B. Seto,
Cultural Sites

CC: Patrick Onishi, Director DLU
Group 70 International, Inc.
OEQC
Office of State Planning, CZM
U.S. Fish and Wildlife
Department of Land and Natural Resources
State Historic Preservation Office
Office of Hawaiian Affairs
Senator Daniel Inouye
Senator Daniel Akaka
Congressman Neil Abercrombie
Congresswoman Patsy Mink
Governor Ben Cayetano
Senator Mike Liu
Representative Devon Nekoba
Representative Cynthia Thielen
Mayor Jeremy Harris
City Councilmembers Steve Holmes/John Henry Felix
Outdoor Circle
Olomana Community Association
Maunawili Park Community Association
Pohakupu Community Association
Hawaii Audubon Society
Conservation Council of Hawaii
Save Our Bays and Beaches
Life of the Land
Ka Lahui
Kawai Nui Heritage Foundation
Kailua/Kaneohe Neighborhood Boards

Attachment II



Koolau-poko Development Plan Public Facilities Map
Le Jardin Academy

Figure 4

DOCUMENT CAPTURED AS RECEIVED

Attachment II

DEPARTMENT OF LAND UTILIZATION
CITY AND COUNTY OF HONOLULU

TEREMY HARRIS
HAIKU

PATRICK T. OHISHI
DIRECTOR

LORETTA K.C. CHEE
DEPUTY DIRECTOR

96/SMA-015 (JT)

March 14, 1996

Ms. Donna Wong, Executive Director
Hawaii's Thousand Friends
305 Mahani Street, Room 282
Kailua, Hawaii 96734

Dear Ms. Wong:

ENVIRONMENTAL ASSESSMENT, CHAPTER 25, ROH
PROJECTS WITHIN THE SPECIAL MANAGEMENT AREA

Project Name : Le Jardin Academy
Location : 917 Kalaniana'ole Highway - Kailua
Tax Map Key : 4-2-14: por. 04
Staff Planner : Joan Takano Phone: 527-5038

Enclosed for your review and comment is an Environmental Assessment prepared for the above-described project. We would appreciate any comments you may have regarding impacts on Special Management Area (SMA) resources or concerns, as defined in the SMA Ordinance (Chapter 25, ROH) and the State Coastal Zone Management Act (Chapter 205A, HRS), as well as any other concerns you may identify.

Under the Shoreline Management Area Ordinance, Section 25-3.3, ROH, the department must determine whether the impacts of the project are significant enough to warrant preparation of an Environmental Impact Statement (EIS). Following completion of the environmental assessment phase, the department will process a SMA permit application for the project, including a public hearing.

Based on the information currently available, the department anticipates issuing a Negative Declaration for this project (no EIS required). The deadline for comments is 30 days from the date of this letter.

Very truly yours,

Patrick T. Ohishi
PATRICK T. OHISHI
Director of Land Utilization

FTO:am
Enclosure
REPLY DUE TO DLU: April 15, 1996

96sm015.jht

May 9, 1996



GROUP 70
INTERNATIONAL

Ms. Muriel B. Seto, Cultural Sites
Hawaii's Thousand Friends
305 Hahani Street, Suite 282
Kailua, HI 96734

Subject: Le Jardin Academy, Kailua, Koolaupoko, Oahu, HI
Response to Comments on Draft Environmental Assessment

Dear Ms. Seto:

Thank you for providing your comments on the Draft Environmental Assessment for Le Jardin Academy's proposed new campus. We have prepared responses to the issues raised in your letter to Mr. Stanley Lum dated 5 April 1996.

For the purpose of responding in an organized manner, we have consolidated your comments in general categories. The italicized statements are either direct or paraphrased from the comments received.

Land Use Approvals/Processing

Why isn't Phase II being considered as part of the Site Plan Review?

The Site Plan Review application has not been prepared, and will be submitted later this year when facility design plans are complete for Phase I. Detailed design information for Phase II will be prepared following the completion of Phase I. The level of detail required to complete a Site Plan Review process for Phase II will not be available for several years.

Is caretaker's residence in Phase I or II? If it is in Phase I then infrastructure impacts such as road grading, lot clearing etc. need to be addressed. Is piece-mealing master plans legally acceptable in the coastal zone?

The caretaker's residence is planned for Phase I of the project, and the potential impacts of this use are addressed in the Final EA. Even small projects such as a school must have phases scheduled for implementation of their master plans. The potential impacts resulting from full development of the entire master planned school project are considered in the Final EA.

Conveyance Subdivision?

The school project requires a conveyance subdivision to be approved for the school site of approximately 20 acres, since it is currently part of an approximately 324 acre parcel. The subdivision will be processed this year concurrently with review of the Change of Zone request.

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
Sheryl B. Seaman, AIA, ASID
Masatoshi Hida, AIA
Roy H. Nihei, AIA, CSI
James I. Nishimoto, AIA
Alph E. Portmore, AICP
Stephen H. Yuen, AIA

Paul P. Chorney, AIA
Sean H. Kitamura, AIA
Norma J. Scott, AIA
Stephen E. Callo, CPA
Walter R. Bell, AIA, CSI, CCS
Walter K. Muraoka
George I. Atta, AICP
Jeffrey H. Overton, AICP
Michael A. Garni
Eric G. Crispin, AIA
Linda L. Chung, AIA
Net M. Bucholdt
Ronald L. Proctor
Charles F. Schriever, AIA
Athryn A. Tsukano
Roy A. Inouye
Mary J. O'Leary

Letter to Ms. Muriel Seto
Hawaii's Thousand Friends
May 9, 1996
page 2

Justification of DP amendment to Agriculture DP is misleading. The adjoining lands are designated conservation not agriculture.

The adjoining lands to the south, including Kalaniana'ole Highway and the nearby portion of Maunawili, are designated Agriculture on the Koolaupoko Development Plan (DP) Land Use Map. The adjoining lands to the west, north and east are designated as Preservation on the Land Use Map.

The submitted Koolaupoko Development Plan Land Use Map Amendment from Preservation to Agriculture will make the former drive-in site consistent in designation with neighboring Maunawili lands. Likewise, the Change of Zone from P-2 Preservation to AG-2 Agriculture classification will make the site consistent with the adjacent neighboring lands, across and including Kalaniana'ole Highway.

Re-classification of the site to Agriculture zoning is the least intensive land use classification which allows development of a school. Other land use designations, such as residential, apartment or business, while allowing schools, also permit more intensive uses (see attached table).

DP PF map identifies the site for a corporation yard and transit station yet there is no mention in any document regarding relocation of these functions. Where will these facilities be relocated? Why wasn't relocation addressed?

The Koolaupoko Development Plan Public Facilities Map includes symbols for a Corporation Yard and a Transit Station, and classified as "Site Undetermined - Beyond Six Years". These map symbols overlap a portion of the project site. The presence of these symbols indicates that the City had plans at one time to locate a Corporation Yard and some type of Transit Station (such as a park and ride facility) in the general vicinity of the symbol. The Department of Public Works and Department of Transportation Services have reviewed the applications submitted for the school at this site, and have made no indication of any currently pending plans for these types of public facilities at this site or another location nearby. If the development of Le Jardin Academy is approved for this site, the Planning Department will contact the respective agencies to discuss their future plans to relocate or remove these symbols from the Public Facilities Map.

Will the current Conservation designated 3.9 acres be needed/used for the school complex? Shouldn't this redesignation be done before any County approvals are granted?

Existing exit road is in the Conservation District. Doesn't the applicant need to apply to the LUC for redesignation or the road parcel before proceeding? Why wasn't this

Letter to Ms. Muriel Seto
Hawaii's Thousand Friends
May 9, 1996
page 3

done? Will a redesignation application be filed? Why isn't the LUC application running concurrently with other applications?

The adjacent 3.9 acres in the Conservation District are not required to construct the school as shown in the Conceptual Site Plan in the Final EA. The exit road is located in the State Conservation District, and its continued use and maintenance is planned as part of the overall school project. There is no requirement for an LUC re-designation or CDUA approval for the continued use of this exit road as part of the proposed school project.

Building Heights

Need discussion of the cumulative impact of so many buildings exceeding the maximum 15 ft. height or 25 ft. with setbacks.

How many height variances will be needed?

When will the variance be requested?

If the swimming pool will have lights, will they exceed the height limit? What about parking lights?

With this school's new facilities, there is a need to provide some multi-purpose buildings. The campus as a whole will be designed on a residential scale and character, and will include the use of pitched roofs. The roof form will exceed 25 feet on two-story buildings and multi-purpose facilities. The specific design of the school, including building heights, will be subject to detailed review by the Department of Land Utilization during the Site Plan Review process later this year. Exact building heights cannot be provided at this time since the architectural design plans have not advanced to this level of detail.

A height variance will be required for several buildings whose roof line is expected to exceed 25 feet. A height variance could be avoided under other zoning categories such as Apartment and Business districts, which allow taller buildings. However, the Agricultural designation is being sought to protect the potential future use of this site from more intensive development.

The maximum building height in the AG-2 General Agricultural District is 25 feet with height setbacks provided. Any portion of a structure exceeding 15 feet must be set back from every side and rear buildable area boundary line 1 foot for each 2 feet of additional height above 15 feet. Several of the school buildings will exceed 25 feet in height and will require a height variance approval from the City's Director of Land Utilization. This includes several buildings in Phase I such as the multipurpose building, administration & learning center and the middle school. Phase II buildings exceeding 25 feet will include the gymnasium, high school and performance hall. Light poles for the swimming pool and athletic field will also exceed 25 feet in height. None of the buildings will be positioned closer than 100 feet from the property line, except for a possible structure near the site entrance which will be under 15 feet in height.

Letter to Ms. Muriel Seto
Hawaii's Thousand Friends
May 9, 1996
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Land Ownership

We have no guarantees that, if they (landowner) obtain another land use designation for this site, that they will not again "maximize" their investment in order to afford a less difficult site elsewhere, with the landowners blessing. (example was WPA land in Coconut Grove)

What are the terms of the lease?

Is there an escape clause should Le Jardin not receive all the necessary permits?

The former Kailua Drive-in Theater site has been sought by Le Jardin Academy for many years as a potential location for their new school site. The search for a new site was made necessary since their current lease at the Kailua Road site will expire in 1998. The expanding interest in the existing school and limited facilities forces the relocation to improved facilities at another site by fall of 1998. In addition, there is a community interest in establishing a private high school for the windward area. The selected site is the preferred location to develop this new school.

The lease has yet to be finalized with Le Jardin Academy, however, formal transfer of the lease from Windward Park, Inc. is expected to be concluded this year and will likely include a 50-year term. It is not known if the lease will include an escape clause that would release Le Jardin Academy if they are not able to gain the necessary approvals to develop the school.

Views

Why wasn't public access to the site for viewing the marsh discussed. Is access for viewing an option?

Public access to the new school site will be provided to organized groups and individuals that make specific arrangements with Le Jardin Academy to view the marsh. Access to the site by the public would not be unlimited because of school activities and security requirements. The organized public use of the scenic overlook area (formerly labeled as the amphitheater on the concept plan) will be encouraged. Specific time periods will be established for such use, including weekends. The community preferences for public access periods will be determined in future meetings with interested groups and individuals.

Maintaining an obstructed view plain from within the marsh is critical to providing a natural wilderness experience.

Views to and from the site are addressed in the EA, including a series of representative site photographs and a rendering of the proposed facilities from two different public view points at Auloa Road and Castle Hospital. The school will not become an aesthetic intrusion, rather it will remedy an existing eyesore of eroded land and accumulated trash and debris that has resulted in the five

Letter to Ms. Muriel Seto
Hawaii's Thousand Friends
May 9, 1996
page 5

years since the closing of the Drive-in Theater. As shown in the plan, the beautiful design and landscaping of the school facilities will be an aesthetic asset to the Kailua community.

It is our understanding that humans are not supposed to be entering the marsh for recreation since it is an endangered Hawaiian waterbird habitat. Even so, the view from the interior of the marsh to the former Drive-in Theater site is largely blocked by the topography and vegetation on the western slope of the marsh. The rim of the plateau at the site is visible from locations near the central southern portion of the marsh. However, the school facilities will be built at a distance set back from the plateau rim, which will substantially reduce the visibility of these structures from off-site locations. With the introduction of new landscaping along the perimeter of the site, the view of ridge lines of building roofs will be broken up. This aspect of the plan was clearly demonstrated to the Neighborhood Board and Kawai Nui Heritage Foundation members during the site visit on March 24, 1996. The view to and from the marsh and surrounding areas is extremely important, and has been addressed at some length in the Final EA.

Traffic/Roads

Traffic is an SMA issue.

We believe your concern is that an appropriate disclosure of traffic impacts be presented in the documents submitted for public review. The Change of Zone application for Le Jardin Academy does include a complete traffic impact assessment. In the spirit of full disclosure, we include a discussion of traffic issues in the Final EA and SMA Use Permit Application. The traffic impact assessment report is also included as an appendix to the Final EA.

*Can't convince agencies and individuals that traffic will not be horrendous - both commuters dropping off students and parents dropping off and returning home.
Can Kapaa Quarry Road handle the extra capacity?
Need to address the impact that changing the light at the Quarry/Kalaniana'ole Highway intersection will have on cars traveling towards town (esp in morning rush hour).*

The traffic related to the school will not be horrendous. The traffic study shows that the project is not expected to delay traffic on Kalaniana'ole Highway at Kapaa Quarry Road. The "Level of Service" (an engineering rating of the intersection operation) is maintained at existing levels. The majority of students will arrive after 7:30 am when Honolulu-bound traffic on Kalaniana'ole Highway has decreased significantly from earlier morning levels (see attached figure). The morning traffic associated with Le Jardin Academy already exists, given its current location less than two miles away on Kailua Road. Importantly, over 65% of the parents who drop off students are Honolulu commuters that would already be on the highway even if the new school was not built at this location.

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School-related traffic will add to the number of vehicles turning right (Honolulu-bound) and left (Kailua-bound) from Kapaa Quarry Road onto Kalaniana'ole Highway. These vehicles are re-entering the highway after dropping off students, and they will have some delay. The 1,000 ft. distance between the highway intersection and the entry to the school will provide ample storage for vehicles waiting to re-enter Kalaniana'ole Highway. A signal timing adjustment will provide more time for vehicles to turn onto the highway with no serious delay to the Honolulu-bound lanes. Shuttle bus service for Kailua students is also being considered as a possibility.

Concerned about mix of 'family traffic' with garbage trucks and construction vehicles.

Your concern about truck traffic is shared by the school as well. School zone speed limits will be established for the section of Kapaa Quarry Road approaching the school entrance. It is planned for a 25 mph limit to be in effect during the morning arrival and afternoon dismissal periods. The posted speed limit would otherwise be 30 mph. The truck drivers are all commercially licensed operators who must obey these posted speed limits. Preliminary discussions have been held between the school, the quarry operations and the City regarding the plan to lower speed limits and other safety concerns. Enforcement of the new speed limit will be an obligation of the Honolulu Police Department. It is our belief that the reduced speed limits and heightened concern over safety issues raised with the trucking operations along Kapaa Quarry Road will allow for safe operation of the school related vehicles and pedestrians.

Need for additional public transportation (The Bus).

Are there plans to add new bus stops?

Will sidewalks and safety railings need to be added? who pays?

Address safety measures for children crossing the intersection and along Quarry Road.

The closest existing bus stop is located along Honolulu-bound Kalaniana'ole Highway between Auloa Road and Kapaa Quarry Road. There is another bus stop along the Kailua-bound lanes at Auloa Road. However, students will not be allowed to walk or ride their bicycle to school. This will be a continuation of the existing policy at the current school site. Students will be required to arrive and depart from the school by private vehicle transportation. There should be no students walking along Kalaniana'ole Highway or Kapaa Quarry Road. Specific school policies will prohibit parents from dropping off and picking up students at the roadside edge of the school. The entrance design will include a safe drop-off and pick-up area for parents that do not wish to drive into the main portion of the school grounds.

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The school will be addressing this matter with the Department of Transportation Services, to explore other options such as a new bus stop to provide direct service to the school. The project entrance could be designed to allow for The Bus to enter the school entrance, drop off or pick-up students, faculty or employees, and turn around heading back toward the highway. There is also the possibility that a private bus or van shuttle will be established in the future. If either of these transportation options can be arranged, the number of students requiring private vehicle transportation to the school could be reduced substantially. The possible need for sidewalks and safety railings will be reviewed with the transportation agencies.

Since Kapaa Quarry Road is private, who has liability?

The City and County of Honolulu has assumed maintenance and liability responsibility for Kapaa Quarry Road.

KP DP Public Facilities map shows "additional right of way and new streets beyond 6 years" - what are cumulative impacts?

Plans to make improvements such as widening to the highway or Quarry Road are not known to be imminent. The responsible State and County agencies have not made notice of any such plans in their review of the Draft EA or other project documents.

Traffic study is inadequate - counts only taken one day, Table 2 only discusses ingress and egress during morning and afternoon peak hours and doesn't address the impact for other hours including after school and night hours.

After school activities such as athletic team practice, sports events, music practice, arts and club activities are anticipated to contribute minor numbers of vehicles and will not affect traffic conditions on the adjacent roadways. Special school day events occur three times each year, including May Day, Grandparent's Day and a Christmas program. These three events will create higher than normal traffic volumes at the school in the mid-morning time period. There will also be some small-scale regular use of the school for meetings and organized community programs in the evenings. Major evening assemblies and programs, such as performances or sports events, will occur infrequently and will not coincide with peak hour traffic periods.

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*Why wasn't former exit onto Kalaniana'ole Highway discussed in EA or traffic study?
Are left turns in and out of the property from this driveway an option for the future?*

The former exit onto the highway is not planned for regular use, and it will be gated closed. This connection could potentially be used as an emergency exit if required. The State DOT has suggested that the exit could be used as a secondary entrance and exit on the Honolulu-bound lanes with appropriate improvements for deceleration and acceleration lanes. At this time, the school is not planning to actively use this connection. The additional entrance is not needed since the future traffic conditions at the Quarry Road intersection are anticipated to be acceptable.

*Need to address General Plan Policy 6, VIII Public Safety "Reduce traffic conditions."
How will construction needs affect road safety?*

Construction of the new school facilities in 1997 to 1998 will create some new worker vehicle and truck traffic entering and exiting the site. The majority of the construction traffic will occur between the morning and afternoon peak traffic periods. Construction material deliveries can be scheduled to avoid affecting peak period traffic. Road safety at this location can be maintained following an appropriate construction traffic management plan that will be developed with the selected contractor.

Sewerage

Numbers of students, staff, faculty, events and programs were not provided.

The number of students is better described in the Final EA. When it opens at the new site in 1998, Le Jardin Academy will have facilities for 500 students. The anticipated enrollment is 450 students in pre-kindergarten through 8th grade levels. This population will grow by one classroom per year for the first eight years of operation. For example, one class for 2nd grade will be added in 1999, one for 3rd grade in 2000, etc. until there are 3 classes of each grade, K-8 and 4 classes of pre-kindergarten and junior-kindergarten, for a maximum of capacity of 650.

Le Jardin Academy will begin its high school program when it is economically feasible, possibly three or four years after moving to the new site. The high school will enroll 9th graders only the first year and will develop a full student body over the next three years. High school enrollment will be approximately 200 - 250 students once the program is firmly established. The proposed facilities would, at full development, accommodate 3 classes per grade level from K-12, or approximately 900 students. Flexibility is being designed into the program to allow for future growth, in 15-20 years, to increase the student body to no more than 1,200 students. The number of faculty and administrative staff

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is currently about 50. This number will rise to about 75 by the time the high school is operating.

How would sewerage be transported?
How long will construction of the 1,000 ft line across Kalaniana'ole Highway take?
What is the pipe route?
What would working hours be?

A new wastewater transmission line is required to convey wastewater from the new school about 1,000 feet to the closest County wastewater facility, which is the Maunawili Sewage Pump Station. This connection will be made via an eight-inch wastewater collector line which is planned to cross Kalaniana'ole Highway at Kapaa Quarry Road or follow the north edge of Kalaniana'ole Highway and cross at Auloa Road. The specific routing and design plans must be approved by the County Department of Wastewater Management and the State DOT.

Construction of the new wastewater line will require about four months. Work hours would be standard days except for the crossing of Kalaniana'ole Highway, which would likely be completed during non-peak hour traffic periods.

Will NPDES permits be required? If so, how many and for what projects?
Is there adequate capacity at the Kailua Sewage Treatment Plant?

The project will require an NPDES stormwater permit for the construction activities. There will be no need for an NPDES discharge permit relating to wastewater disposal. According to the Department of Wastewater Management, the Kailua Wastewater Treatment Plant has adequate capacity to accommodate the planned uses at the school.

Water Supply

Will there be public expenditures for an expanded water system?
Public should have chance to evaluate storage and distribution needs of finite resources.
What is the long term water availability (at full build out - 1,200)?
Is this project dependent on the development of Reservoir 272?
Where will the water come from?

The water supply for the school will be derived by tapping into the Board of Water Supply's 36-inch water transmission line. The off-site connection and on-site water system improvements will be made with private funds. At the maximum enrollment of 1,200 students, the school would require up to 60,000 gallons per day. This supply is available within the existing system and is not dependent on development of Reservoir 272 serving Kailua.

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Electrical Supply

Cannot assume that existing above-surface electrical transmission lines will remain once marsh is developed as a park

If underground facilities would service school, how would they tie into the existing overhead facilities?

How much power would be required?

Will underground facilities traverse Kapaa Quarry Road?

How will this affect traffic for landfill, quarry, Quarry Road commuters and KQR/Kal intersection?

HECO's existing 12.47 kV distribution circuit has adequate capacity to serve the anticipated demand from the project. The power requirements for the new school are estimated at approximately 700 to 1200 kw depending on the extent of air conditioning in the facilities. Underground electrical conduits will be installed on-site, and will not traverse the Quarry Road and will not affect traffic on local roads.

Solid Waste Disposal

Address wind-blown trash entering marsh, especially during kona weather and hurricane season.

The situation existing since closure of the Kailua Drive-in Theater has been a growing use of the site as an illegal dumping site for trash and debris. Kapaa Quarry Road also receives wind-blown trash off trucks which transit to and from the landfill and transfer station. The marsh is affected by these sources of solid waste. Development of Le Jardin Academy will eliminate the illegal trash accumulation at the former drive-in theater site, which will have a positive effect on the marsh in terms of solid waste contributions.

Lighting

Will the swimming pool have night lighting?

Issue of cumulative impacts from night lighting is not discussed. What impact will cumulative lighting have on animal life within the marsh, seabirds and nearby neighborhoods?

What impact would it have on a nature park?

Lights at the school buildings and athletic fields will not adversely affect the marsh wildlife. The swimming pool and athletic field at Le Jardin Academy will not be lighted for use every night of the week. Lighting of the pool and athletic field could occur one or twice a week, and most for evening swims and soccer matches. All practices would be completed during daylight hours.

We have contacted the DLNR and US Fish and Wildlife Service to learn more about the seabird nesting habits and habitats in Hawaii, and the extent of their presence on Oahu. Our research finds that some Newell's shearwater are likely

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to be nesting in the "hanging valleys" near the crest of the Koolau Range. The black-crowned night heron (*Nycticorax n. hoactli*) and the pueo or Hawaiian owl (*Asio flammeus sandwichensis*) are not known to utilize this site. This is undoubtedly due to the 15 acres of asphalt pavement covering 75 percent of this site for past 35 years. Studies by Andrew Berger, Ph.D (1988) found the site does not possess the necessary habitat for these birds. The school project will most likely increase the available habitat for the indigenous lesser golden plover (*Pluvialis dominica fulva*), a migratory species which has been observed at the project site. We have not completed any further avifauna survey of the project site or surrounding area for the Final EA since there is no indication of potential adverse effects to any of the introduced, indigenous and endemic birds which utilize the site or surrounding area as habitat.

Lighting of the project site is needed for safety and security during night hours. Roads, parking lots, sidewalks, buildings and the athletic field (Phase II) must be lighted for night time activities. The lighting technology available today can virtually eliminate off-site indirect lighting and glare. Le Jardin Academy is planning to utilize lighting fixtures that will avoid creating adverse off-site lighting effects.

One concern is that lighting at the school could cause indirect lighting and glare at adjacent areas, including Kawai Nui Marsh. In particular, we have learned that two seabirds – the Newell's shearwater (*Puffinus pacificus*) and federally threatened Newell's shearwater (*Puffinus auricularis*) – may be affected by night lighting at the school. These light-related issues were evaluated in the preparation of the Draft EA, and additional information is provided in the Final EA.

Our discussions with the State DLNR Division of Forestry and Wildlife (D. Smith, Oahu Biologist) and the US Dept. of the Interior, Fish and Wildlife Service (M. Stahl, Biologist) have provided further information on this subject. For your information, we enclose a copy of a DLNR publication entitled The Newell's Shearwater Light Attraction Problem: A Guide for Architects, Planners and Resort Managers. This publication identifies the most sensitive periods for potential light attraction of fledgling shearwaters are during the new moon periods of October and November. Given fallout data compiled by the DLNR, there are two 10-day periods which are clearly the most sensitive periods.

Le Jardin Academy has always taken pride in its approach toward environmental conservation. In this regard, the new school will take special measures (on top of the sensitive lighting design) to restrict the night time lighting of the athletic field (Phase II) during these two sensitive 10-day periods in the fall. The night time lighting of the upper portions of the two story academic buildings and taller multi-purpose buildings will also be restricted during this period. Exterior and interior lights that are not absolutely necessary

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at these buildings will be kept off at night during these two 10-day periods in October and November. Technical coordination and assistance will be sought from the DLNR and the US Fish and Wildlife Service to properly schedule and implement this plan, including appropriate monitoring. The school will also include an educational program for the students to teach them about protection of these threatened seabirds and include students in the monitoring program.

Environmental Characteristics
Address existing soil erosion.

Existing soil erosion on the property and surrounding area is addressed in the Draft EA. Expanded analysis of runoff and soil erosion is included in the Final EA. This project will reduce the existing soil erosion

*What kind of 'ground cover' can stabilize cuts along roads?
What measures are proposed should initial ground covers not work?*

There are a variety of grasses that are capable of establishing ground cover on steep slopes as long as physical stabilization of the applied material is achieved. A hydromulch using gypsum based products can be applied over a surface drip irrigation system to rapidly establish successional grass species on slopes. This has been shown to be very effective in Hawaii, including several steep slope applications in Central Oahu. The school will use only proven techniques for slope stabilization to assure success.

There is no substantial data that the site will reduce the water and volume of runoff into Kawai Nui Marsh.

The Final EA includes an engineering report that substantiates the drainage and runoff projections for the new school. Even without this technical analysis, it is evident from a simple analysis of land cover types existing and proposed at this site. About 15 acres of impervious pavement exist on the site today. This impervious surface will be replaced with about 5 acres of pavement and buildings and about 10 acres of landscaped grounds. The rate and volume of runoff will decrease by up to 70 percent due to the elimination of at least two-thirds of the impervious surface area. The Final EA substantiates this with technical analysis and the end result will be less runoff to the marsh.

Suspicious of "drainage systems" of "swales, depressions and detention ponds" - all waters end up in Kawai Nui.

Current practice of diverting on-site stormwater runoff into a drainage canal which runs parallel to Kalaniana'ole Highway and empties directly into Kahanaiki Stream and then into the marsh is unacceptable. Why weren't alternatives discussed?

Is a stormwater runoff permit required? At what step of the permitting process?

Need a comprehensive erosion, siltation and runoff mitigation plan for construction.

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*Discussion of mitigative measures lacks specificity.
Will there be permanent basins and retention ponds?
Why wasn't a map included showing where the silt fences, straw bale barriers, sediment basins, etc to be placed plus descriptions of how they will work and what they are to accomplish?
Where is the off-site discharge collection system located?*

Temporary sediment basins are required to be installed at the project site prior to construction to collect runoff waters and slow the rate of runoff to capture suspended sediment particles within the basin. The specific location and extent of these basins will be provided in the plans to be submitted for the Grading, Grubbing and Stockpiling Permit and NPDES Permit application. The grading plan has not been completed at this preliminary point in the project design, therefore, no actual design plans for the drainage system can be provided.

We have provided a map (enclosed) of the overland runoff flow routes, and anticipated location of the swales, depressions and other drainage features. With the relatively level topography of the project site, there is more than adequate area to install proper sedimentation basins. Plans submitted for both of these permits must be approved by the City prior to construction. The discharge from the site's drainage system during the construction phase must be closely monitored to insure compliance with permit conditions. The project will comply with permit requirements for grading and runoff.

A portion of the up-slope runoff will continue to be collected by a perimeter swale and inlet at the western boundary of the site, and routed across the site via a 24-inch reinforced concrete pipe that discharges directly to the large depression located along Kalaniana'ole Highway. The drainage improvements serving the main portion of the school facilities consist of a series of grassed and lined swales and landscape depressions serving as detention and sedimentation basins. This type of drainage system is perfectly adequate to control stormwater across the broad level area that was formerly the drive-in theater parking area.

The expanded drainage and runoff analysis presented in the Final EA provides detailed projections of runoff from the site. The change in land cover at the project site from primarily asphalt to the landscaped school facilities, including the planned on-site drainage system, will reduce the on-site runoff overall by 45 percent. Runoff from the main developed portion of the school site will be reduced by 70 percent. Silt runoff will also be reduced by the landscaping and drainage improvements, which help to protect the water quality in the receiving waters of Kawai Nui Marsh.

Runoff from the project site and a portion of the mauka hillside is routed through an on-site drainage system. About one-third of the runoff comes from the entry road/exit road portion of the site (6.6 acres), which will have limited

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construction and maintenance activities, and 4.6 acres of the school construction area. After being detained on-site, this runoff is routed under Kapaa Quarry Road to the hillside that drains into the marsh, as it has been for more than 35 years. Runoff from two-thirds of the school site (9.2 acres) and another 16 acres of off-site mauka hillside is directed to the large depression located on the southern boundary of the site adjacent to Kalaniana'ole Highway.

From the large depression, runoff water is directed through a 200 ft. culvert underneath the highway into a wooded ravine on the southern side of the highway. The ravine drainage extends about 400 feet and levels off to a point where surface flow dissipates into an overgrown pasture area in the lowlands. Overland flow in the lowlands eventually drains another 800 feet into Kahanaiki Stream, which flows north underneath the highway and into Kawai Nui Marsh. The runoff leaving the project site flows overland for more than 1,400 feet prior to reaching Kahanaiki Stream which feeds Kawai Nui Marsh. With an on-site reduction in runoff of up to 70 percent, less silt loading to the marsh will result as compared to today. This is consistent with management objectives of the State DLNR and Kawai Nui Heritage Foundation in protecting the water quality of the marsh.

Why weren't mitigation measures proposed to avoid transport of contaminants to streams and Kawai Nui Marsh?

Leaching of chemicals into the marsh is potentially detrimental to surface water quality, Hawaiian water birds, invertebrates and other elements of the marsh ecology. Redevelopment of the Kailua Drive-in Theater site as proposed for the school represents an opportunity to mitigate past practices and eliminate current contaminant inputs. The 15 acres of asphalt pavement at the Kailua Drive-in site for over 35 years, and the associated vehicle activities at this site, have contributed some petrochemical compounds to runoff. A cesspool served the concession stand at the drive-in, and the wastewater nutrients probably leached into the marsh. These types of inputs to the marsh will be substantially reduced or eliminated with the school.

Existing waste and debris deposited at the site has also been releasing chemicals into surface runoff during the past five years. The surrounding roadway network of Kalaniana'ole Highway and Kapaa Quarry Road also contribute to this runoff, along with constituents from waste and debris deposited along these routes in the vicinity of the marsh.

With respect to the proposed school project, the buildings will be constructed of wood treated with chemicals to repel insects, however, this has no effect on surface runoff water quality. The roof material and exterior paint are not expected to release significant amounts of chemicals. The soil around the proposed buildings will be initially treated to repel termites using chemicals that

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are approved for use by the Federal and State authorities, and applied in controlled amounts by a licensed pest control operation. The landscaped grounds will be periodically sprayed and fertilized by a grounds manager that is certified in the proper use and storage of chemicals. It is very costly to apply these chemicals, and their use on this site will be strictly limited for both environmental and cost control reasons.

The use of approved chemicals in strictly controlled applications at the school will not cause a significant contribution of biocides in runoff from the site. Even so, there will be some minimal amounts of these chemicals carried from the site. However, with up to 1,400 feet of overland travel for this runoff, and with significant periods of detention containment, exposure to sunlight and organic material, and susceptibility to volatilization and natural degradation, the chemicals applied at the site will likely not be detectable in runoff reaching Kawai Nui Marsh. With appropriate mitigation measures, the school is not expected to pose a threat to the water quality and ecology of Kawai Nui Marsh.

Economic and Social Characteristics

Public economics and public social characteristics are not addressed.

Economics and social characteristics are addressed in Section 2.3 of the Draft EA. The review of project consistency with various State and County plans and policies also includes discussion of economic and social characteristics.

The subject property contributes real property tax revenues to the City and County of Honolulu without an offsetting use of the land providing income to the owner. There are no significant costs that will be incurred by the public to accommodate the new school. The school operations will provide net economic benefits to the City through real property tax revenues. The State will benefit substantially by General Excise Tax revenues on construction costs of approximately \$20 million. Employment at the school will generate income taxes to the State.

Socially, the school is part of the fabric of the Kailua community, with 35 years of educational service to the youth of our community. The relocation and expansion of the school, particularly in providing a quality new private high school facility in the area, will only enhance the social environment of Kailua and the windward region.

How would Le Jardin grow? Would it develop up the hillsides?

There are no plans to develop the school beyond the boundaries depicted in the Final EA.

What are the public social benefits?

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If social benefits are provided how will the public be assured that they will be honored via Conditional Use Permits and/or unilateral agreements?

Public social benefits for Kailua and the windward community will result from the continuation and expansion of the popular and successful private school program at Le Jardin Academy. Access to the new school site for scenic overlook of the marsh and community use of facilities is another benefit that will result. A Unilateral Agreement will be prepared by the City for the Change of Zone approval, and it may be the best vehicle to assure these public benefits.

Cumulative Impacts

Not considering all phases of development, impacts from future road widening and intersection improvements as well as impacts from and to the Visitor Center, proposed for the makai corner of Quarry Road and Kalaniana'ole Highway, in the application stage and SPR are examples of how cumulative impacts to the coastal zone are being ignored.

Examples of cumulative impacts are the proposed Visitor Center, proposed enlarging the industrial park to the Quarry Road, proposed Auloa/Kalaniana'ole Highway improvements, proposed highway widening, and necessary infrastructure road work. Examples of secondary impacts include future Kalaniana'ole Highway widening, Quarry Road/Kalaniana'ole Highway Intersection and Quarry Road safety improvements, future expansion of the school into the hillsides, and pressure from adjacent Conservation land landowners for redesignation for future development adjacent to a developed area.

The school absolutely has no plans for future expansion onto the mauka hillsides above the former Kailua Drive-in Theater site.

Cumulative impacts are discussed in the Final EA. The environmental analysis of the proposed school project addresses full development of the facilities in the context of known planned or approved land uses in the vicinity. The only known proposed developments along Kapaa Quarry Road are the Visitor Center and potential expansion of the Industrial Park. The other mauka lands along the Quarry Road are in the State Conservation District, and are not possible development sites without significant new re-zoning approvals. The highway projects you mention are not planned to be completed in the foreseeable future, and were not mentioned in agency reviews completed for this project.

According to DLNR, there are currently no funds allocated for development of the Visitor Center, yet there is interest in moving this project forward at some point in the future. The site is located at the intersection of Kapaa Quarry Road and Kalaniana'ole Highway, across from the proposed school site. The landowner of the Industrial Park at the northern end of Kapaa Quarry Road is looking into some business expansion within the existing designated industrial zone. Specific business uses have not been determined.

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The Visitor Center and the Industrial Park operations will attract vehicles to these sites. The magnitude of these uses cannot be estimated at this time due to their undefined preliminary status, however, it is likely that the timing of their traffic will not coincide with the school traffic periods. Traffic interaction with the school should not conflict with the Visitor Center and Industrial Park because of the early start and mid-afternoon (non-peak hour) dismissal times. There may be some potential conflict with truck traffic along Kapaa Quarry Road, however, the truck speeds will be reduced by posting lower speed limits and enforcement in the area of the school.

Runoff from the Visitor Center and Industrial Park uses must meet the same strict requirements faced by the school project. There is a positive effect with the school project, because it reduces the volume of runoff water and silt to the marsh. New facilities will be required to manage their wastewater properly. The school project also provides an opportunity for potential cooperative use with the Visitor Center connecting to new wastewater infrastructure and extended sewer line.

In terms of cumulative effects to public views, the Visitor Center will be sensitively designed to complement the natural setting, as are the new school facilities. Further, a positive linkage will result between the Visitor Center and Le Jardin Academy, since the school site may be made available for organized use for scenic view of the marsh.

Other

Per Coastal Zone Management Act of 1972 definitions, a project within the SMA should be coastal dependent - LJA campus is not.

The proposed school is an environmentally sound use of the property that has been shown to be consistent with CZM and SMA objectives and policies.

Development would open the entire area mauka of Kawai Nui to inappropriate development - time and money has been spent to protect and plan for this resource.

As you recognize, other types of projects in the area mauka of Kawai Nui Marsh might be considered inappropriate (i.e. housing, golf driving range, etc.). The school is limited to the approximately 20 acre site, and it will not encroach on the surrounding area. The mauka areas are located within the State Conservation District which cannot be used for inappropriate development. The school provides environmental benefits such as reduction of runoff to the marsh that will further the protection of the marsh.

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Which site plan is correct (DP vs Zoning and EA)?

The plan provided in the Final EA is the same as in the plan included Zoning (March 1996) application.

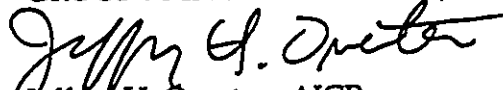
Marsh is mentioned as a neighbor - it is not mentioned that the project site is in an area of no other urbanized development.

The mauka areas and the marsh are not developed with urban land uses. The school site is located in the State Urban District. The site has been used for an urban type of land use (drive-in theater) for over 35 years. The neighboring communities of Maunawili and Olomana areas include State Urban District lands. A major highway and collector road extends along the boundary of this site. These residential subdivisions and the four lane commuter highway can reasonably be considered as urbanized development.

We appreciate your review and comments on the Draft EA. Please contact us if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.


Jeffrey H. Overton, AICP
Chief Environmental Planner

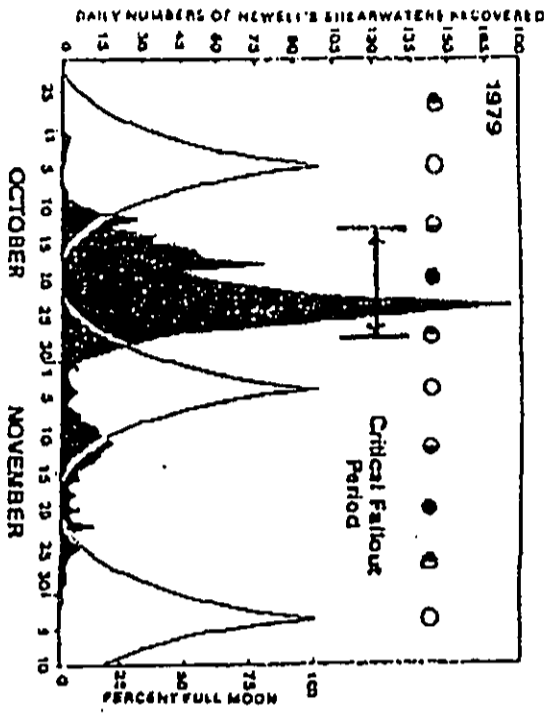


Figure 4. Relationship of shearwater "takeout" to the moon phases. The critical period of fallover occurs during the week before and after the new moon (darkest nights). Dowsing lights that are not absolutely necessary during that period could substantially reduce the annual shearwater fallover problem.

What To Do If Shearwaters Fall In Your Area

1. Collect birds as soon as possible to avoid losses to dogs and cats. They are generally docile birds and are easily handled. Take them to the nearest "shearwater and station" located at county fire stations and at a few private business locations around the island. If birds must be held overnight, keep them in ventilated cardboard boxes with a secure lid.
2. Do not release birds by tossing them into the air. They may have unseen internal injuries and could become more badly injured.

TECHNICAL ASSISTANCE IS AVAILABLE
FOR ADDITIONAL INFORMATION, CONTACT:

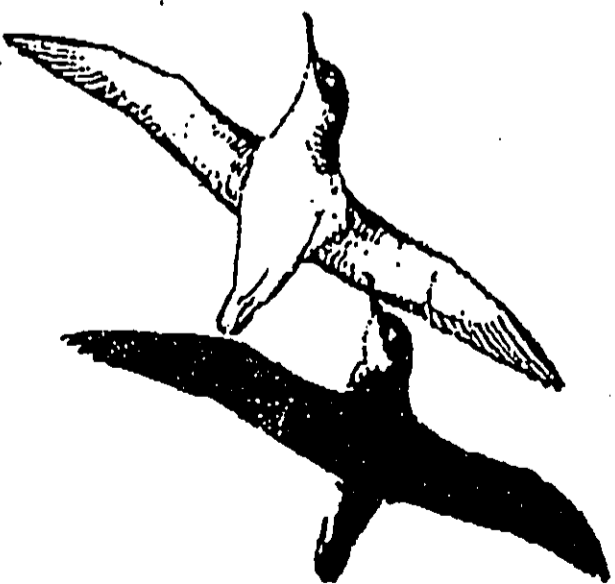
State of Hawaii
Department of Land and Natural Resources
Division of Forestry and Wildlife
P.O. Box 1671
Lihue, Hawaii 96766
245-4433

U.S. Dept. of the Interior
Fish and Wildlife Service
P.O. Box 87
Kilauea, Hawaii 96754
828-1413

The Nature Conservancy
of Hawaii
1026 Nuuanu Avenue, Suite 201
Honolulu, Hawaii 96813
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DEPARTMENT OF
LAND AND NATURAL RESOURCES



**THE NEWELL'S
SHEARWATER
LIGHT ATTRACTION
PROBLEM**

A GUIDE FOR ARCHITECTS,
PLANNERS, AND RESORT MANAGERS

DOCUMENT CAPTURED AS RECEIVED

INTRODUCTION:

The future of a native Hawaiian seabird, the Newell's Shearwater, is threatened by the growth of new urban developments. Every year on Kauai, nearly 1,500 Newell's Shearwaters are attracted to bright urban lights. In the unseen objects and fall stunned to the ground. Fortunately, 90% of them are recovered and successfully returned to the wild through the "SOS" (save our shearwater) program which involves the cooperation of the general public.

This brochure is designed to describe the bird, its problems with lights and specifically what architects, planners, resort managers and the general public can do to reduce or avoid the light attraction problem.

THE BIRD

The Newell's Shearwater once nested on all of the major Hawaiian Islands, but the mongoose, introduced to Hawaii, Maui, Molokai and Oahu in the late 1800's, is believed to have caused the extinction of shearwaters on those islands. Kauai is the last stronghold for this unique native Hawaiian seabird.

Newell's Shearwaters nest during the spring and summer months in the interior mountains of Kauai. They dig a long burrow in the ground beneath dense vegetation and lay a single egg each year. The eggs hatch during July and August, and the nestlings are reared within the burrow. The adult birds abandon the nestlings a week or two before they are old enough to fly. The nestlings become hungry, and leave the nesting grounds by themselves shortly after nightfall. They head for the open ocean, and must depend upon their instinct to find food. They do not return to their nest, but fly south towards the equator where they will remain all winter on the open seas until the following spring.

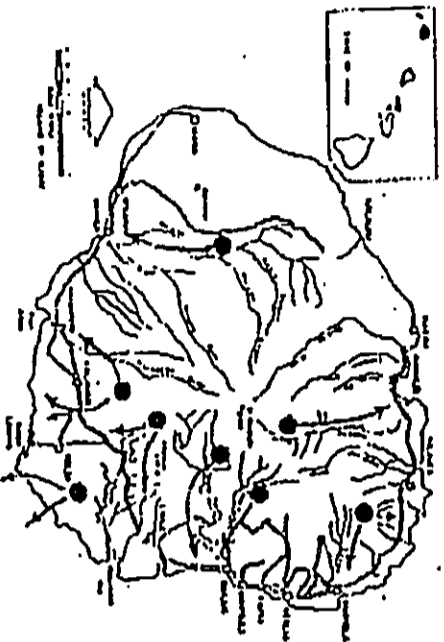


Figure 1. Map showing known nesting areas of the Newell's Shearwater, and probable flight paths to the sea, which reduce the chances of capture by urban lights.

THE THREATS:

PREDATORS: Dogs, cats, rats and leopards are known to kill some shearwaters and their young on the nesting grounds each year. The accidental establishment of a new predator to Kauai such as the mongoose, could cause the rapid extinction of this bird. Mongoose sightings on Kauai should be reported to wildlife officials promptly.

LIGHT ATTRACTION: Young shearwaters leaving their nests for the first time, do so only after dark. They are inexperienced and have a natural attraction to bright lights. Flying near urban areas, they become temporarily blinded by the lights and fly into unseen objects such as utility wires, trees, buildings and automobiles. Often times they are just confused and exhausted. Most often they are only stunned and fall to the ground, but about 10 percent of them die each year. The problem is growing because of the increased number of urban lights associated with new resort and residential developments. The greatest "takeout" problem occurs near coastal towns, particularly near river mouths.

AVOID THESE TYPES OF LIGHTS AND LIGHTING SITUATIONS

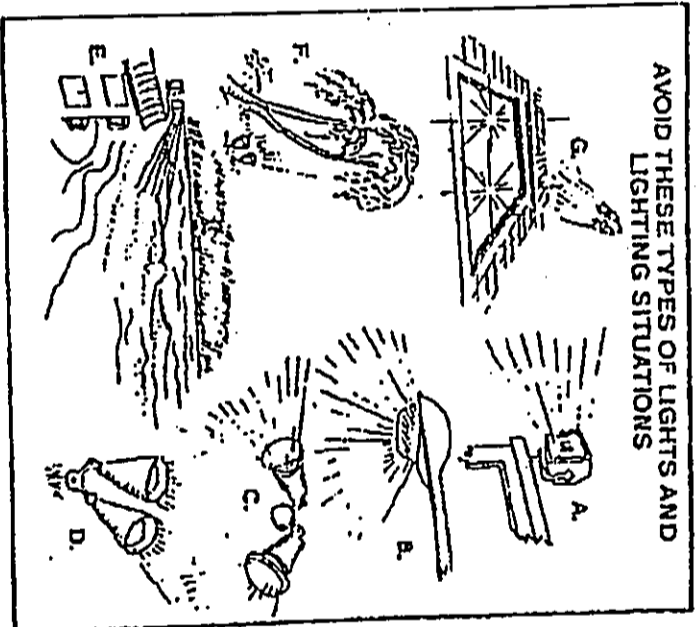


Figure 2. Avoid these types of lights: A. Unshielded high intensity floodlights on tall structures; B. Street lights aimed upwards; C. Unshielded spotlights; D. Spotlight aimed upwards; E. Floodlights on sun; F. Spotlight aimed up at vegetation; G. Spotlight aimed on pools which reflect light.

WHAT CAN WE DO TO HELP?

Architects and Planners

- Be aware of the light attraction problem during the planning stages of new development.
- Make every effort to avoid lighting situations where light is projected upwards or laterally (see figure 2). Avoid large high-intensity floodlights located on building tops or poles whenever possible.
- Use shielded lights, cut-off luminaires or indirect lighting whenever possible (see figure 3).
- Avoid locating bright lights near utility wires or other objects that could be difficult for birds to see at night.

Hotel, Resort and Condominium Managers

- When commenting to new exterior light fixtures, consider installing shielded lights, cut-off luminaires or indirect lighting.
- Consider installing shields on exterior lights that are known to attract shearwaters. Some light manufacturers offer ready made shields. In some cases inexpensive shields can be fabricated.
- Avoid using unnecessary lighting during the critical shearwater fall-out period (October and November each year). Note: The heaviest fall-out occurs on and around the new moon, generally for only 10 to 12 days. (See figure 4). Dowsing unnecessary floodlights that light up the sun, or shine upward upon buildings or trees or that shut period, could significantly reduce shearwater fall-out.

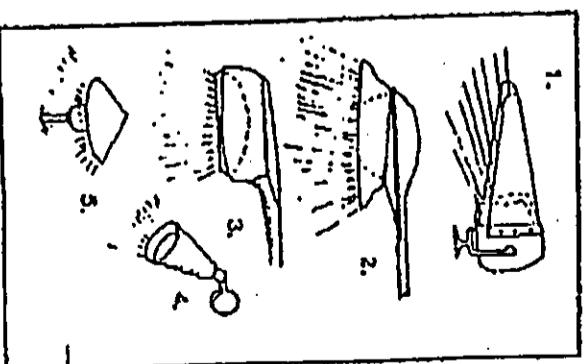
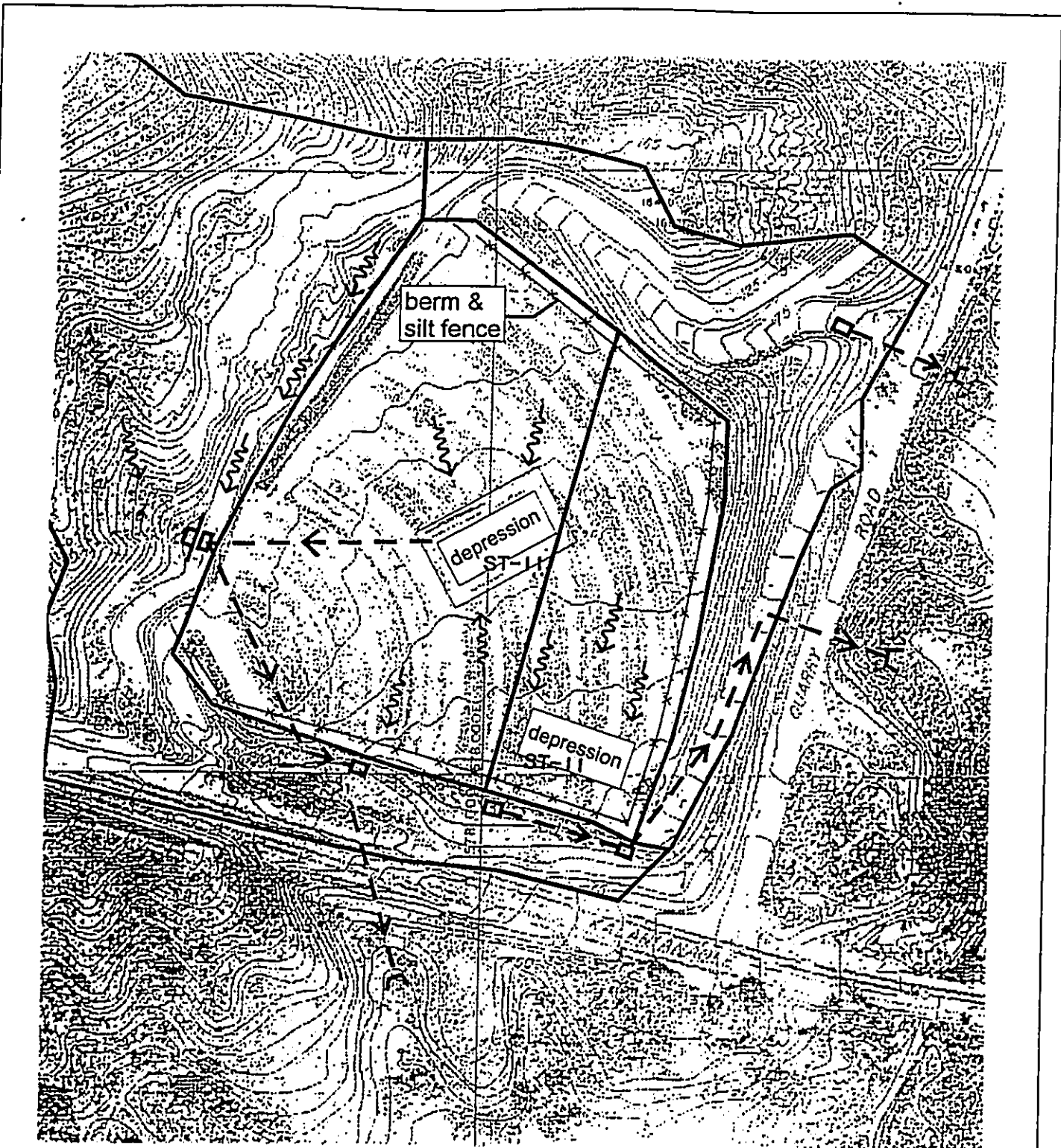


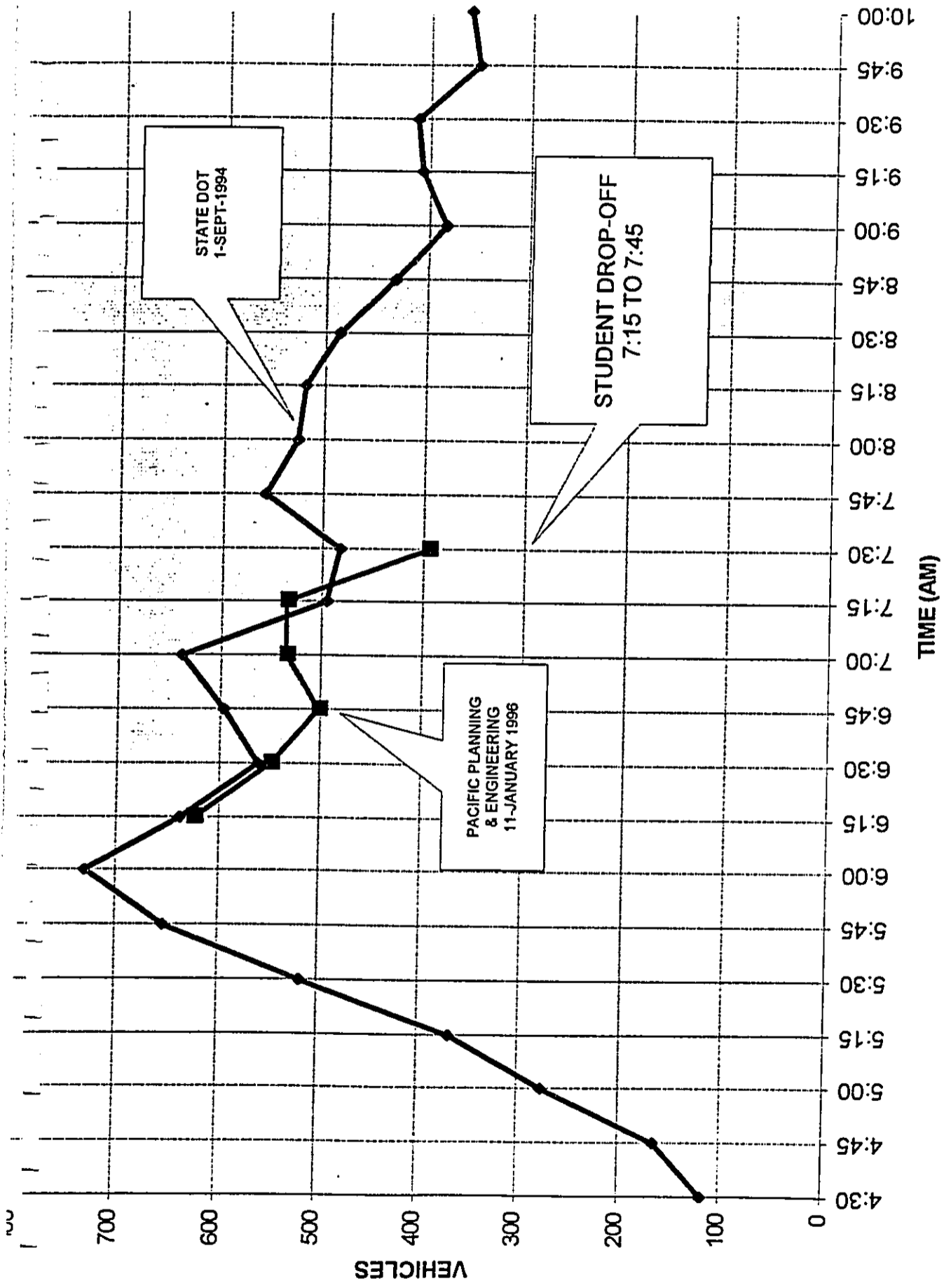
Figure 3. Use these types of lights whenever possible: 1. Shielded floodlights; 2. Shielded streetlights; 3. Cut-off luminaire; 4. Shielded spotlights aimed downwards; 5. Indirect lighting low to the ground.



Note: ST-II sediment trap and other controls applied per final NPDES permit conditions.



Figure 3: Temporary Erosion Control Measures
Reference: City & County of Honolulu
Planning Department
Photography and Ground Control Survey 1969
Sheet Number: 584-72 & 584-78



A.M. Peak Period Traffic at Kalaniana'ole Highway/Kapaa Quarry Road Intersection
Le Jardin Academy

Figure 2-11

April 7, 1996

Le Jardin Academy
1110 A Kailua Road
Kailua, HI 96734

Attn. Mr. Stanley Lum

Subject: COMBINED RESPONSES TO THE FOLLOWING APPLICATIONS

Response to LE JARDIN ACADEMY Environmental
Assessment for Special Management Area (SMA) Use
Permit Application dated February 1996
DLU Reference Designation: 96/SMA-015(JT)

Response to LE JARDIN ACADEMY Application for a
Change of Zone dated March 1996
DLU Reference Designation: 96/Z-4

Response to LE JARDIN ACADEMY Application for
Koolaupoko Development Plan Land Use Map
Amendment dated January 1996
PLANNING REFERENCE DESIGNATION: 96/KP-1

Dear Mr. Lum:

On March 25, 1996 the Board of Directors of the Kawai Nui Heritage Foundation (KNHF) passed by unanimous assent a motion to strongly oppose the SMA application by Le Jardin Academy on the grounds that it is sorely lacking in details. Because our review brought up an abundance of critical questions that require more detailed and depthful answers, answers that were not addressed in this document, the Board voted to request that **a full EIS be prepared** before proceeding any further with the approval process for this application or for any of the above-referenced applications related to this project site.

Failed proposals for public and private projects for the drive-in site have abounded over a ten year period and all have failed for implementation because their potential damages exceeded their values. Therefore, a full evaluation of your proposed project is as essential as all the others which have preceded it. Without a fully developed EIS, the application can be neither approved nor denied, as it cannot be adequately evaluated in this context.

NOTE: In the comments that follow, the designations within these bolded parentheses () reference an applicable law, objective or policy listed in **Exhibit D**. For example, **(CZMA-Section 307)** would be referencing the Coastal Zone Management Act, Section 307.

Na Kia'i Pono 'O Kawai Nui

KAWAI NUI HERITAGE FOUNDATION
PO BOX 1101 KAILUA HAWAII 96734

RECEIVED
APR - 9. 1996

GROUP 70

KNHF OVERVIEW: THE BIG PICTURE

Kawai Nui Marsh is the largest and most significant remaining wetland in the State of Hawaii. It provides habitat for four species of endangered native waterbirds and contains many varieties of native plants and a multitude of features in a major Cultural District. There has been a long history of effort to protect this world-class resource by all levels of government, as well as the community and the **KNHF**. More than 24 years of research have gone into the compilation of the Kawai Nui Heritage Foundation's Directional Plan and, most recently, the State spent hundreds of thousands of dollars on developing a master implementation plan for Kawai Nui Marsh (1994) that recognizes that... "the Study Area provides the context within which the marsh should be viewed in order to understand the influence which the broader region may bring to bear on the marsh. Of particular concern are areas upstream of the marsh, where proposed developments and changing uses need to be monitored to avoid detrimental impacts on the marsh." Your proposed site is just one of these areas of concern "upstream of the marsh." (See Exhibit A- Study Area Boundary.)

QUESTION RE: HOLISTIC IMPACTS

• Why haven't the cumulative impacts of the specific Le Jardin proposal and adjacent existing and proposed developments "upstream of the marsh" been addressed? (This should include such developments as the Industrial Park expansion.)

(CZMA Sect. 307; CZMA §1452(1); CSH Sect. 1; HCZM §205A 2(b)(4)(A), 2(c)(7)(C); SMA §205A-21, §205A-26(2)(a)(c); HSP Sect. 226-11(a)(1),(b)(4), Sect. 226-13(a)(1),(2); SFP Obj. IV-A, VI-C; GP 1. Obj. C, II. Obj. F.Pol. 1; III. Obj. A. Pol. 7, Obj. B.Pol. 1; DPCP Sect. 4 2), Sect. 5 1)(A)(ii); DPSP. Sect. 2 (a)(1))

RELATED IMPACTS NEED TO BE ADDRESSED, AND CAN ONLY BE ACCOMPLISHED THROUGH A FULL EIS!

THE KNHF'S DIRECTIONAL PLANNING CONCEPTS

The citizen-initiated planning efforts related to Kawai Nui Marsh and the Watershed (Ahupua'a) of Kailua over the past 24 years have been translated into a Directional Plan that reflects scientific, planning, and cultural expertise, as well as community concerns. This plan offers a holistic view of a world-class, one-of-a-kind resource. The plan acknowledges three basic planning layers to be considered:

1. THE LAND: Its ecosystems (upland stream, freshwater marsh, estuary, canal, ocean)

The drive-in site represents a key location for a full viewing of the resource. View planes to and from this site must remain uncluttered and available. These view planes have yet to be addressed in the application by Le Jardin.

The Directional Plan utilizes this site as the primary viewing area of the resource. Also planned is a Visitor Center, park, and related parking.

We question the potential obstruction of significant view planes accessible from the site as well as significant views looking towards the direction of this site (see Coastal View Study, Dept. of Land Utilization, City & County of Honolulu).

2. THE HISTORICAL/CULTURAL RICHNESS OF THE KAILUA AHUPUA'A:

The **KNHF** is concerned that the proposed Le Jardin project will damage the integrity of the Kawai Nui historical-cultural-archaeological complex, which has been declared eligible for listing on the National Register of Historic Places.

This complex includes three significant heiau located on the slopes of Uluwauo adjacent to the proposed project area, as well as a holua platform or shrine upslope of the proposed project area. This site, to our knowledge, has yet to be officially assessed.

A Legend-Chant Network Plan has been developed representing 55 chants, 6 songs and 3 legends. Many of these have been translated and mapped over the watershed of Kailua underscoring the significance of an established "sense of place". All one has to do to experience this is to canoe the interior waters of the marsh, as I have done, to become a believer. This network of "lines of history" pass through and around the drive-in site. This site is clearly part of the cultural linkage and as such is a critical interpretive site. The mauka view to this site and beyond is still fairly free of visual intrusions that could disturb this "sense of place".

(See Exhibit B- Directional Plan Layers.)

3. EXISTING PLANNING FACTORS TO BE ADDRESSED:

A major flood control region; an open space/wilderness experience just 12 minutes from the urban heart of the State; an educational/interpretive resource currently in use by our school children; home for four endangered species of Hawaiian waterbirds.

The **KNHF** is currently working together with DLNR, the State

Historic Preservation Office, and the Army Corps of Engineers related to the creation of waterbird habitat areas just below the drive-in site, in the marsh. (See Exhibit C- Proposed Habitat Areas.) This is a five million dollar project which will be made possible with Federal and State funds. This project should not be jeopardized by the potential construction and uses proposed by Le Jardin.

QUESTIONS RE: BASIC PLANNING CONCEPTS

- *Why hasn't the Foundation's Directional Plan been referenced and incorporated into this application?*
- *The proposed exit road is still in Conservation zoning in the EA. Why is there no provision made for the changes required to allow this to be a part of the proposed development?*
- *The EA only addresses Phase 1 of the proposed site plan as needing review. Why haven't you addressed the proposed maximum buildout on this site? Incremental, piecemeal planning goes counter to the Coastal Zone Laws.*

(CZMA Sect. 307; CZMA §1452(1); CSH Sect. 1; HCZM §205A 2(b)(4)(A), 2(c)(7)(C); SMA §205A-21, §205A-26(2)(a)(c); HSP Sect. 226-11(a)(1),(b)(4), Sect. 226-13(a)(1),(2); SFP Obj. IV-A, VI-C; GP 1. Obj. C, II. Obj. F.Pol. 1; III. Obj. A. Pol. 7, Obj. B.Pol. 1; DPCP Sect. 4 2), Sect. 5 1)(A)(II); DPSP. Sect. 2 (a)(1))

- *Why haven't the critical view planes to and from this site been addressed in the application by Le Jardin?*
- *Why hasn't the impact on a major open space/wilderness experience just 12 minutes from the urban heart of the State been addressed?*

(CSH Sect. 1; HCZM §205A-2(b)(1), (3)(A), 2(c)(1)(B), (v), 2(c)(3)(A),(C), 2(c)(7)(C); HSP Sect. 226-11(b)(9), Sect. 226-12(b)(3), Sect. 226-23(10); SFP Obj.-Pol. II-C, Obj.-Pol. III-A, Obj.-Pol. VI-A, Obj.-III-A Pol. II-A.1.; GP II. Obj. B. Pol. 8, III. Obj. A. Pol. 3, III. Obj. B. Pol. 4, X Obj. D. Pol. 4,6,7; DPCP Sect. 4. 1)1., 2)2.; DPSP. Sect. 2. (a)(1),(2))

- *Why hasn't the integrity of the Kawai Nui historical-cultural-archaeological complex, eligible for listing on the National Register of Historic Places, been addressed?*
- *Why haven't the two significant heiau located on the slopes of Ulumawao adjacent to the proposed project area, as well as a holua platform or shrine upslope of the proposed project area been referenced in relation to project plans and potential impacts?*

(HCZM §205A-2(b)(2)(A), 2(c)(2)(C); HSP Sect. 226-12(a),(b)(1),(4); HSP Sect. 226 25(b)(1); SFP Obj./Pol. II-A, Obj. III-A Pol. II A.2; HP Ob. Pol. B.1.C.2; GP X Obj. A Pol. 1,2,3, Obj. Pol. 1,2,3,4,5,6; DPCP Sect. 6)

• Why hasn't the Corps/DLNR/SHPO/KNHF waterbird habitat project been acknowledged and impacts of the proposed project, on these public plans, been identified?

(HCZM §205A-2(c)(1)(B)(vi), §205A-2(c)(4)(C),(D); SMA §205A-26(3)(e); GP III. Obj. A. Pol. 4,6; III. Obj. B. Pol. 2)

• Why hasn't the cumulative impacts of all proposed lighting sources been addressed? (i.e. field, amphitheater, pool, entry, site, etc.)

• The proposed Le Jardin Master Plan in the EA is different from the plan shown in the DP and Change of Zone Applications. Which is correct?

• Building heights are partially addressed in the Change of Zone Application. Why haven't you identified, in more detail, the eventual heights of all buildings and the necessary variances required? Why hasn't the cumulative impacts of the heights of buildings and exterior lighting fixtures been addressed?

(HSP Sect. 226-11(b)(2),(8); Sect. 226-12(b)(5); GP I. Obj. C. Pol. 3.a., III. Obj. A. Pol. 1; X. Obj. D. Pol. 5; DPCP Sect. 6)

RELATED IMPACTS NEED TO BE ADDRESSED, AND CAN ONLY BE ACCOMPLISHED THROUGH A FULL EIS!

KAWAI NUI INFRASTRUCTURE CONCERNS

The Foundation is also concerned about the impact this project will pose on the existing infrastructure serving the area. Additional infrastructure would have to be created AT TAXPAYER EXPENSE. We can, after all, reasonably expect this project to generate increased local traffic, sewage volume and non-point source pollution. We question how this project will negatively impact the native endangered birds and migrating waterfowl.

"An adequate understanding of the Kawaiui area cannot be achieved if it is divorced from the larger context." Marion Kelly, Bishop Museum, 1982

While Le Jardin Academy's proposed development would probably benefit the private school and its "investors", the resource value of this marsh, which belongs to ALL of us, can never be recovered if it is degraded as a result of this development. The proposed private project closes public options without evaluation of those options.

QUESTIONS RE: INFRASTRUCTURE IMPACTS

- *To what extent will public infrastructures be impacted?*
- *Will any additional infrastructure need to be created AT TAXPAYER EXPENSE?*
- *What will be the impacts of increased local traffic, sewage volume and non-point source pollution generated by this project?*

(HCZM §205A-2(c)(1)(B)(vi), §205A-2(c)(4)(C),(D); SMA §205A-26(3)(e); GP III. Obj. A. Pol. 4,6; III. Obj. B. Pol. 2)

- *Will the project lighting negatively impact endangered water birds or migrating waterfowl?*

(ESA; HCZM §205A-2(c)(4)(B); SMA §205A-26(3)(e); HSP Sect. 226-11(b)(6); GP III. Obj. A. Pol. 8)

RELATED IMPACTS NEED TO BE ADDRESSED, AND CAN ONLY BE ACCOMPLISHED THROUGH A FULL EIS!

SPECIFIC SMA/EA REFERENCED QUESTIONS

(These points are equally applicable to the other Applications.)

(page reference)

1. **(2-11) Use Characteristics**
The numbers of students are not mentioned, only the classrooms. The projected size of the student body must be included to enable estimations of traffic flow and resource data.
Q. *Why has the number of students been omitted?*
2. **(2-22), C. Mitigative Measures**
Although sediment basins and other measures are mentioned they should be thoroughly discussed. A map would be helpful. The soils of that hillside are very impermeable and heavy rains are common. With the site directly above habitat for endangered aquatic birds, measures must be well thought out and effective to protect Kahanaiki Stream and the wetland.
Not mentioned is surface runoff from slopes above the site. **Overland flow** during the heavy rains typical of winter storms is frequently observed on the Kalaheo hillside area. Since the proposed LeJardin site lies in an area that receives even greater rainfall, we expect even greater overland flow capable of causing severe erosion and flooding. Mitigation measures must

include data on local phenomenon because there is more uphill area and the rainfall is greater.

Q. *What are your proposed mitigation measures?*

(HCZM §205A-2(c)(1)(B)(vi), §205A-2(c)(4)(C),(D); SMA §205A-26(3)(e); GP III. Obj. A. Pol. 4,6; III. Obj. B. Pol. 2)

Also not mentioned is removal and disposal plans for the asphalt covering much of the site.

Q. *Will it be buried on site or disposed of in public landfills?*

3. **(2-25), Surface Runoff**

Calculations of projected flows from upslope need to be included. It is erroneous to assume that only the rainfall that lands on the site must be managed. (See previous discussion of overland flow.)

The runoff flows through culverts into Kahanaiki Stream.

Although this may be appropriate for natural runoff from the hillside, it is not for a developed lot. The proposed buildings will be constructed of wood treated with copper, arsenic, and other chemicals to repel insects. The soil around the proposed buildings will be impregnated with pesticides used in termite treatment. The grounds will be sprayed and fertilized. The roofs and painted walls will leach chemical components into the runoff. To allow this runoff to flow almost directly into the publicly owned and developed habitat enhancement project would be detrimental to the four endangered waterbirds and 30 years of public planning.

Surface runoff is the main cause of flooding in Kailua. Four and a half million dollars have recently been spent to allow the marsh to retain existing levels of floodwaters. Marion Kelly (Bishop Museum) has documented a historical trend of increasing size of floods in Kawai Nui Marsh. The cause of this trend is thought to be peripheral development. A moratorium should be imposed on all development in the watershed until a water budget can be made and a comprehensive plan for holding the line on runoff can be implemented. After the fact solutions are expensive and wasteful.

4. **(2-28), Section 2.4.5 Other Information Pertinent to the SMA**

It is stated that the southern edge of the site "is mostly vegetated and stable." Kalaniana'ole Hwy was closed recently during a winter storm when landslides closed the road to traffic. The mass movement of soil a few hundred yards from the proposed LeJardin site should be taken as an ominous warning to developers. The southern portion of the site is probably underlain by unconsolidated fill cut from the north side of the lot. After the landslides, huge amounts of sediment undoubtedly flowed into Kawai Nui Marsh from the highway and from the fill casually dumped over the guardrails. The location of the southern edge directly over the drainage culvert is cause for concern, even if the site is not developed. Bare earth and indications of recent slumping of soil into the road's gutter are

evident.

Q. Where are proposals for corrective measures for existing erosion?

(HCZM §205A-2(c)(1)(B)(vi), §205A-2(c)(4)(C),(D); SMA §205A-26(3)(e); GP III. Obj. A. Pol. 4,6; III. Obj. B. Pol. 2)

5. **(3-1) Description of Surrounding Area**

The lands north and east of the site are given the three word description, "vacant wooded hills." More studies need to address runoff, location of temporary streams, the unusual ecology of the area, and archaeological potential.

Noteworthy is the probability that remnants of the original lowland rain forest ecosystem may still exist in the area. Although it is unlikely that endangered forest birds would be impacted, it is possible that a restored rain forest could attract native birds back into the area.

Q. Could this be possible when a football field holds nightly practices in the vicinity?

(ESA; HCZM §205A-2(c)(4)(B); SMA §205A-26(3)(e); HSP Sect. 226-11(b)(6); GP III. Obj. A. Pol. 8)

The likelihood that Shearwaters and Petrels may still be attempting to make their burrow nests in upland areas exists. The effects of lighting on the Wedge-tail Shearwater is discussed on page 3-9.

In 1994 a night heron rookery was located in the Hau about a half mile from the site and an owl has been seen flying from its perch about a mile away. The southeastern edge of the marsh is the last undisturbed area of the Hau/marsh edge zone. It is poorly studied and could be the last refuge for nesting owls in this part of O'ahu.

Q. When will these birds and their habitats be further studied so that impacts can be determined?

(ESA; HCZM §205A-2(c)(4)(B); SMA §205A-26(3)(e); HSP Sect. 226-11(b)(6); GP III. Obj. A. Pol. 8)

We are concerned that this proposed development would be the first of many along the Quarry Road. Several developments would have a large negative cumulative impact upon the only remaining undeveloped edge of Kawai Nui Marsh.

Q. Why should a project be allowed to proceed incrementally without addressing cumulative impacts of both its ultimate development together with adjacent existing, proposed and other future possible developments in the area?

(CZMA Sect. 307; CZMA §1452(1); CSH Sect. 1; HCZM §205A 2(b)(4)(A), 2(c)(7)(C); SMA §205A-21, §205A-26(2)(a)(c); HSP Sect. 226-11(a)(1),(b)(4), Sect. 226-13(a)(1),(2); SFP Obj. IV-A, VI-C; GP 1. Obj. C, II. Obj. F.Pol. 1; III. Obj. A. Pol. 7, Obj. B.Pol. 1; DPCP Sect. 4 2), Sect. 5 1)(A)(ii); DPSP. Sect. 2 (a)(1))

6. **(3-5) Kawai Nui Marsh Resource Management Plan and Master Plan**
Under Discussion it is stated that "The proposed action is consistent with the objectives, policies and recommended actions of the Resource Management Plan (1983) and the Kawai Nui Marsh Master Plan (1994)."

This is not at all accurate with respect to the three objectives or recommended actions stated in the 1983 Plan. The second objective is to "provide for **public** use and enjoyment of the **existing and potential resources** of the Marsh." (emphasis added) The proposed project eliminates public use opportunities and does not identify or address impacts on the potential resources of the Marsh.

Regarding consistency with the recommendations of the 1983 Plan, the Plan states that "The opportunities for removal or modification of the Kailua drive-in theater screen should be explored in order to improve view planes toward and from the Marsh." The proposed plan becomes an aesthetic obstruction and intrusion rather than improvement in views to and from this site.

It is noted that Le Jardin Academy and the **KNHF** have a long standing relationship. We have been good neighbors and very supportive of each other's environmental programs. We have enjoyed this relationship and respect the kids and adults of the school who have worked hard to preserve the marsh. Our concern for the development of a sensitive site above the marsh cannot be ignored because we like the people and the institution. To the contrary, if we ignore our concerns we think we would lose the respect of our friends at Le Jardin.

7. **(3-5) Zoning Designation**

The Application states "The existing zoning for the entire property is Preservation (P-2) which does not allow for school development." The DLU along with representatives of the current landowners and the Lani-Kailua Outdoor Circle (predecessor of the **KNHF**) and many other Federal, State, and Community organizations participated in the framing of the 1983 Resource Management Plan. We worked to keep this area in Preservation in order to protect the integrity of the peripheral lands, as the Plan advocated. The present zoning classification was supported as consistent with the need to prevent further intrusive development on the total resource. For the intended park purposes, changes in zoning are unnecessary.

Q. Why hasn't the complete 1983 Plan been addressed rather than referencing just a few selected concepts, which if taken out of context, do not reflect the full intent of the contributors to this Plan?

(CZMA Sect. 307; CZMA §1452(1); CSH Sect. 1; HCZM §205A 2(b)(4)(A), 2(c)(7)(C); SMA §205A-21, §205A-26(2)(a)(c); HSP Sect. 226-11(a)(1),(b)(4), Sect. 226-13(a)(1),(2); SFP Obj. IV-A, VI-C; GP 1. Obj. C, II. Obj. F.Pol. 1; III. Obj. A. Pol. 7, Obj. B.Pol. 1; DPCP Sect. 4 2), Sect. 5 1)(A)(II); DPSP. Sect. 2 (a)(1))

8. **(3-7) Unique Features:**

To state that this "project site has no unique physical features which are recognized as a public resource" is incorrect. The fact that this platform site provides a unique opportunity for access and views nowhere else available within this resource make it most unique. The Application also states that "Most of the site lies out of view from public thoroughfares." What is omitted here is the importance of the views to the site from within the marsh. Existing views to this site are available from walking along the dike road, today. Future views to the site will be available while boating in the open waters of the marsh, hiking along the peripheral trail system, as well as from the Visitor Center as proposed in the State's Master Plan and the KNHF's Directional Plan.

Q. Why have these significant view opportunities and site features not been addressed or seen to be important?

(CSH Sect. 1; HCZM §205A-2(b)(1), (3)(A), 2(c)(1)(B), (v), 2(c)(3)(A),(C), 2(c)(7)(C); HSP Sect. 226-11(b)(9), Sect. 226-12(b)(3), Sect. 226-23(10); SFP Obj.-Pol. II-C, Obj.-Pol. III-A, Obj.-Pol. VI-A, Obj.-III-A Pol. II-A.1.; GP II, Obj. B, Pol. 8, III, Obj. A, Pol. 3, III, Obj. B, Pol. 4, X Obj. D, Pol. 4,6,7; DPCP Sect. 4. 1)1., 2)2.; DPSP, Sect. 2. (a)(1),(2))

9. **(3-9, B) Potential Impacts**

No discussion of the fate of the asphalt paving is made. Traffic on Quarry Road needs to be discussed as does the very jurisdiction of Quarry Road.

Q. Who would be responsible for safety and maintenance on the Quarry Road, if it were used for transporting children to school?

Q. Will road widening be required of the Pali Highway or Quarry Road? To what degree? and Who's paying for it?

(HSP Sect. 226-11(b)(2),(8); Sect. 226-12(b)(5); GP I, Obj. C, Pol. 3.a., III, Obj. A, Pol. 1; X, Obj. D, Pol. 5; DPCP Sect. 6)

Q. Where are studies of Shearwater and Petrel nesting in the area?

(ESA; HCZM §205A-2(c)(4)(B); SMA §205A-26(3)(e); HSP Sect. 226-11(b)(6); GP III, Obj. A, Pol. 8)

There is no discussion of security measures such as fences and lighting.

Q. How will these items be handled?

Q. Is the LeJardin proposed development site the first of many the major landowner will encourage along the Quarry Road, "paving the way" for more?

Q. Is the estate trying to sell other leases in the area?

(CZMA Sect. 307; CZMA §1452(1); CSH Sect. 1; HCZM §205A 2(b)(4)(A), 2(c)(7)(C); SMA §205A-21, §205A-26(2)(a)(c); HSP Sect. 226-11(a)(1),(b)(4), Sect. 226-13(a)(1),(2); SFP Obj. IV-A, VI-C; GP 1, Obj. C, II, Obj. F, Pol. 1; III, Obj.

A. Pol. 7, Obj. B.Pol. 1; DPCP Sect. 4 2), Sect. 5 1)(A)(ii); DPSP. Sect. 2 (a)(1))

Although some of these issues are beyond the scope of this application, the public is aware that no development occurs in a vacuum. Without a fully developed EIS, long range planning evaluation remains at a disadvantage.

RE: MISREPRESENTATIONS IN THE APPLICATIONS

There have been misrepresentations in these applications with regard to our Foundation's relationship to the project:

1. (p. 2-30 CofZ.) References the project and a long-standing relationship with KNHF. One might infer that this equates to KNHF support of the application. This is irrelevant to our non-support of the Le Jardin proposal for this site.
2. (DP Amendment) KNHF is listed under Organizations and Agencies Consulted. WE WE'RE NOT CONSULTED RE THE LE JARDIN PLANNING PROCESS.
3. (SMA/EA) R. Herlinger, planning consultant to the KNHF is listed under References and Personal Communications. My only contact with Group 70 was calling to get a copy of the application.

IN CONCLUSION

The Kawai Nui Heritage Foundation requests that you make no expedient decisions that would negate both the thousands of hours of community and governmental efforts to understand this resource and the hundreds of thousands of TAXPAYER DOLLARS expended through Federal, State, City & County and private sources to study, better understand, plan for, and preserve this resource for future generations. It will be difficult for the State to get additional Federal moneys if another point-of-pollution project is allowed upstream of the marsh. The Le Jardin proposed plans endanger the potential, forever, of presenting a world-class interpretive and wilderness experience, closing too many options.

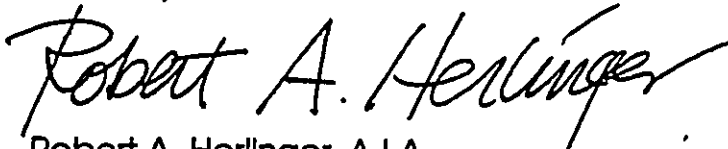
The lands peripheral to Kawai Nui Marsh are too important and there are too many unanswered questions about the potential impacts of this proposal to allow any bureaucratic shortcuts. We are requiring no less of Le Jardin than we would of U.S. Fish & Wildlife or ourselves regarding the need for a full EIS addressing proposed development of this site.

The KNHF will also urge the DLU to deny granting the SMP because the Application did not address the cumulative impacts referenced in this document. These referenced items do not even reflect an exhaustive list of the impacts requiring identification.

The time needed to inform the public and properly respond has been insufficient. The consultants for Le Jardin also stated that they had very limited time to come up with the proposed plans.

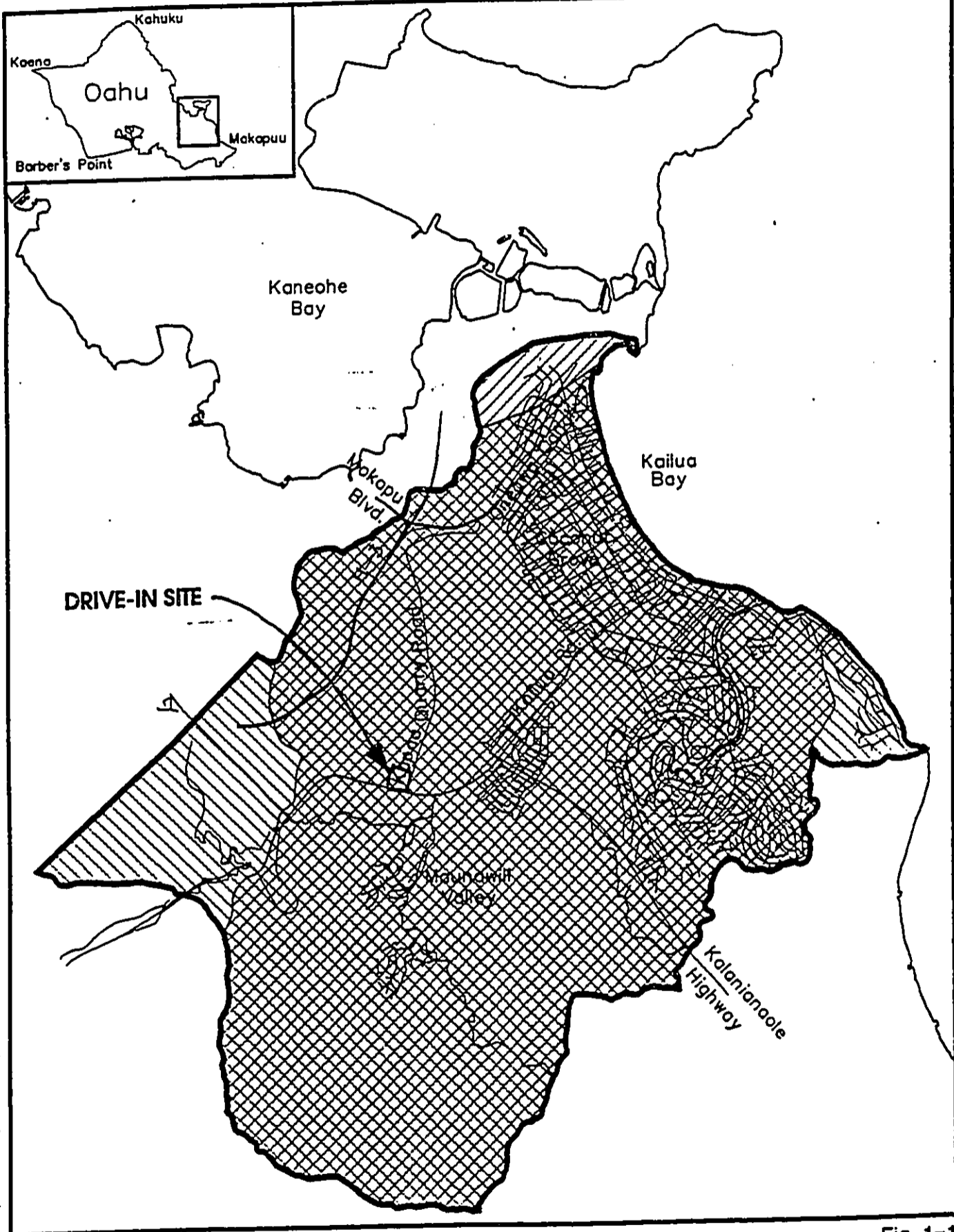
Mahalo for your consideration of our concerns. We request that you keep us informed of any new developments on these matters, and of any opportunities to further share our input with you and your staff.

Sincerely,



Robert A. Herlinger, A.I.A.
Planning Consultant to the Kawai Nui Heritage Foundation
(486-5091, office; 263-3898, res.)
encl.
cc:

DLU
OEGC
State CZM
U.S. Army Corps of Engineer District, Honolulu
U.S. Fish & Wildlife
Senator Daniel K. Akaka
Senator Daniel K. Inouye
Congressman Neil Abercromble
Congresswoman Patsy Mink
Governor Ben Cayetano
Michael Wilson, Chairman, Department of Land & Natural Resources
Dave Smith, DLNR
DoFAW
DOT
Don Hibbard, State Historic Preservation Office
OHA
Senator Whitney Anderson
Senator Mike Liu
Representative Cynthia Thielen
Representative Devon Nekoba
Mayor Jeremy Harris, City & County of Honolulu
Dept. of Planning, C&C of Honolulu
DPW, C&C of Honolulu
Council member Steve Holmes
Council member John Henry Felix
Kailua Neighborhood Board
Kailua Hawaiian Civic Club
Aikahi Community Association
Pohakupu Community Association
Olomana Community Association
Maunawili park Community Association
Maunawili Estates Community Association
Lani-Kailua Outdoor Circle
Kailua Urban Design Task Force
Save Mt. Olomana Association
Hawaii's Thousand Friends
Sierra Club, Hawaii Chapter
Sierra Club Legal Defense Fund
Hawaii Audubon Society
Conservation Council of Hawaii
Save Our Bays and Beaches



KAWAI NUI MARSH MASTER PLAN

Fig. 1-1

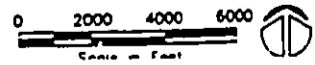
Legend
 — Roads
 — Shoreline
 ■ Study Area

▨ Ahupuaa
 ▨ Watershed

EXHIBIT A

Study Area Boundary

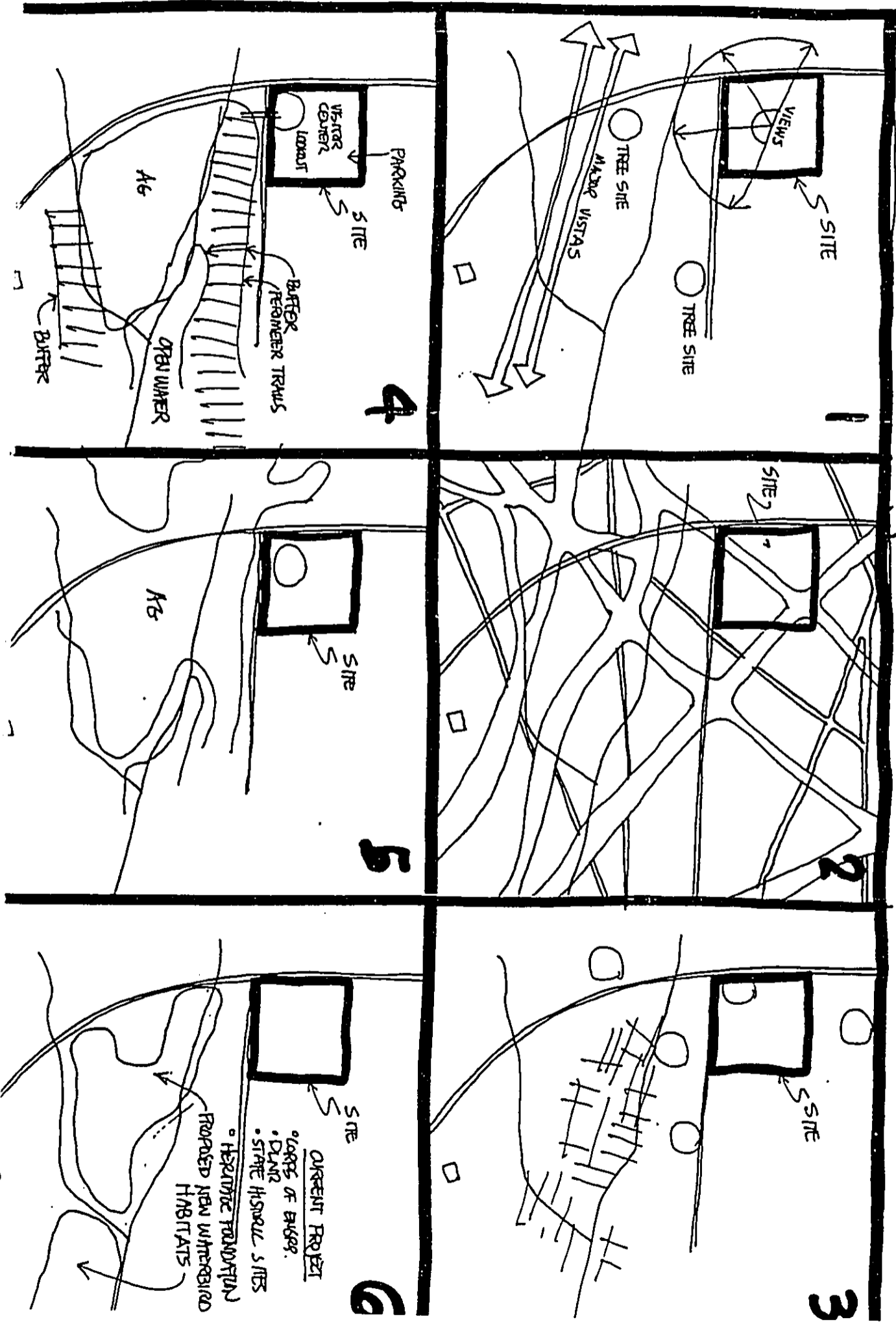
Source: Wilson Okamoto & Assoc., Inc.



KAWAI NUI HERITAGE FOUNDATION : DIRECTIONAL PLAN LAYERS PERTAINING TO THE OLD KAILUA DRIVE-IN SITE
 Robert A. Herlinger, A.I.A., Planning Consultant 486-5016 (bus.); 262-7238 (home) 2/29/96

LAYERS: 1: WATERSHED RESOURCE; 2: LEGEND/CHANT NETWORK; 3: CULTURAL ARCHAEOLOGY/SITES; 4: SHORT-RANGE PLAN; 5: LONG-RANGE PLAN
 6: CURRENT PROJECT BY CORP. OF ENGRS., DLNR, STATE HISTORIC SITES & THE FOUNDATION for the creation of WATERBIRD HABITAT SITES

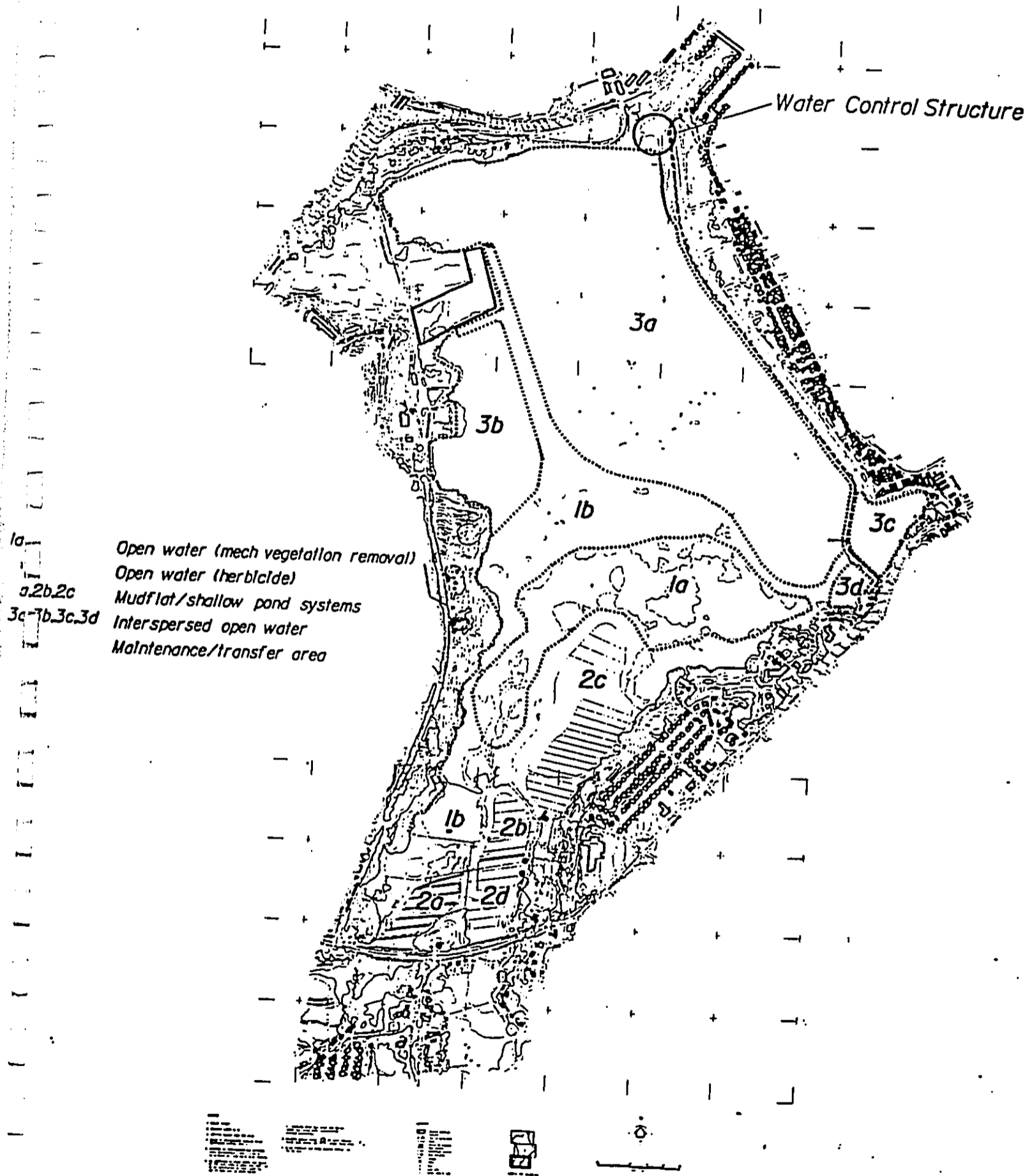
EXHIBIT B



DOCUMENT CAPTURED AS RECEIVED

DOCUMENT CAPTURED AS RECEIVED

EXHIBIT C



PROPOSED WATERBIRD HABITAT AREAS

EXHIBIT D

APPLICABLE LAWS , OBJECTIVES AND POLICIES

COASTAL ZONE MANAGEMENT ACT (CZMA)

Section 307: Federal consistency.

(2) private activities affecting the land or water uses in the coastal zone for which federal licenses and permits are required must be consistent with state programs.

Section 307 of the (CZMA) requires that any activity that a Federal agency conducts or supports within a state's coastal zone or in a Federal enclave within the geographic area of a state's coastal zone be consistent with the Federal approved state management program to the maximum extent practicable. (Federal Register, April 26, 1988)

Cumulative and secondary impacts

Cumulative effects are the impacts on the coastal zone which result from the incremental effects of an activity when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. Secondary effects are impacts that are associated with, but do not result directly from, an activity. Secondary effects can include growth inducing effects and other effects related to induced changes in the pattern of land use.

The cumulative and secondary effects of development in the coastal zone are perhaps the most intractable management issues faced by states and local governments. Coastal wetlands are often altered or destroyed by piecemeal development, and coastal water quality is slowly eroded as land uses spread to the water's edge with the twofold effect of contributing pollutants and eliminating the filtering effect of natural vegetation and wetlands. (Coastal Zone Act Reauthorization Amendments of 1990)

The Coastal Zone Management Act of 1972 **TITLE III-MANAGEMENT OF THE COASTAL ZONE**

§ 1452 Congressional declaration of policy

The congress finds and declares that it is the national policy-
(1) to preserve, protect, develop with proper environmental safeguards, and where possible, to restore or enhance, the resources of the Nation's coastal zone for this and succeeding generations.

§ 1453 Definitions

(18) The term "special area management plan" means a comprehensive plan providing for natural resource protection and reasonable coastal-dependent economic growth containing a detailed

and comprehensive statement of policies; standards and criteria to guide public and private uses of lands and waters;

ENDANGERED SPECIES ACT OF 1973 (ESA) (As described in the State Resource Management Plan for Kawai Nui Marsh-1983)

The Act recognized a nationwide need to protect endangered species. It defined criteria to guide Federal action with respect to impacts on endangered species. It also established the criteria and means for future cooperation between States and the Federal government and offered Federal funds to conduct State programs and develop management plans. In carrying out the intent of the Act, the U.S. Fish and Wildlife Service defined a program for the establishment of wildlife recovery teams at State and Interstate levels to develop recovery plans for identified endangered species. Hawaii's teams were organized in 1975, and thus far, two recovery plans have been prepared and approved. In the Waterbird Recovery Plan, Kawainui Marsh is identified as a high priority recovery area.

THE CONSTITUTION OF THE STATE OF HAWAII, as amended and in force January 1, 1979 (CSH)

CONSERVATION AND DEVELOPMENT OF RESOURCES

SECTION 1. For the benefit of present and future generations, the State and its political subdivisions shall conserve and protect Hawaii's natural beauty and all natural resources, including land, water, air, minerals and energy sources, and shall promote the development and utilization of these resources in a manner consistent with their conservation and in furtherance of the self-sufficiency of the State.

All public natural resources are held in trust by the State for the benefit of the people.

HAWAII COASTAL ZONE MANAGEMENT (HCZM)

§ 205A-2 Coastal zone management program; objectives and policies.

(b) Objectives:

(1) Recreational resources:

(A) Provide coastal recreational opportunities accessible to the public;

(2) Historic resources:

(A) Protect, preserve and where desirable, restore those natural and man made historic and prehistoric resources in the coastal zone management area that are significant in Hawaiian and American history and culture;

(3) Scenic and open space resources:

(A) Protect, preserve and where desirable, restore or improve the quality of coastal scenic and open space resources;

(4) Coastal ecosystems

(A) Protect valuable coastal ecosystems from disruption and minimize adverse impacts on all coastal ecosystems

(c) Policies

(1) Recreational resources:

(B) Provide adequate, accessible, and diverse recreational opportunities in the coastal zone management area by;

(v) Encouraging expanded public recreational use of county, State, and federally owned or controlled shoreline lands and waters having recreational value;

(vi) Adopting water quality standards and regulating point and nonpoint sources of pollution to protect and where feasible, restore the recreational value of coastal waters;

(vii) Developing new shoreline recreational opportunities, where appropriate, such as artificial lagoons, artificial beaches, artificial reefs for surfing and fishing;

(2) Historic resources:

(C) Support state goals for protection, restoration, interpretation, and display of historic resources.

(3) Scenic and open space resources:

(A) Identify valued scenic resources in the coastal zone management area;

(C) Preserve, maintain, and, where desirable, improve and restore shoreline open space and scenic resources; and

(4) Coastal ecosystems:

(B) Preserve valuable coastal ecosystems of significant biological or economic importance;

(C) Minimize disruption or degradation of coastal water ecosystems by effective regulation of stream diversions, channelization, and similar land and water uses, recognizing competing water needs; and

(D) Promote water quantity and quality planning and management practices which reflect the tolerance of fresh water and marine ecosystems and prohibit land and water uses which violate state water quality standards.

(7) Managing development:

(C) Communicate the potential short and long-term impacts of proposed significant coastal developments early in their life-cycle and in terms understandable to the general public to facilitate public participation in the planning and review process.

SPECIAL MANAGEMENT AREAS (SMA)

§205A-21 Findings and purposes.

The legislature finds and declares that it is the state policy to preserve, protect, and where possible, to restore the natural resources of the coastal zone of Hawaii.

§205A-26 Special management area guidelines.

(2) No development shall be approved unless the authority has first found:

(a) That the development will not have any substantial adverse environments or ecological effect, except as such adverse effect is minimized to the extent practicable and clearly outweighed by public health, safety, or compelling public interests. Such adverse effects shall include, but not be limited to, the potential cumulative impact of individual developments, each one of which taken in itself might not have a substantial adverse effect, and the elimination of planning options;

(b) That the development is consistent with the objectives and policies set forth in Section 33-3.1 and area guidelines contained in Section 205A-26, Hawaii Revised Statutes; and

(c) That the development is consistent with the County General Plan, development plans, zoning and subdivision codes and other applicable ordinances.

(3) The Council shall seek to minimize, where reasonable:

(a) Dredging, filling or otherwise altering any bay, estuary, salt marsh, river mouth, slough or lagoon;

(e) Any development which would adversely affect water quality, existing areas of open water free of visible structure, existing and potential fisheries and fishing grounds, wildlife habitats, or potential or existing agricultural uses of land.

HAWAII STATE PLAN (HSP)

Sec. 226-11 Objectives and policies for the physical environment- land-based, shoreline, and marine based resources.

(a) (1) Effective protection of Hawaii's unique and fragile environmental resources.

(b) (2) Ensure compatibility between land-based and water-based activities and natural resources and ecological systems.

(4) Manage natural resources and environs to encourage their beneficial and multiple use without generating costly or irreparable environmental damage.

(6) Encourage the protection of rare or endangered plant and animal species and habitats native to Hawaii.

(8) Pursue compatible relationships among activities, facilities, and natural resources.

(9) Promote increased accessibility and prudent use of inland and shoreline areas for public recreational, educational, and scientific purposes.

Sec. 226-12 Objectives and policies for the physical environment-scenic-natural beauty, and historic resources.

(a) Planning for the State's physical environment shall be directed towards achievement of the objective of enhancement of Hawaii's scenic assets, natural beauty, and multi-cultural/historical resources.

(b) To achieve the scenic, natural beauty, and historic resources objective, it shall be the policy of this State to:

(1) Promote the preservation and restoration of significant natural and historic resources.

(3) Promote the preservation of views and vistas to enhance the visual and aesthetic enjoyment of mountains, ocean, scenic landscapes, and other natural features.

(4) Protect those special areas, structures, and elements that are an integral and functional part of Hawaii's ethnic and cultural heritage.

(5) Encourage the design of developments and activities that complement the natural beauty of the islands.

SEC. 226-13 Objectives and policies for the physical environment-land, air, and water quality.

(a) (1) maintenance and pursuit of improved quality in Hawaii's land, air, and water resources.

(b) (1) Foster educational activities that promote a better understanding of Hawaii's limited environmental resources.

(2) Promote the proper management of Hawaii's land and water resources.

SEC. 226-23 Objective and policies for socio-cultural advancement-leisure.

(a) (1) Foster and preserve Hawaii's multi-cultural heritage through supportive cultural, artistic, recreational, and humanities-oriented programs and activities.

(2) Provide a wide range of activities and facilities to fulfill the cultural, artistic, and recreational needs of all diverse and special groups effectively and efficiently.

(3) Enhance the enjoyment of recreational experiences through safety and security measures, educational opportunities, and improved facility design and maintenance.

(4) Promote the recreational and educational potential of natural resources having scenic, open space, cultural, historical, geological, or biological values while ensuring that their inherent values are preserved.

(10) Assure adequate access to significant natural and cultural resources in public ownership.

SEC. 226-25 Objective and policies for socio-cultural advancement-culture.

(b) (1) Foster increased knowledge and understanding of Hawaii's ethnic and cultural heritages and the history of Hawaii.

STATE FUNCTIONAL PLANS (SFP)

RECREATION

Objective II-A: Plan, develop, and promote recreational activities and facilities in mauka and other areas to provide a wide range of alternatives.

Policy II-A(1): Plan and develop facilities and areas that feature the natural and historic/cultural resources of Hawaii. Develop interpretive programs for these areas.

Objective II-C: Improve and expand the provision of recreation facilities in urban areas and local communities.

Policy II-C(1): Meet the demand for recreational opportunities in local communities.

Objective III-A: Prevent the loss of access to shoreline and upland recreation areas due to new developments.

Policy III-A(1): Require land use permit applicants to fully address the impact of their projects on trails and public access.

Objective IV-A: Promote a conservation ethic in the use of Hawaii's recreational resources.

Policy IV-A(a): Emphasize an educational approach, in coordination with enforcement efforts, to promote environmental awareness.

Objective VI-A: Increase recreational access and opportunities in Hawaii's wetlands.

Policy VI-A(1): Identify existing wetlands with the potential for recreational development without significantly affecting wetland resources, with an emphasis on passive recreation and education.

Objective VI-C: Assure the protection of the most valuable wetlands in the state.

Policy VI-C(1): Develop a coordinated approach to wetlands protection, acquisition, and management, as well as to the provision of public education programs. (Kawainui Marsh is listed as one of the "top-priority wetlands".)

TOURISM

Objective III.A: Enhancement of respect and regard for the fragile resources which comprise Hawaii's natural and cultural environment. Increased preservation and maintenance efforts.

Policy II.A.1: Assist in preserving and maintaining recreational resources.

Policy II.A.2: Assist in preserving, perpetuating, and interpreting cultural, historic and archaeological resources. Preserve cultural authenticity as much as possible in commercialized and tourist-oriented presentations.

HISTORIC PRESERVATION (HP)

Objective B. Protection of Historic Properties

Policy B.1: Provide timely historic property reviews which are integrated effectively into the land use regulatory system.

Policy C.2: Encourage the preservation and maintenance of historic properties through economic incentives and support.

GENERAL PLAN (GP) (City & County of Honolulu)

Objectives and Policies

1. Population

Objective C- To establish a pattern of population distribution that will allow the people of Oahu to live and work in harmony.

Policy 2. Encourage development within the secondary urban center at Kapolei and the Ewa and Central Oahu urban-fringe and rural

areas and to meet housing needs not readily provided in the primary urban center.

Policy 3. Manage physical growth and development in the urban-fringe and rural areas so that:

a. An undesirable spreading of development is prevented;

and

b. Their population densities are consistent with the character of development and environmental qualities desired for such areas.

II. Economic Activity

Objective B- To maintain the viability of Oahu's visitor industry.

Policy 8. Preserve the well-known and widely publicized beauty of Oahu for visitors as well as residents.

Objective F- To increase the amount of Federal spending on Oahu.

Policy 1. Take full advantage of Federal programs and grants which will contribute to the economic and social well-being of Oahu's residents.

III. Natural Environment

Objective A- To protect and preserve the natural environment.

Policy 1. To protect Oahu's natural environment, especially the shoreline, valleys, and ridges, from incompatible development.

Policy 2. Seek the restoration of environmentally damaged areas and natural resources.

Policy 3. Retain the Island's streams as scenic, aquatic, and recreation resources.

Policy 4. Require development projects to give due consideration to natural features such as slope, flood and erosion hazards, water-recharge areas, distinctive land forms, and existing vegetation.

Policy 6. Design surface drainage and flood-control systems in a manner which will help preserve their natural settings.

Policy 7. Protect the natural environment from damaging levels of air, water, and noise pollution.

Policy 8. Protect plants, birds, and other animals that are unique to the State of Hawaii and the Island of Oahu.

Policy 9. Increase public awareness and appreciation of Oahu's land, air, and water resources.

Objective B- To preserve and enhance the natural monuments and scenic views of Oahu for the benefit of both residents and visitors.

Policy 1. Protect the Island's well-known resources: its mountains and craters; forests and watershed areas; marshes, rivers, and streams; shoreline, fishponds, and bays; and reefs and offshore islands.

Policy 2. Protect Oahu's scenic views, especially those seen from highly developed and heavily traveled areas.

Policy 4. Provide opportunities for recreational and educational use and physical contact with Oahu's natural environment.

X. Culture and Recreation

Objective A- To foster the multiethnic culture of Hawaii.

Policy 1. Encourage the preservation and enhancement of Hawaii's diverse cultures.

Policy 2. Encourage greater public awareness, understanding, and appreciation of cultural heritage and contributions to Hawaii made by the City's various ethnic groups.

Policy 3. Encourage opportunities for better interaction among people with different ethnic, social, and cultural backgrounds.

Objective B- To protect Oahu's cultural, historic, architectural, and archaeological resources.

Policy 1. Encourage the restoration and preservation of early Hawaiian structures, artifacts, and landmarks.

Policy 2. Identify, and to the extent possible, preserve and restore buildings, sites, and areas of social, cultural, historic, architectural, and archaeological significance.

Policy 3. Cooperate with the State and Federal governments in developing and implementing a comprehensive preservation program for social, cultural, historic, architectural, and archaeological resources.

Policy 4. Promote the interpretive and educational use of cultural, historic, architectural, and archaeological sites, buildings, and artifacts.

Policy 5. Seek public and private funds, and public participation and support, to protect social, cultural, historic, architectural, and archaeological resources.

Policy 6. Provide incentives for the restoration, preservation, and maintenance of social, cultural, historic, architectural, and archaeological resources.

Objective D- To provide a wide range of recreational facilities and services that are readily available to all residents of Oahu.

Policy 4. Encourage public and private botanic and zoological parks on Oahu to foster an awareness and appreciation of the natural environment.

Policy 5. Encourage the State to develop and maintain a system of natural resource-based parks, such as beach, shoreline, and mountain parks.

Policy 6. Provide convenient access to all beaches and inland recreation areas.

Policy 7. Provide for recreation programs which serve a broad spectrum of the population.

Policy 8. Encourage ocean and water-oriented recreation activities that do not adversely impact on the natural environment.

DEVELOPMENT PLANS COMMON PROVISIONS (DPCP)

Section 4. GENERAL URBAN DESIGN PRINCIPLES AND CONTROLS

1) Public Views

1. Public views include views along streets and highways, mauka-makia view corridors, panoramic, and significant landmark views from public places, views of natural features, heritage resources, and other landmarks, and view corridors between significant landmarks.

2) Open Space

1. Open space areas consist of, but are not limited to, the ocean, beaches, parks, plazas, institutional properties with park-like grounds, streams, inland bodies of water, significant land forms, golf courses, cemeteries and agricultural preservation lands. The functions of open space areas are to provide visual relief and contrast to the built environment, to serve as outdoor space for public use and enjoyment. The preservation and enhancement of areas that are well suited to perform these functions shall be given high priority.

2. The City's mountains, hills, shoreline and streams shall be considered as major scenic, open space and recreational resources. Adequate public access to these resources shall be incorporated as part of developments adjacent to them.

Section 5 GENERAL PRINCIPLES AND CONTROLS FOR PARKS, RECREATION AND PRESERVATION AREAS

This section sets forth general principles and controls for the establishment of a park, recreations and preservation system within each development plan area. This system shall consist of existing and future community-based parks and recreation sites, existing and future state and county-based parks and recreation sites, and preservation areas.

1) Parks and Recreation Areas

Parks and recreation areas as defined in Section 32-1.3(10) shall be located and designed so as to be suitable for different and varied neighborhoods and available to all residents of Oahu. Whenever possible, existing and future parks within this system shall be linked by streams and other green belt trails, pedestrian ways, bicycle ways, hiking trails, parkways and boulevards.

(A) State and County Parks and Recreation Sites

(ii) Significant Natural or Historical Parks and Sites. These Parks or sites shall be used for medium or low intensity recreation activity while preserving their natural or historical characteristics.

Section 6 IDENTIFICATION OF AREAS, SITES AND STRUCTURES OF HISTORICAL SIGNIFICANCE

The principal areas, sites and structures of historical, archaeological or architectural significance include, but are not limited to, those registered under the National and Hawaii Registers of Historic Places, as amended. The continued use, enhancement or preservation of such areas, sites and structures shall be incorporated or promoted in any applicable action by the City. Such actions shall be permitted in all areas designated for any use on The land use map. Adjacent development shall complement registered properties with appropriate building facades, setbacks, scale, heights and compatible uses.

DEVELOPMENT PLANS SPECIAL PROVISIONS FOR KOOLAUPOKO (DPSP)

Section 2. Urban Design Principles and Controls for Koolaupoko

(a) (1) Open Space. The visibility, preservation, enhancement and accessibility of open space areas as defined in Section 24-1.4 of the Development Plan Common Provisions shall be given high priority in the design of adjacent and nearby developments in Koolaupoko. Kawainui Marsh is identified as one of these areas.

(2) Public Views. In order to promote pleasing and attractive living environments and panoramic mauka and makai views from public places, views of major landmarks from public places shall be protected whenever possible.

May 9, 1996



GROUP 70
INTERNATIONAL

Mr. Robert A. Herlinger, AIA
Kawai Nui Heritage Foundation
P.O. Box 1101
Kailua, HI 96734

**Subject: Le Jardin Academy, Kailua, Koolau-poko, Oahu, HI
Response to Comments on Draft Environmental Assessment**

Dear Mr. Herlinger:

First, we commend the efforts of your citizen-initiated planning efforts related to Kawai Nui Marsh and Kailua ahupua'a over the past 24 years. We appreciate the time you and your Foundation members have spent in meeting with us on March 22, 1996, visiting the site together, and discussing at length the Foundation's Directional Plan.

Second, Le Jardin Academy takes great pride in its track record and commitment toward environmental conservation and education. The school was recognized for its efforts in this area with an award from Hawaii's Thousand Friends in 1994. The new school is being planned and designed with a high priority toward environmental sensitivity, including preservation and enhancement of Kawai Nui Marsh and the Kailua area. We believe there is no better way to guarantee the protection of our valued natural and cultural resources than to instill the values of environmental sensitivity in our young people. The school leads by example, and Le Jardin Academy is proving this by the approach they have taken over the years in teaching their students, and the current approach toward environmentally responsible re-use of the former Kailua Drive-in Theater property.

Thank you for providing your comments on the Draft Environmental Assessment, Development Plan Amendment application and Change of Zone application for Le Jardin Academy's proposed new school. We have prepared responses to the issues raised in your letter to Mr. Stanley Lum of Le Jardin Academy dated 7 April 1996. We have organized your comments by subject group and quoted verbatim in italics.

Land Use Approval Processing

The proposed exit road is still in Conservation zoning in the EA. Why is there no provision made for the changes required to allow this to be a part of the proposed development?

The EA only addresses Phase I of the proposed site plan as needing review. Why haven't you addressed the proposed maximum build-out on this site?

The existing exit road is located in the State Conservation District and County P-2 Preservation zoning district. The exit road can continue to be used and

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Alph E. Portmore, AICP
Stephen H. Yuen, AIA
Paul P. Chorney, AIA
Sean H. Kitamura, AIA
Norma J. Scott, AIA
Stephen E. Callo, CPA
Walter R. Bell, AIA, CSI, CCS
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George I. Atta, AICP
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Michael A. Garni
Eric G. Crispin, AIA
Linda L. Chung, AIA
Robert M. Buchholdt
Ronald L. Proctor
Charles F. Schriever, AIA
Cathryn A. Tsukano
Lloyd A. Inouye
Mary J. O'Leary

Letter to Mr. Robert Herlinger
Kawai Nui Heritage Foundation
May 9, 1996
page 2

maintained in its current form. There are no plans to make changes to the exit road.

The maximum build-out of the site is addressed in the Environmental Assessment, including the Phase II facilities for the high school. Detailed site planning information for Phase I will be presented in the Site Plan Review application to be filed with DLU later this year. An SPR application will be filed for Phase II facilities at some later undetermined date. In terms of environmental analysis, however, the full development of all of the facilities in Phase I and Phase II is addressed.

Building Heights

Why haven't you identified, in more detail, the eventual heights of all buildings and the necessary variances required?

Why hasn't the cumulative impacts of the heights of buildings and exterior lighting fixtures been addressed?

The exact building heights cannot be provided at this time because the architectural design of the facilities is at a preliminary stage. The campus as a whole will be designed on a residential scale and character, and will include the use of pitched roofs. Some roof lines will exceed 25 feet, requiring a height variance. With this school's new facilities, there is a need to provide some multi-purpose buildings. The specific design of the school, including building heights, will be subject to detailed review by the DLU during the SPR process. A height variance will be required for several buildings whose roof line is expected to exceed 25 feet. A height variance could be avoided under other zoning categories such as Apartment and business districts, which allow taller buildings. However, an Agricultural designation is being sought to protect the potential future use of this site from more intensive development.

The full development of the school will include some taller buildings such as the gymnasium and performance hall, which could reach heights of 45 to 50 feet. These facilities are planned for the interior portion of the site, and will generally not be visible from off-site locations. Lighting of the campus buildings will be designed with sensitivity to avoid off-site indirect lighting and glare effects. The only other building that is known to be planned in the area of the school is the Kawai Nui Marsh Visitor Center, which will most likely also be designed with careful attention to avoid adverse light effects.

Lighting

Why hasn't the cumulative impacts of all proposed lighting sources been addressed (field, amphitheater, pool, entry, site, etc.)?

Will project lighting negatively impact endangered waterbirds or migrating waterfowl?

Lighting of the project site is needed for safety and security during night hours. Roads, parking lots, sidewalks, buildings and the athletic field (Phase II) must be

Letter to Mr. Robert Herlinger
Kawai Nui Heritage Foundation
May 9, 1996
page 3

lighted for night time activities. The lighting technology available today can virtually eliminate off-site indirect lighting and glare. Le Jardin Academy is planning to utilize lighting fixtures that will avoid creating adverse off-site lighting effects.

One concern is that lighting at the school could cause indirect lighting and glare at adjacent areas, including Kawai Nui Marsh. In particular, we are aware that two seabirds – the Wedge-tail shearwater (*Puffinus pacificus*) and federally threatened Newell's shearwater (*Puffinus auricularis*) – may be affected by night lighting at the school. These light-related issues were evaluated in the preparation of the Draft EA, and additional information is provided in the Final EA.

Our discussions with the State DLNR Division of Forestry and Wildlife (D. Smith, Oahu Biologist) and the US Dept. of the Interior, Fish and Wildlife Service (M. Stahl, Biologist) have provided further information on this subject. For your information, we enclose a copy of a DLNR publication entitled The Newell's Shearwater Light Attraction Problem: A Guide for Architects, Planners and Resort Managers. This publication identifies that the most sensitive periods for potential light attraction of fledgling shearwaters are during the new moon periods of October and November. Given fallout data compiled by the DLNR, there are two 10-day periods which are clearly the most sensitive periods.

Le Jardin Academy has always taken pride in its approach toward environmental conservation. In this regard, the new school will take special measures (on top of the sensitive lighting design) to restrict the night time lighting of the athletic field (Phase II) during these two sensitive 10-day periods in the fall. The night time lighting of the upper portions of the two story academic buildings and taller multi-purpose buildings will also be restricted during this period. Exterior and interior lights that are not absolutely necessary at these buildings will be kept off at night during these two 10-day periods in October and November. Technical coordination and assistance will be sought from the DLNR and the US Fish and Wildlife Service to properly schedule and implement this plan, including appropriate monitoring. The school will also include an educational program for the students to teach them about protection of these threatened seabirds and include students in the monitoring program.

Infrastructure

To what extent will public infrastructures be impacted?

Will any additional infrastructure need to be created at taxpayer expense?

What will the impacts of increased local traffic, sewage volume and non-point source pollution generated by this project?

Public infrastructure including water supply, roads, sewers and drainage facilities will be affected by the development and operation of Le Jardin Academy, as discussed in the Draft EA. No taxpayer expense is involved in

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creating any infrastructure element for the project. Water supply from the BWS is adequate to serve the project with some privately funded on-site water system improvements. The County sewer at the Maunawili pump station will be connected to by a privately-funded gravity collection pipe extension. The roads serving the project are adequate to accommodate the school-related traffic without public facility improvements.

*Who would be responsible for safety and maintenance on the Quarry Road, if it were used for transporting children to school?
Will road widening be required of the Pali Highway or Kapaa Quarry Road? To what degree? Who would pay for it?*

There is no need to widen Kalaniana'ole Highway or Kapaa Quarry Road for this school. Kapaa Quarry Road is a private road owned that is being maintained by the City, and school zone speed limits will be established along this frontage. Speed limits on Kapaa Quarry Road are enforced by the Honolulu Police Department.

Views

View planes to and from the site must remain uncluttered and available.

Why haven't the critical view planes to and from this site been addressed in the application by Le Jardin?

The proposed plan becomes an aesthetic obstruction and intrusion rather than improvement in views to and from this site.

Why have these significant view opportunities [to and from marsh] and site features not been addressed or seen to be important?

Views to and from the site are most definitely addressed in the EA, including a series of representative site photographs and a rendering of the proposed facilities from two different public view points at Auloa Road and Castle Hospital. The school will not become an aesthetic intrusion, rather it will remedy an existing eyesore of eroded land and accumulated trash and debris that has resulted in the five years since the closing of the Drive-in Theater. As shown in the plan, the beautiful design and landscaping of the school facilities will be an aesthetic asset to the Kailua community.

It is our understanding that humans are not supposed to be entering the marsh for recreation since it is an endangered Hawaiian waterbird habitat. Even so, the view from the interior of the marsh to the former Drive-in Theater site is largely blocked by the topography and vegetation on the western slope of the marsh. The rim of the plateau at the site is visible from locations near the central southern portion of the marsh. However, the school facilities will be built at a distance set back from the plateau rim, which will substantially reduce the visibility of these structures from off-site locations. With the introduction of new landscaping along the perimeter of the site, the view of ridge lines of building roofs will be broken up. This aspect of the plan was clearly demonstrated to the

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Neighborhood Board and Kawai Nui Heritage Foundation members during the site visit on March 24, 1996. The view to and from the marsh and surrounding areas is extremely important, and has been addressed at some length in the Draft EA.

Cultural and Archaeological Features

The site, to our knowledge, has yet to be officially assessed.

This network of "lines of history" pass through and around the drive-in site. The site is clearly part of the cultural linkage and as such is a critical interpretive site.

Why hasn't the integrity of the Kawai Nui historical-cultural-archaeological complex, eligible for listing on the National Register of Historic Places, been addressed?

Why haven't the two significant heiau located on the slopes of Ulumawao adjacent to the proposed project area, as well as a holua platform or shrine upslope of the proposed project area been referenced in relation to project plans and potential impacts?

The project site was officially assessed in an archaeological assessment completed in February 1989 entitled Archaeological Reconnaissance Survey of the Proposed Windward Park, Kailua, Oahu (Panteleo and Cleghorn, Bishop Museum, Applied Research Group). The findings of this study were reported in the Draft EA. The Final EA includes added information regarding the heiau and other sites that you bring to our attention. Further, the DLNR Historic Preservation Division has verified that there are no historic sites at the project location (Hibbard, April 12, 1996). DLNR commented that the school campus does not conflict with the State's plans to interpret and provide access to Kawai Nui Marsh.

Based on the information you provided us at our meeting in March, we are better able to understand the cultural linkage of the marsh and surrounding area. The entire area is related from the mountain ridge to the marsh waters, and the school site is one small part of this sizable watershed. The proposed reuse of the site for a school will rehabilitate the land, which is now eroding and littered with waste. Le Jardin Academy's cultural educational programs will enhance our young people's understanding of the historical context of the marsh and cultural sites found on the surrounding lands.

Natural Resources/Wildlife

Why hasn't the impact on a major open space/wilderness experience just 12 minutes from the urban heart of the State been addressed?

The proposed school project will have a positive long-term effect to Kawai Nui Marsh. Runoff water volume will be reduced and surface water quality will be improved. Expanded technical studies of runoff and drainage are included in the Final EA.

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Why hasn't the Corps/DLNR/SHPO/KNHF waterbird habitat project been acknowledged and impacts of the proposed project, on these public plans, been identified?

This project should not be jeopardized by the potential construction and uses proposed by Le Jardin.

We absolutely agree. The Federal/State effort to improve waterbird habitat in the wetlands in the southern sector of the marsh represents some of the first steps toward implementing the 1994 Master Plan. The proposed project will have a beneficial impact on this habitat restoration project by reducing runoff and siltation to the marsh. The school project will not jeopardize these plans.

Noteworthy is the probability that remnants of the original lowland rain forest ecosystem may still exist in the area. Although it is unlikely that endangered forest birds would be impacted, it is possible that a restored rain forest could attract native birds back into the area. Could this be possible when a football field holds nightly practices in the vicinity?

The likelihood that Shearwaters and Petrels may still be attempting to make their burrow nests in upland areas exists. . . . When will these birds [including night heron rookery and owls] and their habitats be further studied so that impacts can be determined? Where are studies of Shearwater and Petrel nesting in the area?

The athletic field at Le Jardin Academy will not be lighted for use every night of the week. Lighting of the athletic field could occur one or twice a week, at most for evening soccer matches. All practices would be completed during daylight hours. The school does not intent to field a football team in the foreseeable future, and probably never will since their high school enrollment will only be around 500 students. Le Jardin football players would participate in the PAC-5 team, instead of having its own team. In our contact with DLNR, they have made no mention of any plans to attempt restoration of a rain forest ecosystem in the lands near or including the project site.

We have contacted the DLNR and US Fish and Wildlife Service to learn more about the seabird nesting habits and habitats in Hawaii, and the extent of their presence on Oahu. Our research finds that some Newell's shearwater are likely to be nesting in the "hanging valleys" near the crest of the Koolau Range. The black-crowned night heron (*Nycticorax n. hoactli*) and the pueo or Hawaiian owl (*Asio flammeus sandwichensis*) are not known to utilize this site. This is undoubtedly due to the 15 acres of asphalt pavement covering 75 percent of this site for past 30 years. Studies by Andrew Berger, Ph.D (1988) found the site does not possess the necessary habitat for these birds. The school project will most likely increase the available habitat for the indigenous lesser golden plover (*Pluvialis dominica fulva*), a migratory species which has been observed at the project site. We have not completed any further avifauna survey of the project site or surrounding area for the Final EA since there is no indication of potential

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adverse effects to any of the introduced, indigenous and endemic birds which utilize the site or surrounding area as habitat.

Under Discussion, it is stated that "The proposed action is consistent with the objectives, policies and recommended actions of the Resource Management Plan (1983) and the Kawai Nui Marsh Master Plan (1994)." This is not at all accurate with respect to the three objectives or recommended actions stated in the 1983 Plan. The second objective is to "provide for public use and enjoyment of the existing and potential resources of the Marsh." The proposed project eliminates public use opportunities and does not identify or address impacts on the potential resources of the Marsh.

The proposed school site is not within Kawai Nui Marsh, rather it is adjacent to the Marsh across Kapaa Quarry Road. The site falls within the 1983 plan's "Secondary Area", which recognizes that the quality of the water regime in the marsh is influenced by the activities in the water shed above the marsh. The site is not public land, rather it is a private land parcel, and a private entity has begun to plan a use of this land that is consistent with the existing plans and policies. The school has proposed to allow for organized community and other public use of the site to view Kawai Nui Marsh. No opportunities are foreclosed by the proposed project, rather the project provides for public use and enjoyment of the existing and potential resources of the Marsh. The proposed project increases public use opportunities and creates positive benefits to the resources of the Marsh by reducing drainage runoff, reducing soil erosion, maintaining surface water quality, increasing public access (views) of the marsh, and increasing public and youth awareness of the environmental and cultural resources of Kawai Nui Marsh.

Erosion, Runoff, Flooding and Water Quality

Although sediment basins and other measures are mentioned they should be thoroughly discussed and a map would be helpful.

Overland flow during the heavy rains typical of winter storms is frequently observed on the Kalaeo hillside area. Since the site lies in an area that received even greater rainfall, we expect even greater overland flow capable of causing severe erosion and flooding. Mitigation measures must include data on local phenomenon because there is more uphill area and the rainfall is greater. What are your proposed mitigation measures?

Calculations of projected flows from upslope need to be included. It is erroneous to assume that only the rainfall that lands on the site must be managed.

Temporary sediment basins are required to be installed at the project site prior to construction to collect runoff waters and slow the rate of runoff to capture suspended sediment particles within the basin. The specific location and extent of these basins will be provided in the plans to be submitted for the Grading, Grubbing and Stockpiling Permit and NPDES Permit application. The grading

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plan has not been completed at this preliminary point in the project design, therefore, no actual design plans for the drainage system can be provided.

We have provided a map (enclosed) of the overland runoff flow routes, and anticipated location of the swales, depressions and other drainage features. With the relatively level topography of the project site, there is more than adequate area to install proper sedimentation basins. Plans submitted for both of these permits must be approved by the City prior to construction. The discharge from the site's drainage system during the construction phase must be closely monitored to insure compliance with permit conditions. The project will comply with permit requirements for grading and runoff.

A portion of the up-slope runoff will continue to be collected by a perimeter swale and inlet at the western boundary of the site, and routed across the site via a 24-inch reinforced concrete pipe that discharges directly to the large depression located along Kalaniana'ole Highway. The drainage improvements serving the main portion of the school facilities consist of a series of grassed and lined swales and landscape depressions serving as detention and sedimentation basins. This type of drainage system is perfectly adequate to control stormwater across the broad level area that was formerly the drive-in theater parking area.

The expanded drainage and runoff analysis presented in the Final EA provides detailed projections of runoff from the site. The change in land cover at the project site from primarily asphalt to the landscaped school facilities, including the planned on-site drainage system, will reduce the on-site runoff overall by 45 percent. Runoff from the main developed portion of the school site will be reduced by 70 percent. Silt runoff will also be reduced by the landscaping and drainage improvements, which help to protect the water quality in the receiving waters of Kawai Nui Marsh.

Runoff from the project site and a portion of the mauka hillside is routed through an on-site drainage system. About one-third of the runoff comes from the entry road/exit road portion of the site (6.6 acres), which will have limited construction and maintenance activities, and 4.6 acres of the school construction area. After being detained on-site, this runoff is routed under Kapaa Quarry Road to the hillside that drains into the marsh, as it has been for more than 35 years. Runoff from two-thirds of the school site (9.2 acres) and another 16 acres of off-site mauka hillside is directed to the large depression located on the southern boundary of the site adjacent to Kalaniana'ole Highway.

From the large depression, runoff water is directed through a 200 ft. culvert underneath the highway into a wooded ravine on the southern side of the highway. The ravine drainage extends about 400 feet and levels off to a point where surface flow dissipates into an overgrown pasture area in the lowlands. Overland flow in the lowlands eventually drains another 800 feet into Kahanaiki Stream, which flows north underneath the highway and into Kawai Nui Marsh.

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The runoff leaving the project site flows overland for more than 1,400 feet prior to reaching Kahanaiki Stream which feeds Kawai Nui Marsh. With an on-site reduction in runoff of up to 70 percent, less silt loading to the marsh will result as compared to today. This is consistent with management objectives of the State DLNR and Kawai Nui Heritage Foundation in protecting the water quality of the marsh.

The runoff flows through culverts into Kahanaiki Stream. Although this may be appropriate for natural runoff from the hillside, it is not for a developed lot. The proposed buildings will be constructed of wood treated with cooper, arsenic, and other chemicals to repel insects. The soil around the proposed buildings will be impregnated with pesticides used in termite treatment. The grounds will be sprayed and fertilized. The roofs and painted walls will leach chemical components into the runoff. To allow this runoff to flow almost directly into the publicly owned and developed habitat enhancement would be detrimental to the four endangered waterbirds and 30 years of public planning.

Leaching of chemicals into the marsh is potentially detrimental to surface water quality, Hawaiian water birds, invertebrates and other elements of the marsh ecology. The 15 acres of asphalt pavement at the Kailua Drive-in site for over 30 years, and the associated vehicle activities at this site, have contributed small amounts of petrochemical compounds to runoff. A cesspool served the concession stand at the drive-in, and the wastewater nutrients probably leached into the marsh. Existing waste and debris deposited at the site has also been releasing chemicals into surface runoff during the past five years. The surrounding roadway network of Kalaniana'ole Highway and Kapaa Quarry Road also contribute to this runoff, along with constituents from waste and debris deposited along these routes in the vicinity of the marsh.

With respect to the proposed school project, the buildings will be constructed of wood treated with chemicals to repel insects, however, this material does not make contact with surface water and will have no effect on surface runoff water quality. The roof material and exterior paint are not expected to release significant amounts of chemicals to surface runoff. The soil around the proposed buildings will be initially treated to repel termites using chemicals that are approved for use by the Federal and State authorities, and applied in controlled amounts by a licensed pest control operation. The landscaped grounds will be periodically sprayed and fertilized by a grounds manager that is certified in the proper use and storage of chemicals.

The use of approved chemicals in strictly controlled applications at the school will not cause a significant contribution of biocides in runoff from the site. Even so, there will be some minimal amounts of these chemicals carried from the site. However, with up to 1,400 feet of overland travel for this runoff, and with significant periods of detention containment, exposure to sunlight and organic material, and susceptibility to volatilization and natural degradation, the

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chemicals applied at the site will likely not be detectable in runoff reaching Kawai Nui Marsh. With appropriate mitigation measures, the school is not expected to pose a threat to the water quality and ecology of Kawai Nui Marsh.

Surface runoff is the main cause of flooding in Kailua. Marion Kelly (Bishop Museum) has documented a historical trend of increasing size of floods in Kawai Nui Marsh. The cause is thought to be peripheral development. A moratorium should be imposed on all development in the watershed until a water budget can be made and a comprehensive plan for holding the line on runoff can be implemented. After the fact solutions are expensive and wasteful.

We recognize that flooding in Kailua has occurred, but this project reduces flooding by nearly 50 percent as compared to existing conditions at this site. The project will have a positive impact on potential flooding in Kailua by increasing the available storage capacity within Kawai Nui Marsh. Please refer to the expanded studies included in the Final EA.

The southern portion of the site is probably underlain by unconsolidated fill cut from the north side of the lot. After the landslides, huge amounts of sediment undoubtedly flowed into Kawai Nui Marsh from the highway and from the fill casually dumped over the guardrails. The location of the southern edge directly over the drainage culvert is cause for concern, even if the site is not developed. Bare earth and indication of recent slumping of soil into the roads gutter are evident. Where are proposals for corrective measures for existing erosion?

Dames & Moore is completing soils studies and subsurface foundation evaluation for the school which show that the southern slopes on this site are generally stable, and landslides are not imminent. The school project will stabilize its on-site slopes with vegetation to avoid further erosion of bare soil areas. In addition, the school is working toward a cooperative effort to help stabilize the cut slopes around the up-slope edge of the project site. The long-term result of these stabilization efforts will be positive for the marsh in terms of less sediment introduction in runoff.

Small scale soil slumping along Kalaniana'ole Highway adjacent to the project site is a State DOT responsibility, and this is most definitely not an indication of the stability of the project site. In fact, the slopes along the highway are not necessarily unstable or rapidly eroding - if they were, they would have washed away over the decades since construction in 1949. The truth is that the slopes are exposed deep soil saprolitic material that is hardened and consolidated, and able to withstand much more wind and rainfall energy than typical topsoil surfaces.

Cumulative Impacts

Why haven't the cumulative impacts of the specific Le Jardin proposal and adjacent existing and proposed developments "upstream of the marsh" been addressed?

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We are concerned that this proposed development would be the first of many along the Quarry Road. . . Why should a project be allowed to proceed incrementally without addressing cumulative impacts of both its ultimate development together with adjacent existing , proposed and other future possible developments in the area?

The environmental analysis of the proposed school project addresses full development of the facilities in the context of known planned or approved land uses in the vicinity. The only known proposed developments along Kapaa Quarry Road are the Visitor Center and potential expansion of the Industrial Park. The other mauka lands along the Quarry Road are in the State Conservation District, and are not possible development sites without significant new land use/re-zoning approvals.

According to DLNR, there are currently no funds allocated for development of the Visitor Center, yet there is interest in moving this project forward at some point in the future. The site is located at the intersection of Kapaa Quarry Road and Kalaniana'ole Highway, across from the proposed school site. The landowner of the Industrial Park at the northern end of Kapaa Quarry Road is looking into some business expansion within the existing designated industrial zone. Specific business uses have not been determined.

The Visitor Center and the Industrial Park operations will attract vehicles to these sites. The magnitude of these uses cannot be estimated at this time due to their undefined preliminary status, however, it is likely that the timing of their traffic will not coincide with the school traffic periods. Traffic interaction with the school should not conflict with the Visitor Center and Industrial Park because of the early start and mid-afternoon (non-peak hour) dismissal times. There may be some potential conflict with truck traffic along Kapaa Quarry Road, however, the truck speeds will be reduced by posting lower speed limits and enforcement in the area of the school.

Runoff from the Visitor Center and Industrial Park uses must meet the same strict requirements faced by the school project. There is a positive effect with the school project, because it reduces the volume of runoff water and silt to the marsh. New facilities will be required to manage their wastewater properly. The school project also provides an opportunity for potential cooperative use with the Visitor Center connecting to new wastewater infrastructure and extended sewer line.

In terms of cumulative effects to public views, the Visitor Center will be sensitively designed to complement the natural setting, as is the new school facilities. Further, a positive linkage will result between the Visitor Center and Le Jardin Academy, since the school site will be made available for organized use for scenic view of the marsh.

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Relationship to Other Plans

Why hasn't the Foundation's Directional Plan been referenced and incorporated into the application?

The information you offered at our meeting in March and the attachments to your comment letter provide additional insight regarding the Foundation's Directional Plan. Each of the fundamental cultural and environmental resource preservation components are considered in the Environmental Assessment.

Under the Foundation's plan, and according to our discussions, the former Kailua Drive-in Theater site is planned to be a visitor center for the marsh. The Foundation's concept of the visitor center would focus on an eco-tourism type of theme, with the capability to accommodate hundreds of visitors at a time. You expressed a desire to utilize a substantial portion of the existing Drive-in site paved area for parking for many vehicles and tour buses at this visitor center. A further extension of the facilities under the Foundation's plans would include an elevated pedestrian bridge across Kapaa Quarry Road, connecting to the edge of the marsh for an overview perspective. In comparison, the State's plans for a Visitor Center at the marsh location appear to be more modest and less intensive and intrusive than the Foundation's plans.

Why hasn't the complete 1983 Plan been addressed rather than referencing just a few selected concepts, which if taken out of context, do not reflect the full intent of the contributors to this Plan?

The 1983 Resource Management Plan presents broad goals and objectives for Kawai Nui Marsh and implementing actions. Objectives and management elements for the ecological and cultural resources are stated in this document, and it was not our intent to take these out of context in the EA. The school project is consistent with Ecological Resources, E. Water Quality, Policy 1. regarding erosion and sedimentation controls. The proposed school project will actually reduce the volume of runoff water and sediment entering the marsh. Construction of the school facilities will employ Best Management Practices for runoff and erosion control, and the project will meet the requirements of the Grading Ordinance and NPDES Permit conditions. Under Cultural Resources, the school project will be consistent with policies under D. Aesthetics, E. Educational and F. Recreational. With this project views of the natural landscape will be reconstructed, cultural education programs will be expanded, and a scenic overlook will be created.

The proposed private project closes public options without evaluation of those options. It would be difficult for the State to get additional Federal moneys if another point-of-pollution project is allowed upstream of the marsh.

The Le Jardin proposed plans endanger the potential, forever, of presenting a world-class interpretive and wilderness experience, closing too many options.

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Le Jardin Academy's plans do not endanger the potential of presenting a world-class interpretive and wilderness experience. For 35 years there has been a large paved drive-in theater on this land, which has become a waste and debris dump site during the past five years. You claim that it would be difficult for the State to get additional Federal moneys if another point-of-pollution project is allowed upstream of the marsh. The truth is that our chances of keeping the marsh free from upstream pollutants is much greater with the school at this site than to allow continuation of illegal dumping on this land.

Other

The proposed Le Jardin Master Plan in the EA is different from the plan shown in the DP and Change of Zone Applications. Which is correct?

The site plan for Le Jardin Academy is evolving as the site planning and facilities design process progresses in 1996. The preliminary concept plan included in the Draft EA is the current plan showing both Phase I and Phase II improvements. The plan will not change substantially from the original program elements. Details and specificity are being added to the plan as the planning and design is advanced. The EA is completed for the purposes of the Special Management Area Use Permit application pursuant to Chapter 25 ROH, which requires a general level of design information and documentation. The plan presented in the EA/application satisfies the requirements, and updated plans will be provided for agency and public review as they become available.

Why has the number of students been omitted?

The number of students needs better description and clarification in the EA/SMA Application and other documents submitted. When it opens at the new site in 1998, Le Jardin Academy will have facilities for 500 students. The anticipated enrollment is 450 students in pre-kindergarten through 8th grade levels. This population will grow by one classroom per year for the first eight years of operation. For example, one class for 2nd grade will be added in 1999, one for 3rd grade in 2000, etc. until there are 3 classes of each grade, K-8 and 4 classes of pre-kindergarten and junior-kindergarten, for a maximum of capacity of 650.

Le Jardin Academy will begin its high school program when it is economically feasible, possibly three or four years after moving to the new site. The high school will enroll 9th graders only the first year and will develop a full student body over the next three years. High school enrollment will be approximately 200 - 250 students once the program is firmly established. The proposed facilities would, at full development, accommodate 3 classes per grade level from K-12, or approximately 900 students. Flexibility is being designed into the program to allow for future growth, in 15-20 years, to increase the student body to no more than 1,200 students.

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There is no discussion of security measures such as fences and lighting. How will these items be handled?

The school will be fenced for security purposes. Fences presently exist along the eastern and southern boundaries of the parcel. Lighting will also be included for security, however, the lighting will be designed with sensitivity to avoid off-site indirect lighting and glare. There is a plan for a live-in caretaker and security.

Will it (the existing asphalt) be buried on site or disposed of in public landfills?

The asphalt from the site will be removed from most areas of the site and retained on-site to be re-processed as base course for the roadway and parking areas, and also for fill under buildings. The plan is to not transport the asphalt from the site, to preserve landfill space and minimize hauling expenses.

*Is the Le Jardin proposed development site the first of many the major landowner will encourage along the Quarry Road, "paving the way" for more?
Is the estate trying to sell other leases in the area?*

We are not aware of any developments planned in the area of the school site. The mauka lands surrounding the site are all classified as State Conservation District and zoned P-1 Preservation. These classifications allow limited uses but do not allow for major developments. State land use and County zoning would need to be changed to allow for major developments to take place along Kapaa Quarry Road. We are also not aware of other leases being sold in the area.

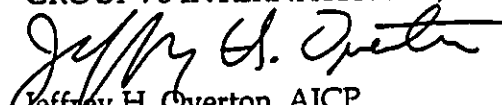
*KNHF is listed under organizations and agencies consulted. We were not consulted in the Le Jardin Planning Process.
R. Herlinger, planning consultant to the KNHF is listed under References and Personal Communications. My contact with G70 was calling to get a copy of the application.*

We appreciate the time that the Kawai Nui Heritage Foundation has volunteered in presenting information to Le Jardin Academy and its representatives. We will continue to keep your organization apprised of the plans for the new school, and welcome your comments and on-going participation in the planning process.

We appreciate your review and comments on the Draft EA. Please contact us if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.


Jeffrey H. Overton, AICP
Chief Environmental Planner

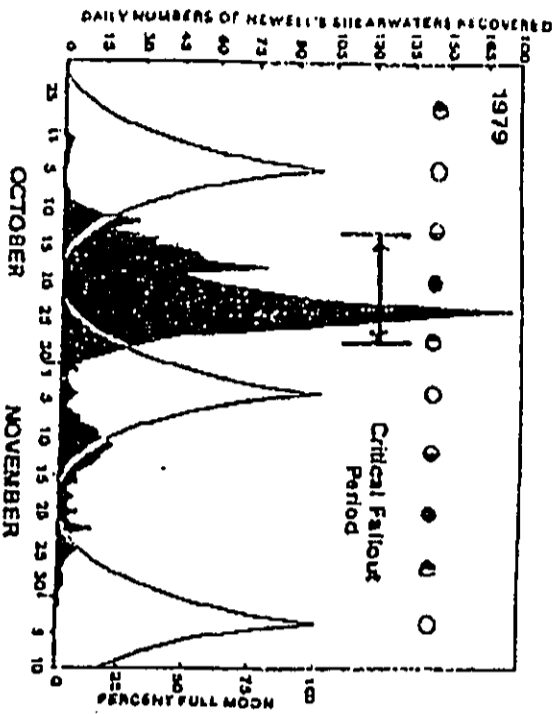


Figure 4. Relationship of Shearwater "fallout" to the moon phases. The critical period of fallout occurs during the week before and after the new moon (darkest nights). Dowsing lights that are not absolutely necessary during that period could substantially reduce the annual Shearwater fallout problem.

What To Do if Shearwaters Fall In Your Area

1. Collect birds as soon as possible to avoid losses to dogs and cats. They are generally docile birds and are easily handled. Take them to the nearest "Shearwater and Station" located at county fire stations and at a few private business locations around the island. If birds must be held overnight, keep them in ventilated cardboard boxes with a secure lid.
2. Do not release birds by tossing them into the air. They may have unseen internal injuries and could become more badly injured.

**TECHNICAL ASSISTANCE IS AVAILABLE
FOR ADDITIONAL INFORMATION, CONTACT:**

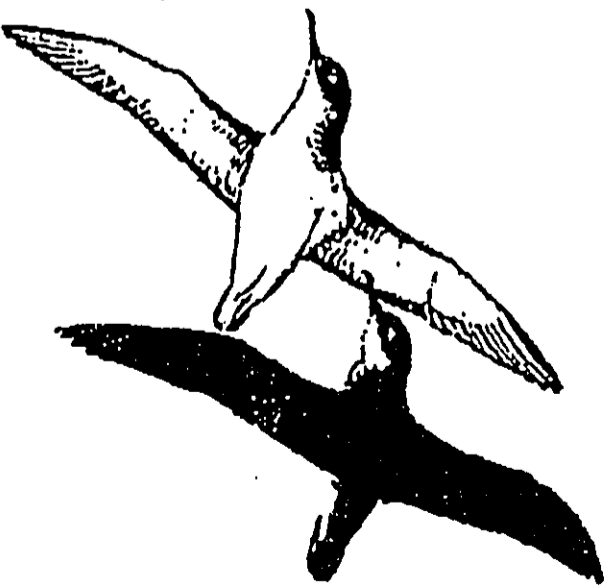
State of Hawaii
Department of Land and Natural Resources
Division of Forestry and Wildlife
P.O. Box 1671
Lihue, Hawaii 96766
245-4433

U.S. Dept. of the Interior
Fish and Wildlife Service
P.O. Box 87
Kilauea, Hawaii 96754
828-1413

The Nature Conservancy
of Hawaii
1026 Nuuanu Avenue, Suite 201
Honolulu, Hawaii 96813
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DEPARTMENT OF
LAND AND NATURAL RESOURCES



**THE NEWELL'S
SHEARWATER
LIGHT ATTRACTION
PROBLEM**

A GUIDE FOR ARCHITECTS,
PLANNERS, AND RESORT MANAGERS

INTRODUCTION:

The future of a native Hawaiian seabird, the Newell's Shearwater, is threatened by the growth of new urban developments. Every year on Kauai, nearly 1,500 Newell's Shearwaters are attracted to bright urban lights, fly into unseen objects and fall stunned to the ground. Fortunately, 90% of them are recovered and successfully returned to the wild through the "SCS" (save our shearwater) program which involves the cooperation of the general public.

This brochure is designed to describe the bird, its problems with lights and specifically what architects, planners, resort managers and the general public can do to reduce or avoid the light attraction problem.

THE BIRD

The Newell's Shearwater once nested on all of the major Hawaiian Islands but the mongoose, introduced to Hawaii, Maui, Molokai and Oahu in the late 1800's is believed to have caused the extinction of shearwaters on those islands. Kauai is the last stronghold for this unique native Hawaiian seabird.

Newell's Shearwaters nest during the spring and summer months in the interior mountains of Kauai. They dig a long burrow in the ground beneath dense vegetation and lay a single egg each year. The eggs hatch during July and August and the nestlings are reared within the burrow. The adult birds abandon the nestlings a week or two before they are old enough to fly. The nestlings become hungry, and leave the nesting grounds by themselves shortly after nightfall. They head for the open ocean, and must depend upon their instincts to find food. They do not return to their nest, but fly south towards the equator where they will remain all winter on the open seas until the following spring.

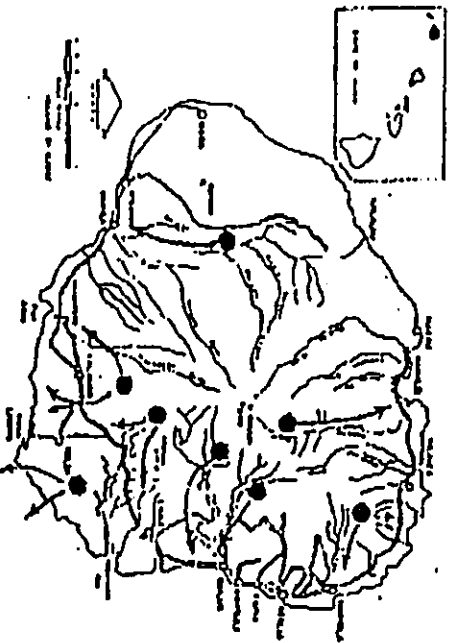


Figure 1. Map showing known nesting areas of the Newell's Shearwater, and probable flight paths to the sea, which require them to pass over brightly lit urban areas.

THE THREATS:

PREDATORS: Dogs, cats, rats and feral pigs are known to kill some shearwaters and their young on the nesting grounds each year. The accidental establishment of a new predator to Kauai such as the mongoose, could cause the rapid extinction of this bird. Mongoose sightings on Kauai should be reported to wildlife officials promptly.

LIGHT ATTRACTION: Young shearwaters leaving their nests for the first time, do so only at dark. They are inexperienced and have a natural attraction to bright lights. Flying near urban areas, they become temporarily blinded by the lights and fly into unseen objects such as utility wires, trees, buildings and automobiles. Distances they are just confused and exhausted. Most often they are only stunned and fall to the ground, but about 10 percent of them die each year. The problem is growing because of the increased number of urban lights associated with new resort and residential developments. The greatest "blow" problem occurs near coastal towns, particularly near river mouths.

AVOID THESE TYPES OF LIGHTS AND LIGHTING SITUATIONS

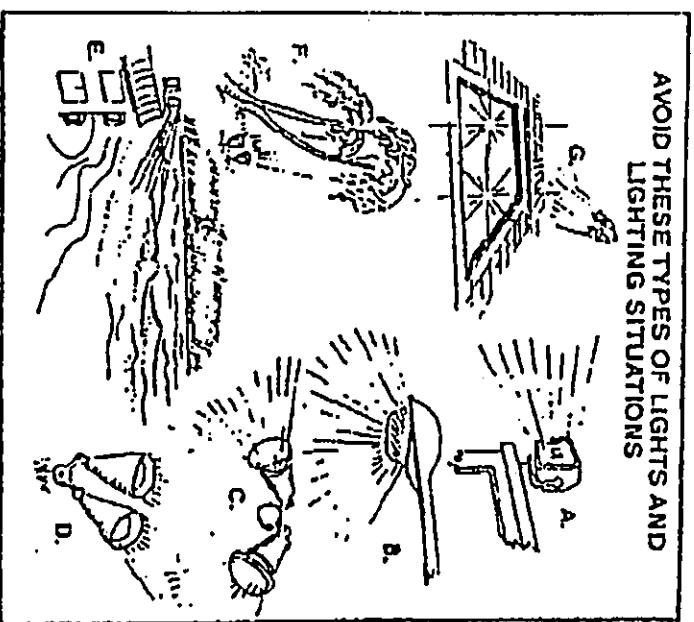


Figure 2. Avoid these types of lights: A. Unshielded night interior floodlights on tall structures; B. Street lights without shields; C. Unshielded spotlight; D. Spotlight aimed upwards; Avoid using these types of lighting situations during peak fallow periods (see moon) during October and November; E. Floodlights on surf; F. Spotlight aimed up at vegetation; G. Spotlight directed on pools which reflect light.

WHAT CAN WE DO TO HELP?

Architects and Planners

- Be aware of the light attraction problem during the planning stages of new development.
- Make every effort to avoid lighting situations where light glare projects upwards or laterally (see Figure 2). Avoid large high-intensity floodlights located on building tops or poles whenever possible.
- Use shielded lights, cut-off luminaires or indirect lighting whenever possible. (see Figure 3)
- Avoid locating bright lights near utility wires or other objects that could be difficult for birds to see at night.

Hotel, Resort and Condominium Managers

- When converting to new exterior light fixtures, consider installing shielded lights, cut-off luminaires or indirect lighting.
- Consider installing shields on exterior lights that are known to attract shearwaters. Some light manufacturers offer ready made shields. In some cases, repurposed shields can be fabricated.
- Avoid using unnecessary lighting during the critical shearwater fallow period (October and November each year). Note: The heaviest fallow occurs on and around the new moon, generally for only 10 to 12 days. (See Figure 4). Dowsing unnecessary floodlights that light up the surf or shine upward upon buildings or trees or that short period, could significantly reduce shearwater fall-out.

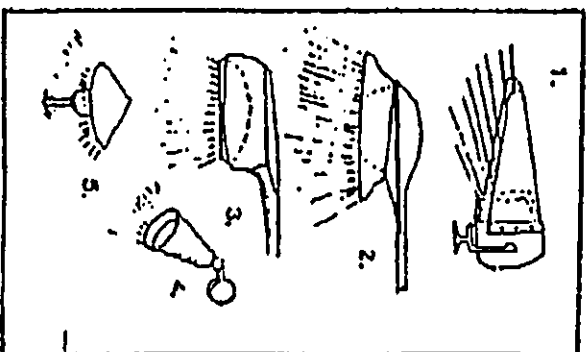
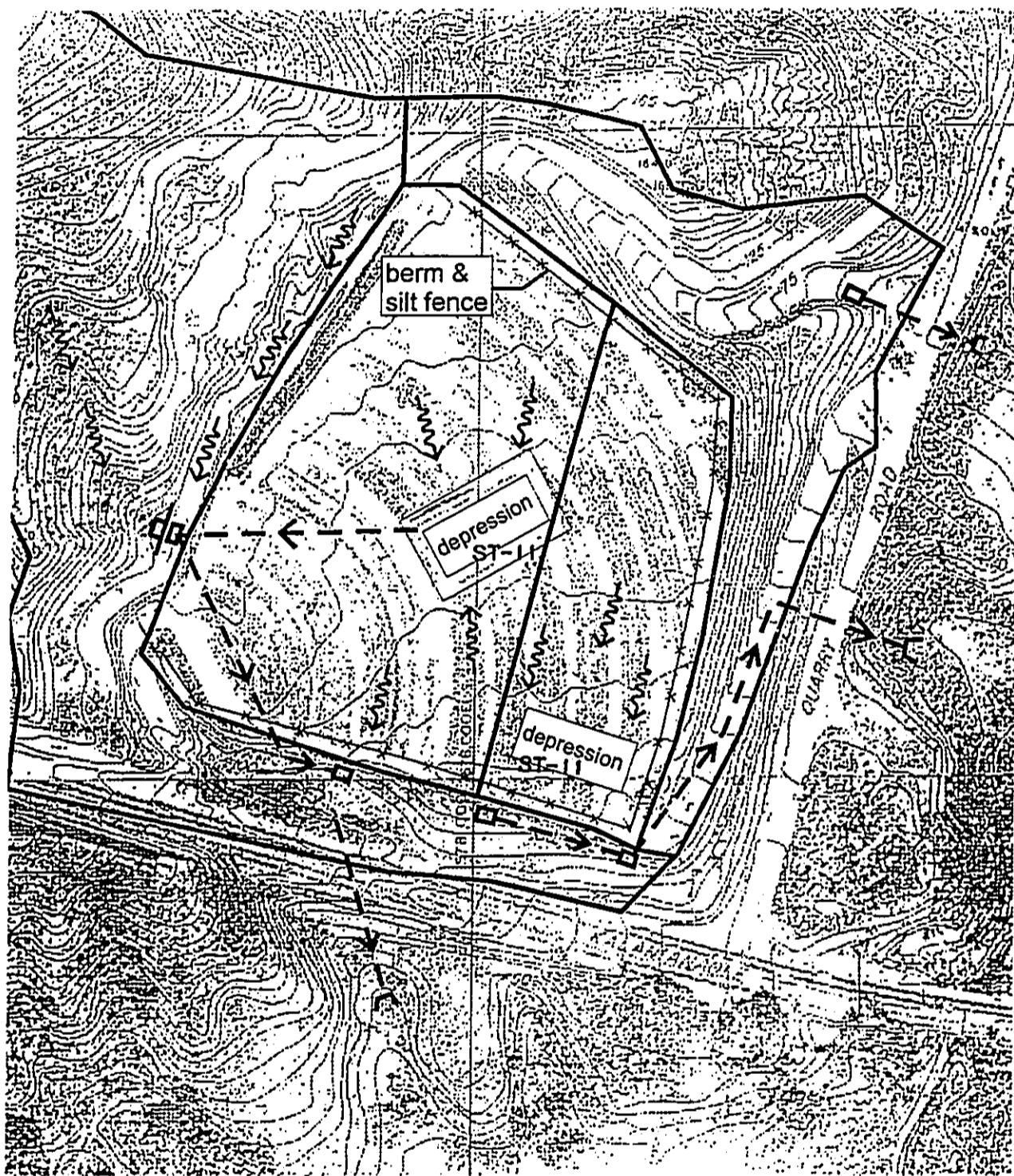


Figure 3. Use these types of lights whenever possible: 1. Shielded floodlight; 2. Shielded streetlight; 3. Cut-off luminaire; 4. Shielded spotlight aimed downwards; 5. Indirect lighting low to the ground.



Note: ST-II sediment trap and other controls applied per final NPDES permit conditions.

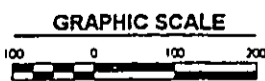


Figure 3: Temporary Erosion Control Measures
Reference: City & County of Honolulu
Planning Department
Photography and Ground Control Survey 1969
Sheet Number: 584-72 & 584-78

96-02142

1996 APR -9 PM 2:31

DEPT. OF LAND UTILIZATION
CITY & COUNTY OF HONOLULU

A. Kimbal Thompson, AIA
1373 Kukana Place
Kailua, Hawaii 96734

Mr. Patrick T. Onishi, Director
Department of Land Utilization
City and County of Honolulu,
650 South King Street
Honolulu, Hawaii 96813

Subject: Le Jardin Academy's planned new campus at the site of the former Kailua
Drive-in Theater in Koolaupoko, Oahu

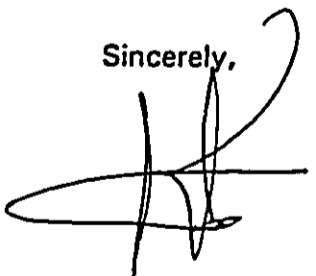
Dear Mr. Onishi,

The purpose of this letter is to positively endorse the new campus of Le Jardin Academy at the site of the former Kailua Drive-in Theater. My windward community involvement dates back to 1970, as a planning intern contributing to the book *A Plan for Planning Windward Oahu* and more recently as President of the Maunawili Estates Community Association from 1993 to 1995 and as a Director of the Kailua Urban Design Task Force. I am also the parent of a Le Jardin student.

I believe Le Jardin to be a good neighbor and asset to the Kailua community. I have read the February 1996 Environmental Assessment for Special Management Area (SMA) Use Permit Application and concur with the DLU assessment that no EIS be required to proceed with this new campus. Further, as a resident, parent and Architect, I will continue to endorse and monitor this project as a voice to support an exemplary model of good environmental quality to our community.

Thank you.

Sincerely,



A. Kimbal Thompson, AIA



GROUP 70
INTERNATIONAL

May 9, 1996

Francis S. Oda, AIA, AICP
Norman G. Y. Hong, AIA
Sheryl B. Seaman, AIA, ASID
Hitoshi Hida, AIA
Roy H. Nihei, AIA, CSI
James I. Nishimoto, AIA
Ralph E. Portmore, AICP
Stephen H. Yuen, AIA

A. Kimbal Thompson, AIA
1373 Kukana Place
Kailua, Hawaii 96734

Subject: Le Jardin Academy, Kailua, Koolaupoko, Oahu, HI
Response to Comments on Draft Environmental Assessment

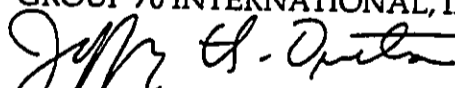
Dear Mr. Thompson:

Thank you for providing your comment letter to the Department of Land Utilization regarding Le Jardin Academy's proposed new campus.

We appreciate your support for the new campus at the former drive-in site and look forward to your continued interest in the project. Please contact us if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.


Jeffrey H. Overton, AICP

Chief Environmental Planner

Paul P. Chorney, AIA
Jean H. Kitamura, AIA
Norma J. Scott, AIA
Stephen E. Callo, CPA
Walter R. Bell, AIA, CSI, CCS
Walter K. Muraoka
George I. Atta, AICP
Jeffrey H. Overton, AICP
Michael A. Garni
Eric G. Crispin, AIA
Linda L. Chung, AIA
Inet M. Bucholdt
Ronald L. Proctor
Charles F. Schriever, AIA
Cathryn A. Tsukano
Roy A. Inouye
Mary J. O'Leary

April 1, 1996

1417 Akiahala Street
Kailua, HI 96734

Mr. Stanley Lum
Le Jardin Academy
1110 A Kailua Road
Kailua, Hawaii 96734

Dear Mr. Lum:

After reviewing the Draft Environmental Assessment for construction of the Le Jardin Academy on the former Kailua Drive-In site, I am writing to address my concerns regarding the proposed project.

My major concern is the traffic situation building a school on this site will create which is not addressed in the DEA.

I live in the Keolu Hills subdivision in Enchanted Lakes, and I have to commute daily on Kalaniana'ole Highway to get to work in downtown Honolulu. Traffic condition on Kalaniana'ole Highway is already horrendous. It takes me approximately 20-25 minutes from the time I leave my house to reach Castle Junction, a distance of 3.8 miles, and this is on a good day with no major traffic condition. If there is an accident or stalled car and depending on weather conditions, the traffic situation becomes even worst. Adding a school campus on that site will worsen the situation even further. Traffic coming from Kailua, Waimanalo, Maunawili and motorist from the Kaneohe/Kalaheo side merging onto Kalaniana'ole Hwy. from Kapaa Quarry Road are all trying to merge onto a highway with only two lanes heading into town. There are times when traffic backs up past the Hawaii Youth Correctional Facility and it literally creeps along. For people that work on the windward side this would be no problem, however, for majority of us who have to commute daily into town, having to deal with traffic every day is very stressful, and it is something we would like to see improve, not worsen.

I would like to know how you intend to address the traffic situation. People keep wanting to build but they don't take into consideration the negative impacts building any project will have, not only on the environment, but on other conditions.

I believe a school like what you are proposing is much need on the windward side, but unless you can alleviate the traffic situation and not add to it, I feel another location for the school needs to be found.

Thank you for the opportunity to comment on the project and I await your response.

Sincerely,

K. N. Sanchez

TRAFFIC IMPACT ASSESSMENT REPORT

FOR

LE JARDIN ACADEMY

February 28, 1996

Tax Map Keys: 4-2-14: por. 4

Maunawili, Oahu, Hawaii

Prepared for:

LE JARDIN ACADEMY

Prepared By:

**Pacific Planning & Engineering, Inc.
1221 Kapiolani Boulevard, Suite 6D
Honolulu, Hawaii 96814**

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Appendix A.	Manual Traffic Count Data
Appendix B.	Definitions of Level-of-Service for Signalized Intersections and Unsignalized Intersections

FOREWORD

The traffic forecasts shown in this report's figures and tables are the direct result of Pacific Planning & Engineering, Inc.'s proprietary analytical tools. For report editing and review purposes, some or all of the forecast values have been rounded to the nearest five vehicles from our mathematical results, although we do not imply this level of accuracy can exist in any forecast method. The rounded values, however, reasonably quantify the forecasted traffic volumes for the purposes of this study.

The findings of this report should not be used as interpretation of traffic impact by other projects. Critical parameters including impact roadways, date of completion, project user characteristics will significantly affect the analytical results for other projects.

Analytical methods are based on the 1994 edition of the Highway Capacity Manual. Previous analytical results based on previous versions are invalid.

Appendix A

Traffic Impact Assessment Report
for Le Jardin Academy



GROUP 70
INTERNATIONAL

May 9, 1996

K.N. Tsuchiya
1417 Akiahala Street
Kailua, HI 96734

**Subject: Le Jardin Academy, Kailua, Koolau-poko, Oahu, HI
Response to Comments on Draft Environmental Assessment**

Dear K.N. Tsuchiya:

Thank you for providing your comments on the Draft Environmental Assessment for Le Jardin Academy's proposed new campus. We have prepared responses to the traffic issues raised in your letter to Mr. Stanley Lum dated 20 March 1996.

A Traffic Impact Assessment Report was prepared for Le Jardin Academy by Pacific Planning & Engineering, Inc. (February 1996). This Report was included in the Change of Zone Application submitted to the Department of Land Utilization on March 11, 1996.

The traffic study concludes that the project is not expected to delay traffic on Kalaniana'ole Highway at Kapaa Quarry Road. The "Level of Service" (an engineering rating of the intersection operation) will be maintained at existing levels (a graph of current traffic counts is attached). The majority of students will arrive after 7:30 am when Honolulu-bound traffic on Kalaniana'ole Highway has decreased significantly from earlier morning levels. Importantly, over 65% of the parents who drop off students are Honolulu commuters that would already be on the highway even if the new school was not built at this location.

School-related traffic will add to the number of vehicles turning right (Honolulu-bound) and left (Kailua-bound) from Kapaa Quarry Road onto Kalaniana'ole Highway. These vehicles are re-entering the highway after dropping off students, and they will have some delay. The 1,000 ft. distance between the highway intersection and the entry to the school will provide ample storage for vehicles waiting to re-enter Kalaniana'ole Highway. A signal timing adjustment will provide more time for vehicles to turn onto the highway with no serious delay to the Honolulu-bound lanes. Shuttle bus service for Kailua students is also being considered as a possibility.

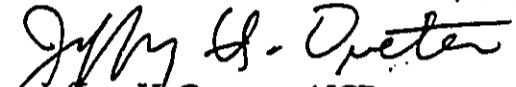
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Letter to K.N. Tsuchiya
May 9, 1996
page 2

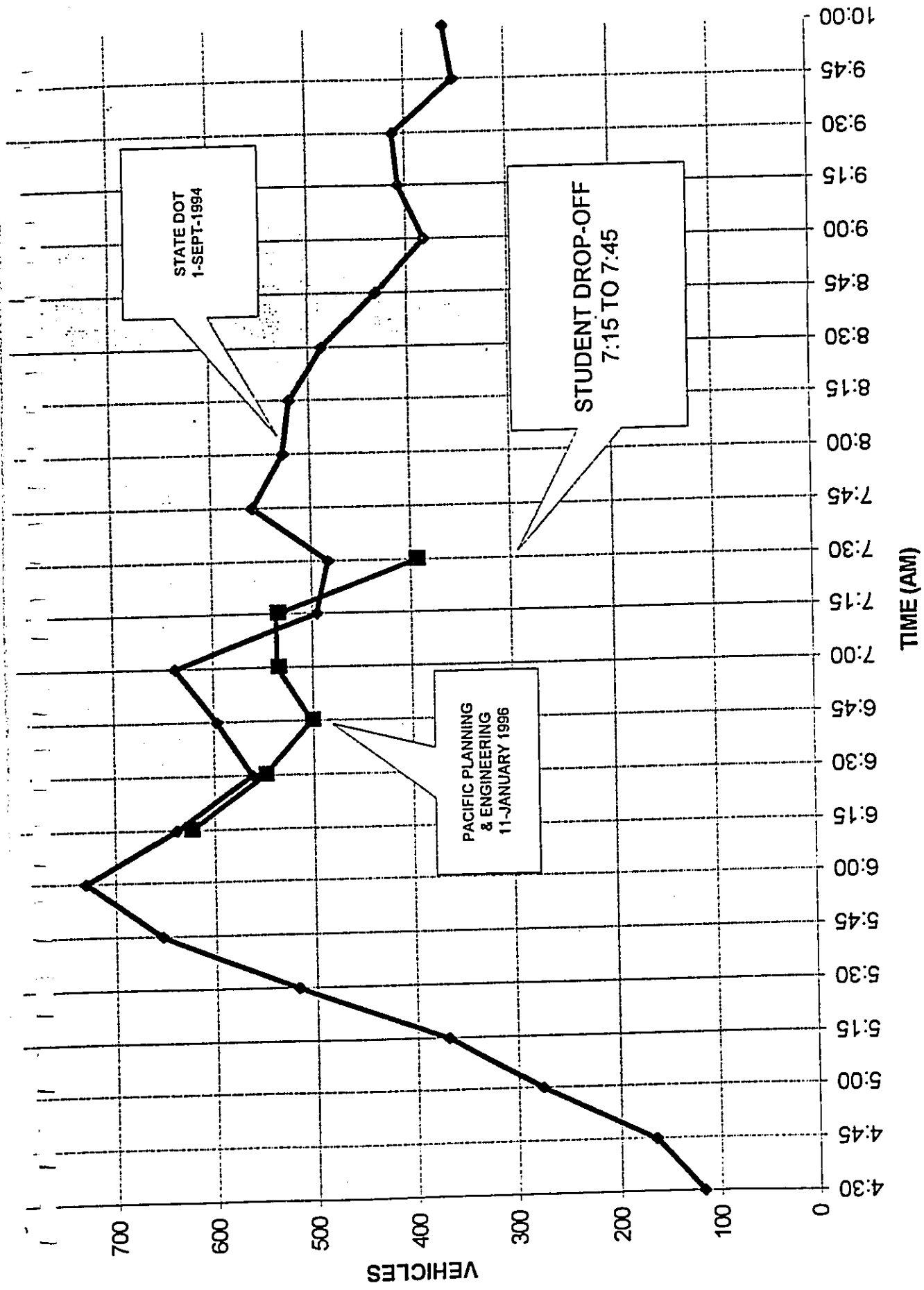
We appreciate your review and comments on the Draft EA. Please contact us if you have any questions or require additional information.

Sincerely,

GROUP 70 INTERNATIONAL, INC.


Jeffrey H. Overton, AICP
Chief Environmental Planner

Attachments



A.M. Peak Period Traffic at
 Kalaniana'ole Highway / Kapaa Quarry Road Intersection
 Le Jardin Academy

Figure 2-11

EXECUTIVE SUMMARY

Pacific Planning & Engineering, Inc. (PPE) was engaged to undertake a study to identify and assess future traffic impacts to the two intersections of Kapaa Quarry Road with Kalaniana'ole Highway and with the project driveway for the proposed Le Jardin Academy Project at Maunawili, Oahu. This report presents the findings and recommendations of the traffic study conducted in January 1996.

The report includes a description of the proposed project, existing roadways, traffic conditions, methodology in the assessment of traffic impacts resulting from the project in its two stages of development.

This traffic study report identifies and evaluates the probable impact of the forecasted traffic generated by the Academy. The analysis primarily focuses on the traffic impact at the two above mentioned intersections. The report describes the project impacts during the weekday morning and afternoon peak hours when traffic conditions at the intersections would be at their maximum.

Project Description

Le Jardin Academy is proposing to develop an educational facility and ancillary facilities at Maunawili, Koolaupoko, Oahu, Hawaii. Figure 1 shows the general project location. The project site is located on 20.15 acres of state urban district land identified by Tax Map Keys: 4-2-14: por. 4.

The proposed development consists of an administrative and learning center, multi-purpose building, kitchen, art lab, science lab, music studio, gym, art studios, performance center and classrooms. The development is planned to be developed in two major phases the first by 1998 and the complete project by 2005. The following table shows the project uses as listed in the preliminary facilities program (Group 70 International, January 1996).

Le Jardin Academy Project Uses			
Phase 1 Project Uses	Units	Phase 2 Project Uses	Units
Administration and Learning Center	1	Gym and PE Lockers	1
Multi-Purpose	1	Art Studios and Shop	4
Kitchen	1	Music Classrooms	3
Art Lab	1	Performance Center	1
Science Lab	1	Classrooms (Grades 9-12)	12
Music Studio	2	Laboratory	2
Classrooms (PK, JK, K)	10		
Classrooms (Grades 1-8)	24		

Methodology

The focus of the study is to determine the impact of project generated traffic at the intersections of Kalaniana'ole Highway and the Kapaa Quarry Road and the proposed project driveway with Kapaa Quarry Road (which to be reconstructed and not shown) when the Le Jardin Academy development is completed in two phases. Shown in Figure ES-1, Kalaniana'ole Highway and Kapaa Quarry Road form a T-intersection. Separate right turn lanes serve traffic turning into and out of Kapaa Quarry Road. Figure ES-2 depicts the view heading in the southbound direction on Kapaa Quarry Road towards the intersection.

Two sets of results are analyzed for the two phases of the project -- 1998 and 2005. The first phase will serve the lower grades (PR-8), and the second phase when completed in 2005 will serve the high school grades (9-12).



Figure ES-1. Kalaniana'ole Highway at Kapaa Quarry Road
Looking West



Figure ES-2. Kapaa Quarry Road at Kalaniana'ole Highway
Looking Southwest Towards Kalaniana'ole Highway

Future traffic was forecasted for the study intersections by investigating and adding the following:

- Existing traffic volumes at the study intersections,
- The increase in traffic along Kalanianaʻole Highway, based on the historical traffic growth rate,
- Traffic generated by other nearby developments in the area that would impact the study intersections, and
- Traffic generated by the project.

This study assesses the impact on each intersection by determining the level-of-service (LOS) for existing traffic, 1998 and 2005 forecast without the project, and 1998 and 2005 forecast with the project traffic conditions. It is estimated that future without project traffic will be at the same level of volumes that currently exist due to the lack of future major development growth, the effect of H-3 in re-distributing traffic flows, and the fact that critical flows are at capacity during the peak hour.

The time periods analyzed include the morning and afternoon weekday commuter peak hours. The specific times studied were determined based on the highest traffic volumes on the surrounding roadways or generated by the project. In particular, the morning peak hour was determined by the combination of high traffic volumes on Kalanianaʻole Highway and the peak traffic period of the Academy. The afternoon peak hour for the school would occur in a low volume period for Kalanianaʻole Highway and thus was not used. The peak hour of flow for the highway was used for analysis of the afternoon period impacts.

Conclusions and Recommendations

The proposed Le Jardin Academy Project would have some impact on the intersection of Kalaniana'ole Highway and Kapaa Quarry Road during the morning peak hour. Traffic analysis results indicate that modification of signal timing would yield acceptable traffic levels-of-service. During the afternoon peak hour, the project would have negligible impact.

For Phase 1 of the project, there could be an increase of almost 200 vehicles turning right from Kapaa Quarry Road onto Kalaniana'ole Highway. However, the majority of students arrive after 7:30 a.m. when Honolulu bound traffic volumes on Kalaniana'ole Highway are significantly lower than earlier time periods.

The project is not expected to add more traffic to Kalaniana'ole Highway because most of these school-related vehicles would already be on the road given its existing location and facilities. Modifications to the intersection's signal timing could provide more time to Kapaa Quarry Road movements without unduly impacting other movements.

For Phase 2 of the project, the amount of right turning vehicles from Kapaa Quarry Road increases. Modifications to the signal timing could provide more time to Kapaa Quarry Road movements. If feasible, possible bus or shuttle services and encouragement of more school carpools could reduce the number of trips generated by the project.

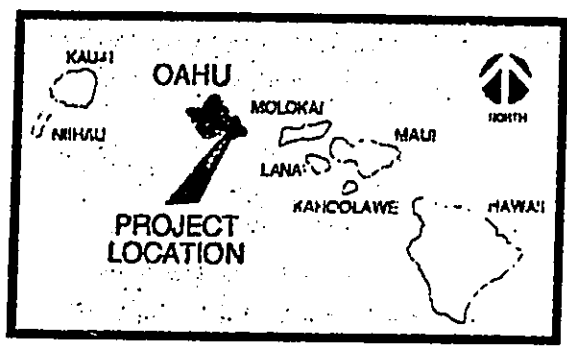
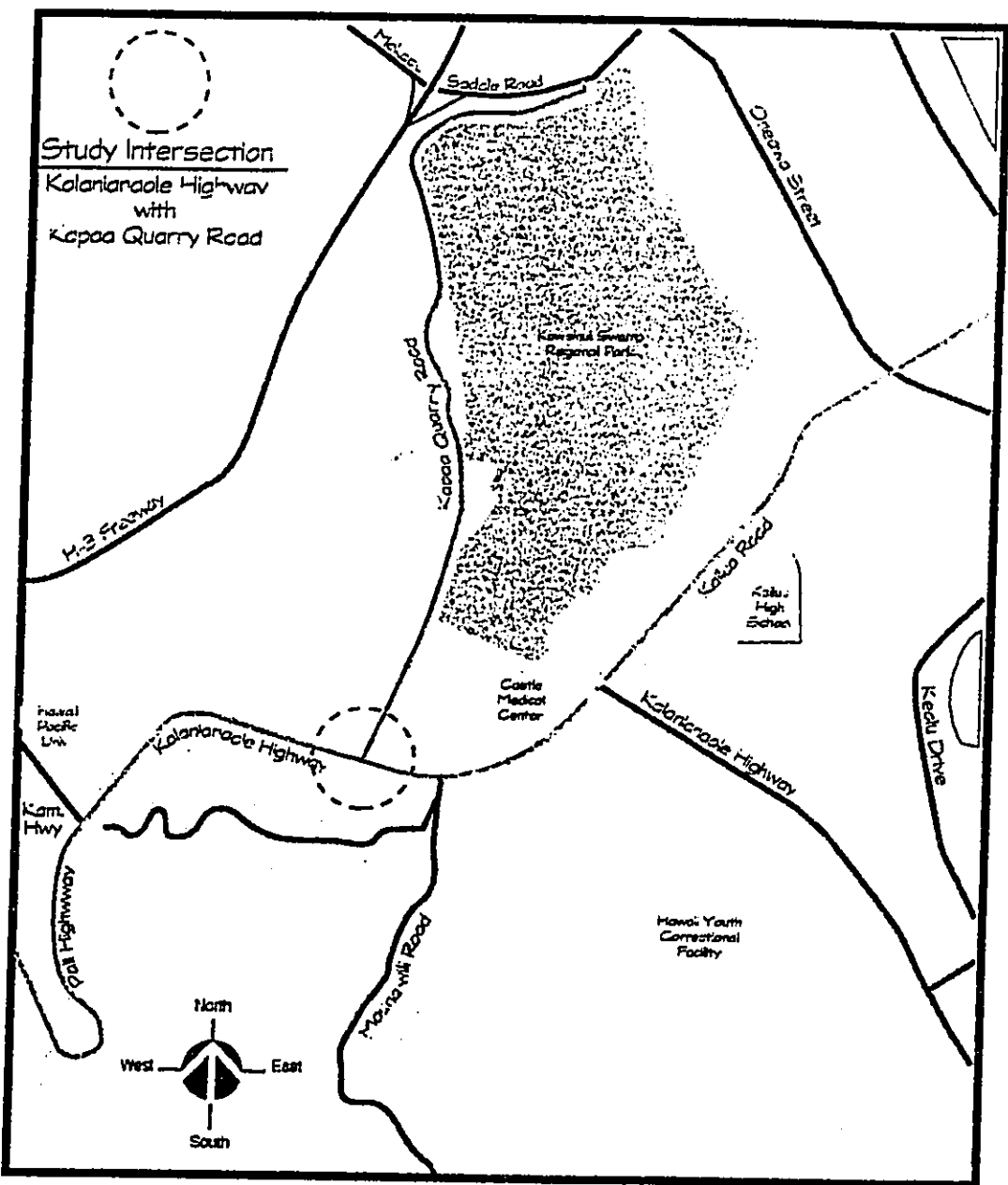
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The proposed development consists of an administrative and learning center, multi-purpose building, kitchen, art lab, science lab, music studio, gym, art studios, performance center and classrooms. The development is planned to be developed in two major phases, the first by 1998 and the complete project by 2005. The following table shows the project uses as listed in the preliminary facilities program (Group 70 International, January 1996).

Table 1. Le Jardin Academy Project Uses			
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Science Lab	1	Classrooms (Grades 9-12)	12
Music Studio	2	Laboratory	2
Classrooms (PK, JK, K)	10		
Classrooms (Grades 1-8)	24		

Vehicular access to the proposed Le Jardin Academy will be via Kapaa Quarry Road from the existing signalized intersection with Kalaniana'ole Highway. Figure 1 shows the project location.



Le Jardin Academy

EXISTING CONDITIONS

A survey and inventory of existing conditions was conducted to better ascertain the current traffic conditions in the area and to provide a basis for estimating the potential traffic impact of the proposed project. The review included the land uses in the area, roadway facilities, and existing traffic conditions.

Land Uses

The proposed project is located on vacant and unused land in both urban and conservation districts in a largely mountainous area. As shown on Figure 1, the site is located at the northwestern corner of Kapaa Quarry Road at Kalaniana'ole Highway. Kalaniana'ole Highway in this area lies east-west. Entrance to the project site is from the Kapaa Quarry Road.

To the east lies Kawainui Marsh Regional park, to the south lies Maunawili, to the west is located Hawaii Pacific University and Pali Golf Course, and to the north is the completed segment of H-3. There are no urban-type uses existing in the adjacent area, nor any other known use planned for the foreseeable future.

Vehicular access to the proposed Le Jardin Academy will be via Kapaa Quarry Road from the existing signalized intersection with Kalaniana'ole Highway.

Roadway Facilities

Kalaniana'ole Highway is a State-maintained highway with four lanes separated by a median guardrail, and paved shoulders. Exclusive left turn

lanes are provided for vehicles turning off Kalaniana'ole Highway at intersections. The posted speed of Kalaniana'ole Highway is 35 miles per hour (mph) along this section of the highway. This section of the highway extends directly from Pali Highway at the intersection with Kamehameha Highway and provides major access to Kailua and areas toward Waimanalo.

Kapaa Quarry Road is a two-lane, two-way, County-maintained, paved road. The roadway has 12 foot lanes with 4 to 6 foot grassed shoulders. The road serves traffic between Kalaniana'ole Highway and Mokapu Boulevard along with truck traffic from the nearby quarry. The road has vertical and horizontal curves which restrict road capacity as well as driving and riding comfort. The quarry will continue operating after H-3 is completed. From its intersection with Kalaniana'ole Highway, it generally heads north to an intersection with Mokapu Boulevard. The intersection lies just east of the interchange with H-3.

The T-intersection of Kalaniana'ole Highway with Kapaa Quarry Road is signalized with three phases. No pedestrian crosswalks exist. Phases are provided for the southbound traffic turning right and left onto Kalaniana'ole Highway from Kapaa Quarry Road, east and westbound traffic on Kalaniana'ole Highway, and left-turning vehicles turning onto Kapaa Quarry Road. The landfill access road is located about 1.3 miles north of the intersection with Kalaniana'ole Highway. Figure 2 shows the laneage of the study intersection.

Traffic Conditions

A review of 1994 State Department of Transportation (DOT) traffic count data for Station 33A along Kalaniana'ole Highway at the study intersection indicate that the peak periods generally occurs between 6 to 8 am and 4 to 6 pm, on weekdays. Analysis were conducted for both time periods as a means to identify the more critical condition for the purpose of traffic impact assessment.

Manual traffic counts were taken at the intersection of Kalaniana'ole Highway with Kapaa Quarry Road and at the intersection of Kapaa Quarry Road with the Project Driveway. The counts were taken on Thursday, January 11, 1996, between 5:30 am to 8:00 am and between 3:30 pm to 6:00 pm. These counts were used as the baseline condition upon which future estimated traffic volumes were added.

Manual counts were taken of passenger cars, trucks and buses by turning movements and approaches. During the field counts, the weather was sunny and the roadway pavement was dry. Figure 2 shows the present volume of traffic at the study intersections for the observed peak hours. The manual traffic count data is summarized in Appendix A.

The following observations were noted at the intersection of Kalaniana'ole Highway and the Kapaa Quarry Road during the field surveys:

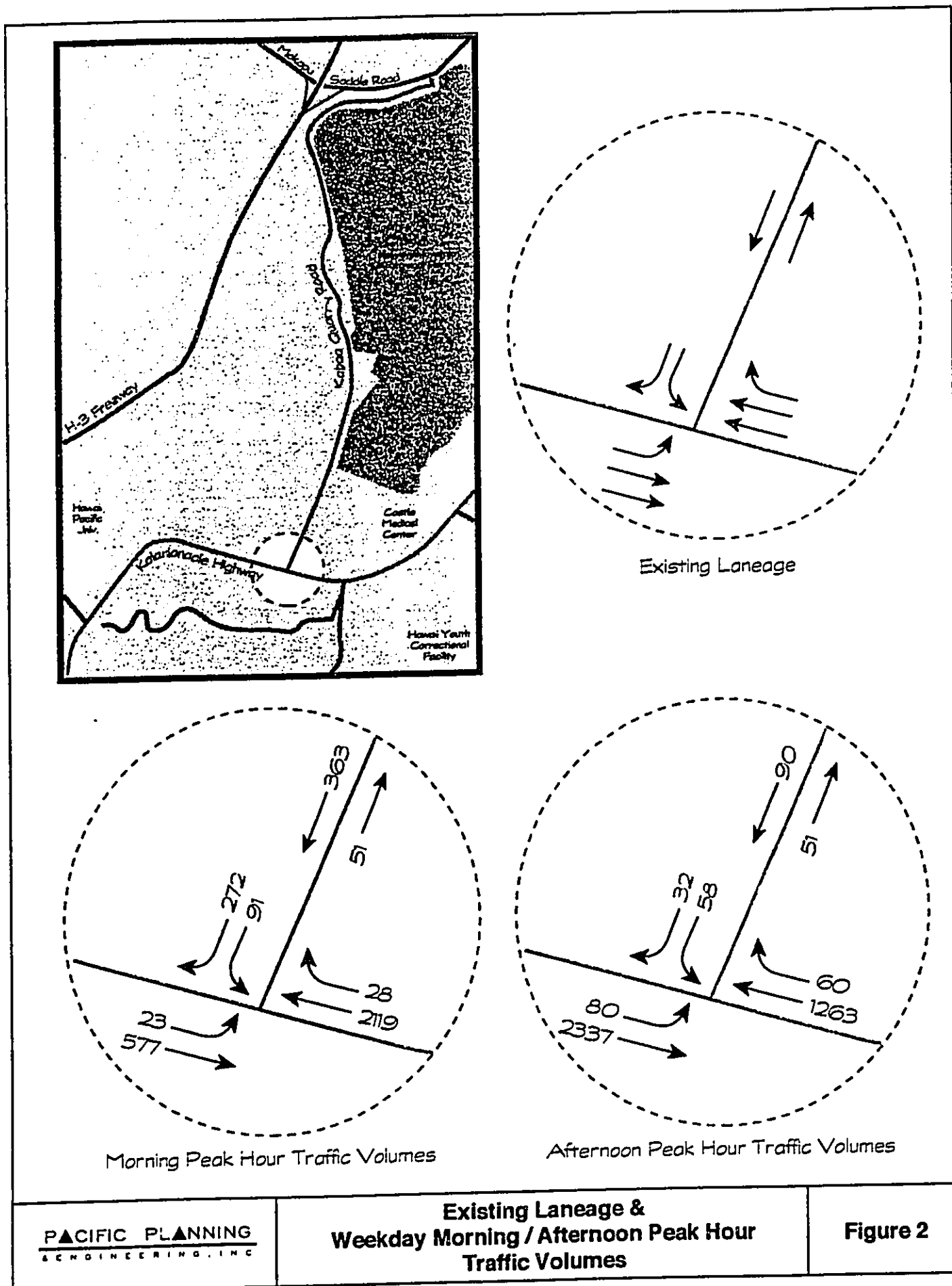
Morning Peak Hour

- Traffic heading to Honolulu backs up along Kalaniana'ole Highway from the downstream intersection with Kamehameha Highway.
- Vehicles turning right out of Kapaa Quarry Road (heading in the Honolulu bound direction) encounter little delay, except during periods of heavy queues on Kalaniana'ole Highway.
- Less than ten vehicles turning right out of Kapaa Quarry Road onto Kalaniana'ole Highway use the left-turn lane on Kapaa Quarry Road to bypass queues and merge into the median lane of Kalaniana'ole Highway.

- Vehicles turning left out of Kapaa Quarry Road onto Kalaniana'ole Highway are able to clear during the green phase.
- Honolulu bound traffic on Kalaniana'ole Highway lessens significantly after 7:30 a.m.

Afternoon Peak Hour

- The intersection traffic operated without noticeable delay during the afternoon peak hour.



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FUTURE CONDITIONS

A survey was conducted for any approved planned developments in the immediate area for inclusion in the total future traffic conditions at the study intersection.

Land Uses

There are no major land use changes forecast for the area within the project time frame.

Roadway Facilities

At the present time, there are no known committed improvements to Kalaniana'ole Highway or Kapaa Quarry Road in the vicinity of the project. A traffic signal installation at Mokapu Boulevard and Kapaa Quarry Road is planned for completion within the Project's time frame.

The H-3 Freeway will improve the highway system between the Windward and Leeward sides of the island by providing an additional access from the Kaneohe/Kailua area to the Honolulu area. The H-3 Freeway is expected to be completed in 1997.

The State DOT has considered implementing contra-flow lanes on Pali Highway during the morning and afternoon peak hours. The DOT has no plans for implementation at this time.

The State DOT has awarded a contract to install signal lights at the intersection of Kapaa Quarry Road and Mokapu Boulevard. Construction is estimated to begin in early 1996.

PROJECTED TRAFFIC CONDITIONS

Future traffic was forecasted for traffic conditions without and with the Le Jardin Academy project. Traffic forecasts were estimated for the year 1998 when the project is expected to be completed.

Future Traffic Without Project

Future traffic without the project is typically forecasted by adding the following: 1) existing traffic volumes, 2) increasing the existing through-traffic along Kalaniana'ole Highway using the historical traffic growth rate and 3) adding traffic from other proposed developments in the area. The resulting traffic volume forecasts at the study intersections for the observed peak hours are then used as a base condition for comparing traffic analyses results with the project results.

Through Traffic Growth along Kalaniana'ole Highway

Through-traffic is traffic that travels on Kalaniana'ole Highway without a specific origin or destination near the project site. The growth in through-traffic is sometimes estimated using historical data obtained from nearby DOT traffic count stations and linear regression analysis. However, through traffic for 1998 and 2005 is estimated to be at the same level as currently experienced due to the lack of future adjacent development growth, the effect of H-3 in redistributing traffic flows, and the fact that critical flows are already at capacity during the morning peak hour.

Traffic From Other Developments

The three-step procedure of trip generation, trip distribution, and traffic assignment is typically used to forecast traffic from other developments. Traffic

from developments are also based on their respective traffic studies, where available. For the immediate area and for the foreseeable future, research indicates that there are no known adjacent developments. Thus, no increase in traffic would occur due to this condition.

Future Traffic With Project

Future traffic with the project was forecasted by adding traffic generated by the Le Jardin Academy project to the forecasted traffic without the project. The resulting peak hour traffic volume forecasts with the project, in the years 1998 and 2005, are shown in Figures 3 and 4.

The standard three-step procedure of trip generation, trip distribution, and traffic assignment was used to estimate peak hour traffic from the proposed project.

Trip Generation

The trip generation step estimates the number of trips that would be generated by the Le Jardin Academy project during the weekday morning and afternoon peak hours. Trip generation for weekday morning and afternoon peak hours was based on research of rates from the Trip Generation Report¹. However, the lack of bus and sidewalk access to and from the proposed project site are unusual conditions that eliminate the use of the ITE rates.

Trip generation rates for students and employees used in the forecast are based on data provided by Le Jardin Academy. Adjustments were made for limited carpooling such as multiple students per family, absences, trips made outside of the peak hour such as tardy students or parents dropping off prior to

¹ Trip Generation Report, by the Institute of Transportation Engineers, Fifth Edition, 1991.

Land Use	Parameters	Morning Peak Hour		Afternoon Peak Hour	
		Enter	Exit	Enter	Exit
Phase 1	425 Students	255	255	28	28
	70 Employees	70	0	0	35
Phase 2 (High School)	+ 375 Students	+306	+206	+103	+153
	+ 20 Employees	+20	0	0	+10

Trip Distribution

The trip distribution step estimates the distribution of vehicle trips to their predicted destinations and origins. Based on data provided by Le Jardin Academy, the majority of the students reside in Kailua and Kaneohe with limited numbers from other areas. These values were used to distribute the traffic.

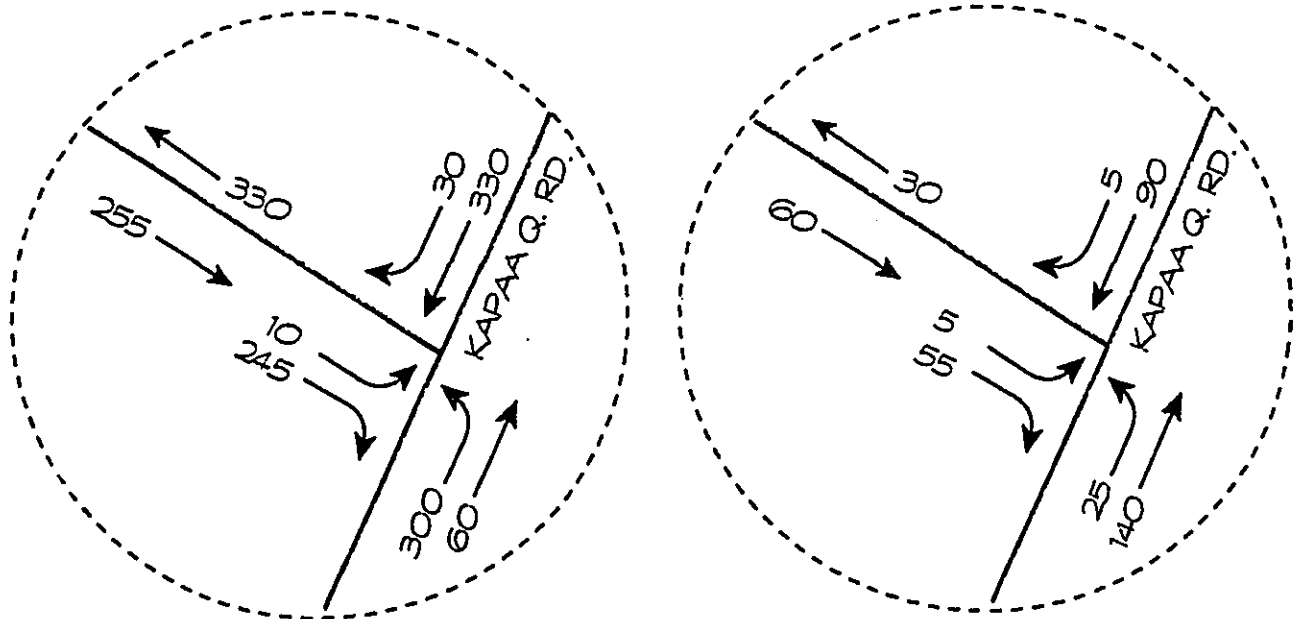
Traffic Assignment

This step yields the forecast of peak hour project traffic by assigning the trips by direction to particular roadways. Since Kalaniana'ole Highway is the only highway for through traffic, most of the traffic from the project was assigned to Kalaniana'ole Highway. A small amount of trips were assigned to Kapaa Quarry Road.

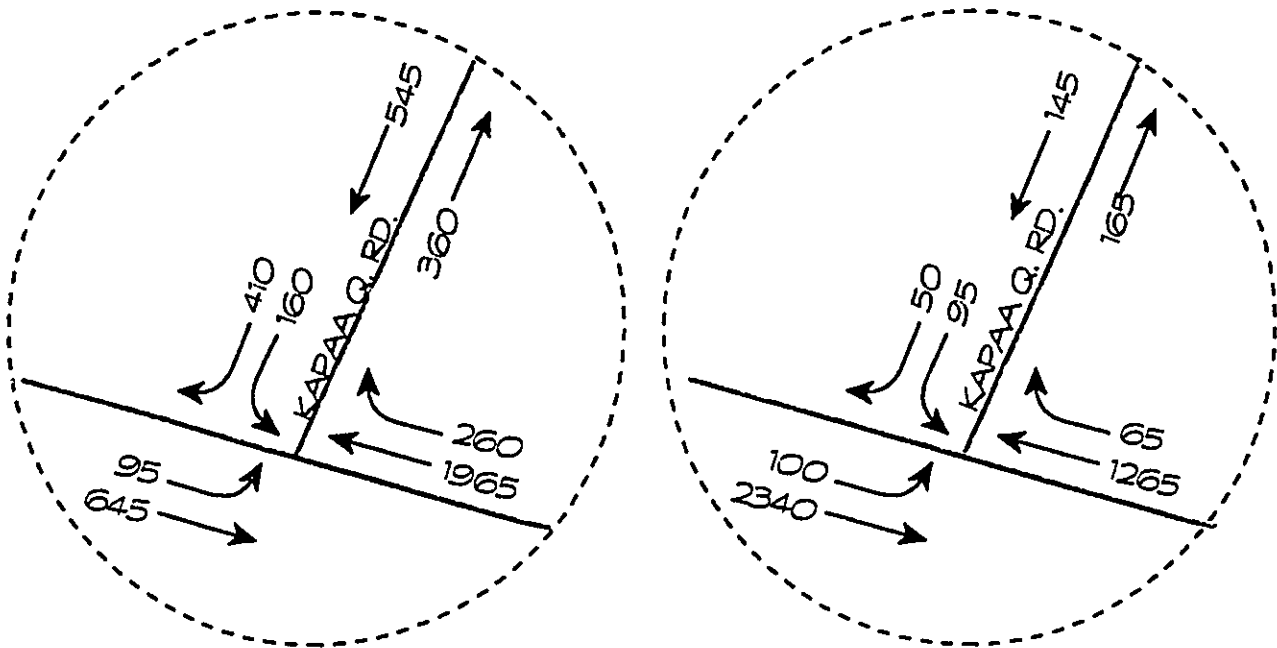
Pass-by Trips

It is expected that a portion of the project trips would be pass-by trips. Pass-by trips are those trips which would already be on Kalaniana'ole Highway even if the project were not there. An example would be when a parent from Kailua drops off a child at the project on the way to work in Honolulu. The pass-by trip reduces the through traffic volume, but increases the turning volume.

PROJECT DRIVEWAY AND KAPAA QUARRY ROAD



KALANIANA'OLE HIGHWAY AND KAPAA QUARRY ROAD



Morning Peak Hour Traffic Volumes

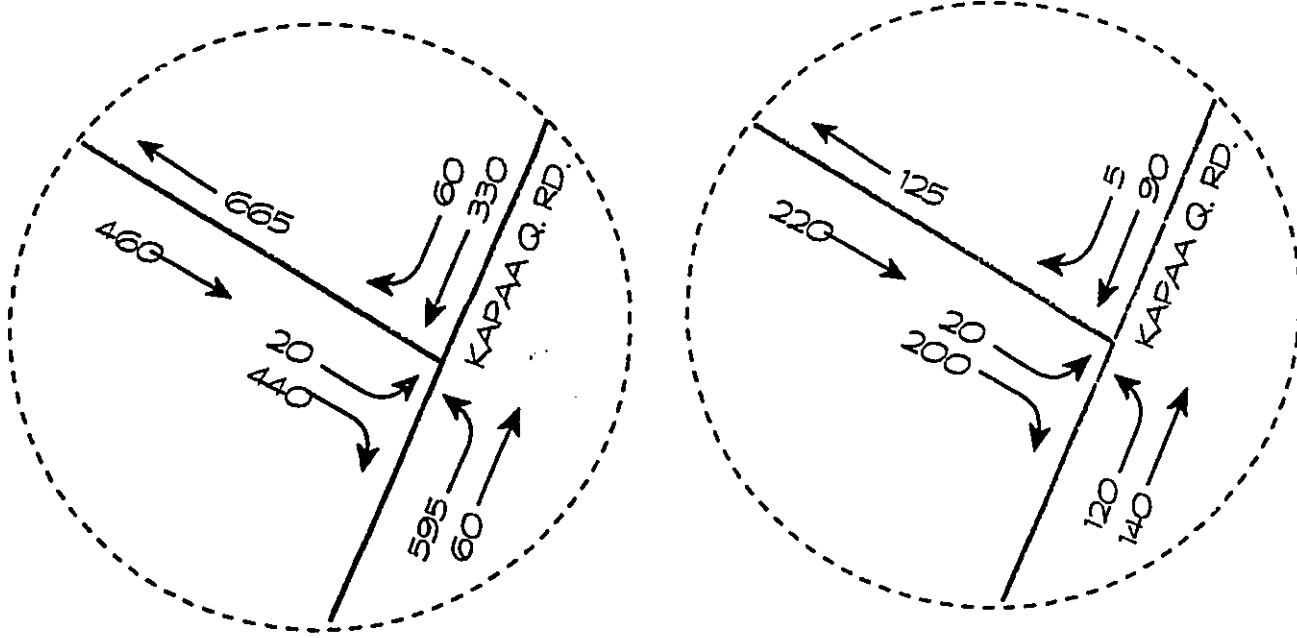
Afternoon Peak Hour Traffic Volumes

PACIFIC PLANNING
ENGINEERING, INC.

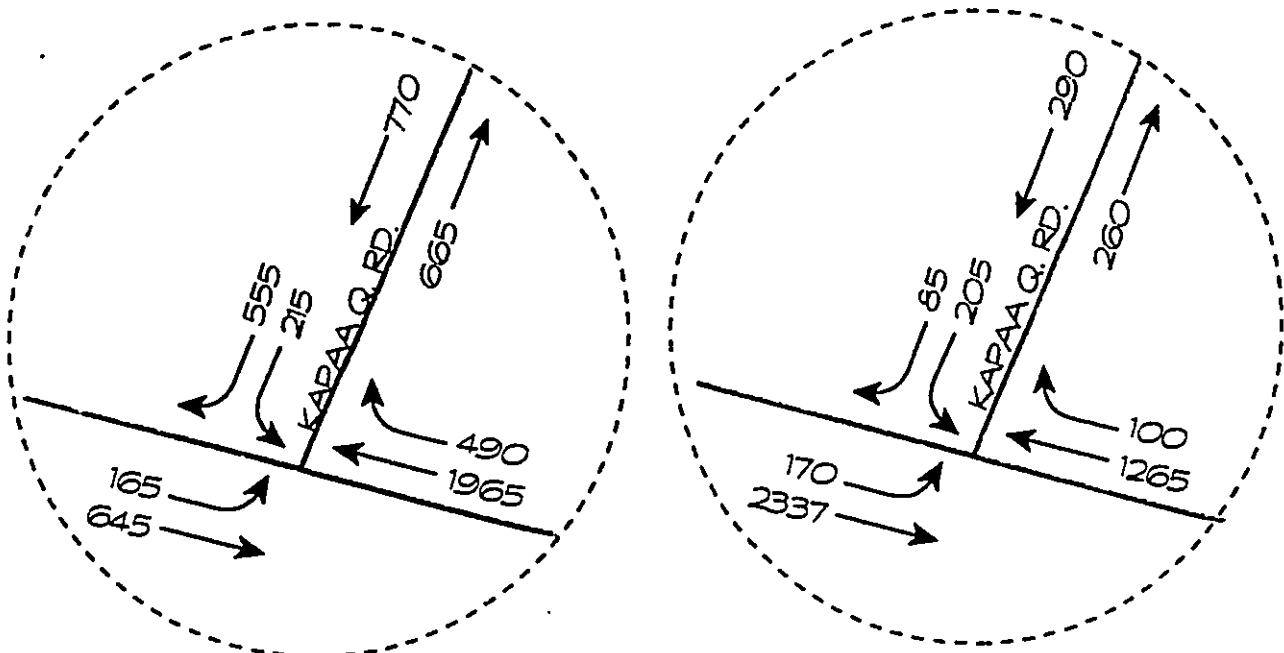
1998 With Project
Weekday Morning / Afternoon Peak Hour
Traffic Volumes

Figure 3

PROJECT DRIVEWAY AND KAPAA QUARRY ROAD



KALANIAOALE HIGHWAY AND KAPAA QUARRY ROAD



Morning Peak Hour Traffic Volumes

Afternoon Peak Hour Traffic Volumes

TRAFFIC ANALYSIS

Analyses were conducted for the intersections of Kalaniana'ole Highway with Kapaa Quarry Road and Kapaa Quarry Road with the Project Driveway to determine the relative impact of the proposed project. The analyses were conducted for the existing, and 1998 and 2005 forecast with project traffic conditions.

Analysis Methods

The study intersections were analyzed using the applicable methods for signalized and unsignalized T-intersections outlined in the 1994 Highway Capacity Manual. Appendix B of this report provides detailed definitions of the "level-of-service" (LOS) used in this study.

The intersection of Kalaniana'ole Highway with Kapaa Quarry Road was analyzed using operational analysis for signalized intersections and observed field measurements.

Operational analysis for signalized intersections is based on average stopped delay per vehicle to measure traffic operating conditions. The methodology for operational analysis measures traffic operations using the LOS rating, which ranges from A to F. The LOS for the traffic movements at a signalized intersection is classified into six categories ranging from less than 5 seconds of average delay per vehicle (LOS A) to over 60 seconds of average delay per vehicle (LOS F).

The intersection of Kapaa Quarry Road with the Project Driveway was analyzed using HCM's unsignalized intersection analysis.

The LOS for unsignalized intersections is determined by total delay which is defined as the total elapsed time from when a vehicle stops at the end of a queue until the vehicle departs from the stop line. This includes the time required for the vehicle to travel from the last-in-queue position. LOS for

unsignalized intersections is also classified into six categories ranging from less than 5 seconds of average total delay per vehicle (LOS A) to over 45 seconds of average total delay per vehicle (LOS F).

Analysis Results

The results of the analysis shown on Tables 3 and 4 for the weekday morning and afternoon peak hours generally indicate that:

Presently, in the morning peak hour, vehicles turning right from Kapaa Quarry Road encounter LOS E conditions during periods of heavy queues on Kalaniana'ole Highway.

In the afternoon peak hour, the through movements on Kalaniana'ole Highway operate at LOS B conditions.

The signalized intersection of Kalaniana'ole Highway with Kapaa Quarry Road

- By 1998 with project, the weekday morning and afternoon peak hours LOS for all approaches would remain essentially the same as in the existing case with adjusted signal timing.
- By 2005 with the project, the weekday morning and afternoon peak hours LOS for all approaches would remain essentially the same as in the 1998 case with adjusted signal timing.

The unsignalized intersection of Kapaa Quarry Road with Project Driveway

- By 1998 with the project, during the morning peak hour, motorists making left-turns into the project would experience LOS A conditions. Exiting motorists would encounter LOS B conditions.

During the afternoon peak hour, all movements would operate at LOS A.

- By 2005 with the project, during the morning peak hour, motorists making left-turns into the project would experience LOS B conditions. Exiting motorists would encounter LOS C conditions.

During the afternoon peak hour, all movements would operate at LOS A.

Table 3. Signalized Intersection Analysis - Kalaniana'ole Hwy with Kapaa Quarry Rd					
Movement	Morning Peak Hour LOS (delay-seconds/vehicle)				
	Existing	1998 Without Project	1998 With Project*	2005 Without Project	2005 With Project*
Eastbound TH on Kalaniana'ole Hwy	A (2)	A (2)	A (3)	A (2)	A (4)
Eastbound LT on Kalaniana'ole Hwy	E (45)	E (45)	E (45)	E (45)	E (48)
Westbound TH on Kalaniana'ole Hwy	‡	‡	‡	‡	‡
Westbound RT on Kalaniana'ole Hwy	A (3)	A (3)	B (11)	A (3)	B (11)
Southbound RT on Kapaa Quarry Rd	E (44)	E (44)	E (45)	E (44)	E (47)
Southbound LT on Kapaa Quarry Rd	E (42)	E (42)	E (43)	E (42)	E (43)
Movement	Afternoon Peak Hour LOS (delay-seconds/vehicle)				
	Existing	1998 Without Project	1998 With Project	2005 Without Project	2005 With Project
Eastbound TH on Kalaniana'ole Hwy	B (7)	B (7)	B (7)	B (7)	B (8)
Eastbound LT on Kalaniana'ole Hwy	D (29)	D (29)	D (30)	D (29)	D (36)
Westbound TH on Kalaniana'ole Hwy	B (7)	B (7)	B (7)	B (7)	B (8)
Westbound RT on Kalaniana'ole Hwy	A (5)	A (5)	A (5)	A (5)	B (6)
Southbound RT on Kapaa Quarry Rd	D (25)	D (25)	D (26)	D (25)	D (25)
Southbound LT on Kapaa Quarry Rd	D (26)	D (26)	D (27)	D (26)	D (36)

Note: TH - Through movement, LT - Left Turn movement, RT - Right Turn movement

‡ LOS for this movement is not applicable due to downstream congestion at Kamehameha Highway.

* With signal timing modifications giving more green time to Eastbound LT, Southbound LT and RT movements.

Table 4. Unsignalized Intersection Analysis - Kapaa Quarry Rd with Project Driveway					
Movement	Morning Peak Hour LOS (delay-seconds/vehicle)				
	Existing	1998 Without Project	1998 With Project	2005 Without Project	2005 With Project
Northbound LT on Kapaa Quarry Rd	n/a	n/a	A (4)	n/a	B (7)
Project Driveway	n/a	n/a	B (7)	n/a	C (14)
Movement	Afternoon Peak Hour LOS (delay-seconds/vehicle)				
	Existing	1998 Without Project	1998 With Project	2005 Without Project	2005 With Project
Northbound LT on Kapaa Quarry Rd	n/a	n/a	A (2)	n/a	A (3)
Project Driveway	n/a	n/a	A (3)	n/a	A (4)

Note: LT - Left Turn movement

Mitigation Measures

The results show that the Le Jardin Project traffic could be handled by modifying the intersection's signal timing.

The possibility of right turning vehicles out of Kapaa Quarry Road encountering spot delays exists because of congestion on Kalaniana'ole Highway. Future vehicles may not find enough gaps to merge, and queues on Kapaa Quarry Road could occur. It should be noted, however, through traffic on Kalaniana'ole Highway lessens significantly after 7:30 a.m. This is the time when the majority of students are arriving. Therefore, during this heavier school time period, vehicles turning right would encounter more gaps in the traffic stream. Thus, major mitigation actions are not required.

For convenience, bus or shuttle services to transport students to/from school would enhance the school's accessibility, and at the same time would reduce the amount of vehicle trips. The implementation of such services must

consider the costs of providing such services due to items such as vehicle costs, labor, fuel, insurance, etc.

When the high school is added in Phase 2 of the project, encouraging students to use carpools to reduce the amount of additional vehicles driven by students would also reduce peak school traffic volumes.

CONCLUSION AND RECOMMENDATIONS

The proposed Le Jardin Academy Project would have some impact on the intersection of Kalaniana'ole Highway and Kapaa Quarry Road during the morning peak hour. Traffic analysis results indicate that modification of signal timing would yield acceptable traffic levels-of-service. During the afternoon peak hour, the project would have negligible impact.

For Phase 1 of the project, there could be an increase of almost 200 vehicles turning right from Kapaa Quarry Road onto Kalaniana'ole Highway. However, the majority of students arrive after 7:30 a.m. when Honolulu bound traffic volumes on Kalaniana'ole Highway are significantly lower than earlier time periods.

The project is not expected to add more traffic to Kalaniana'ole Highway because most of these school-related vehicles would already be on the road given its existing location and facilities. Modifications to the intersection's signal timing could provide more time to Kapaa Quarry Road movements without unduly impacting other movements.

For Phase 2 of the project, the amount of right turning vehicles from Kapaa Quarry Road increases. Modifications to the signal timing could provide more time to Kapaa Quarry Road movements. If feasible, possible bus or shuttle services and encouragement of more school carpools could reduce the number of trips generated by the project.

APPENDIX A

TRAFFIC COUNT DATA

FOR

KALANIANA'OLE HIGHWAY @ KAPAA QUARRY ROAD

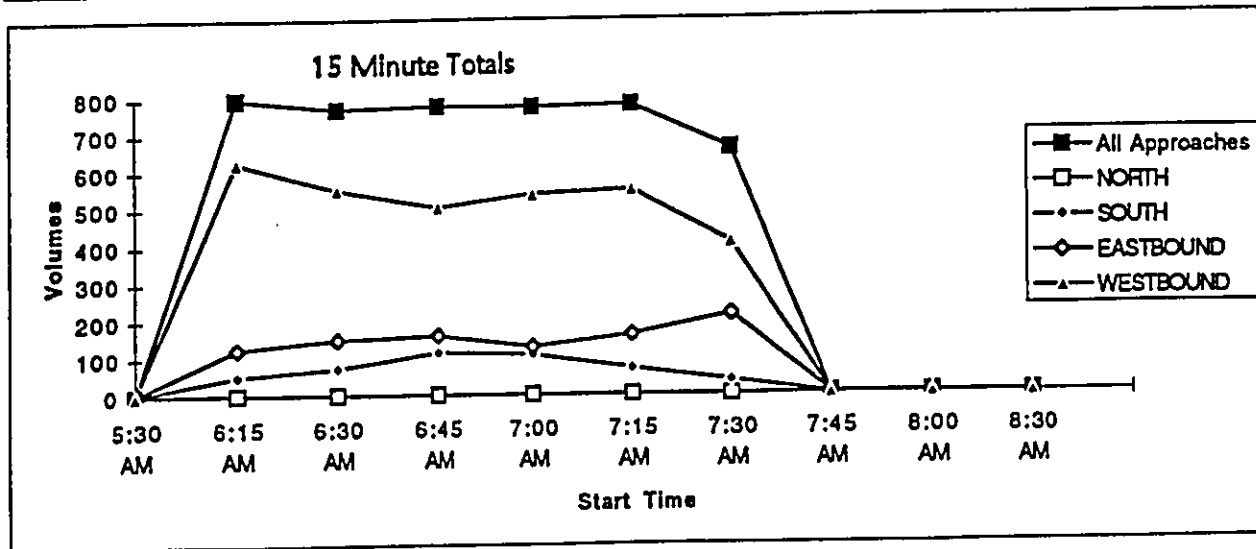
Project : 47.0 Le Jardin
Date: 1/11/96

Start Time	Direction NORTH				North-South Road Kapaa Quarry Road	Direction SOUTH			
	NB-LT	NB-TH	NB-RT	T/B		SB-LT	SB-TH	SB-RT	T/B
6:15 AM						3		47	0
6:30 AM						9		62	1
6:45 AM						23		91	0
7:00 AM						29		79	0
7:15 AM						30		40	5
7:30 AM						13		24	0
7:45 AM									
8:00 AM									

PEAK HOUR	NB-LT	NB-TH	NB-RT	T/B		SB-LT	SB-TH	SB-RT	T/B	
6:45 AM	0	0	0	0	0	95	0	234	5	0
7:45 AM	TOTAL						329		1.52%	

Start Time	Direction EASTBOUND				East-West Road KALANIANA'OLE	Direction WESTBOUND			
	EB-LT	EB-TH	EB-RT	T/B		WB-LT	WB-TH	WB-RT	T/B
6:15 AM	6	117		10			623	2	4
6:30 AM	6	143		8			549	4	7
6:45 AM	11	150		7			502	3	4
7:00 AM	3	126		5			534	5	6
7:15 AM	3	158		5			534	16	7
7:30 AM	4	212		5			394	14	4
7:45 AM									
8:00 AM									

PEAK HOUR	EB-LT	EB-TH	EB-RT	T/B		WB-LT	WB-TH	WB-RT	T/B	
6:45 AM	21	646	0	22	0	0	1964	38	21	0
7:45 AM	TOTAL						2002		1.05%	



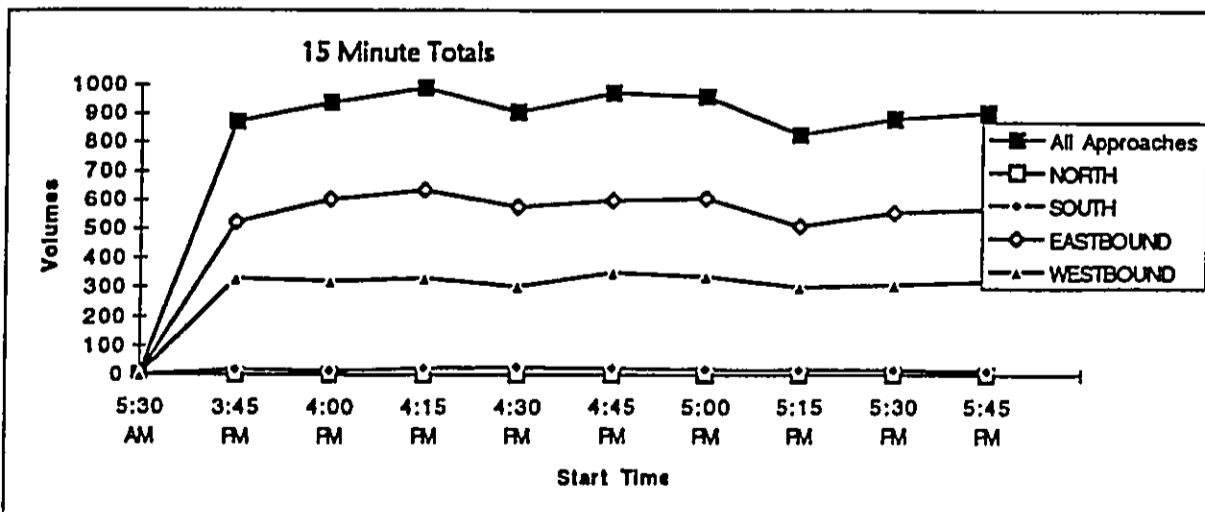
Project : 47.0 Le Jardin
Date: 1/11/96

Start Time	Direction NORTH				North-South Road Kapaa Quarry Road	Direction SOUTH			
	NB-LT	NB-TH	NB-RT	T/B		SB-LT	SB-TH	SB-RT	T/B
3:45 PM						10		9	0
4:00 PM						9		5	0
4:15 PM						13		10	0
4:30 PM						19		7	0
4:45 PM						15		8	0
5:00 PM						11		7	0
5:15 PM						12		4	0
5:30 PM						5		12	0
5:45 PM						9		6	0

PEAK HOUR	NB-LT	NB-TH	NB-RT	T/B		SB-LT	SB-TH	SB-RT	T/B		
4:15 PM	0	0	0	0	0	58	0	32	0	0	
5:15 PM	TOTAL					0	TOTAL		90	0.00%	

Start Time	Direction EASTBOUND				East-West Road KALANIANAOLE	Direction WESTBOUND			
	EB-LT	EB-TH	EB-RT	T/B		WB-LT	WB-TH	WB-RT	T/B
3:45 PM	19	504		12			312	18	4
4:00 PM	19	582		7			310	11	2
4:15 PM	18	617		5			315	17	3
4:30 PM	24	554		6			287	15	6
4:45 PM	18	581		6			341	11	6
5:00 PM	20	585		6			320	17	3
5:15 PM	14	497		4			297	4	4
5:30 PM	12	544		5			294	15	5
5:45 PM	19	550		2			306	15	2

PEAK HOUR	EB-LT	EB-TH	EB-RT	T/B		WB-LT	WB-TH	WB-RT	T/B		
4:15 PM	80	2337	0	23	0	0	1263	60	18	0	
5:15 PM	TOTAL					0.95%	TOTAL		1323	1.36%	



APPENDIX B

LEVEL-OF-SERVICE DEFINITIONS

FOR

SIGNALIZED AND UNSIGNALIZED INTERSECTIONS¹

¹Transportation Research Board, Highway Capacity Manual, Special Report 209, Third Edition, 1994.

LEVEL-OF-SERVICE FOR SIGNALIZED INTERSECTIONS

Level-of-service for signalized intersections is defined in terms of *delay*. Delay is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. Specifically, level-of-service criteria are stated in terms of the average stopped delay per vehicle for a 15-minute analysis period. The table to the right gives the Level-of-Service criteria.

Level of Service	Stopped Delay Per Vehicle (sec/veh)
A	≤ 5
B	> 5 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 40
E	< 40 and ≤ 60
F	> 60

Level-of-service A describes operations with very low delay up to 5.0 seconds per vehicle. This occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.

Level-of-service B describes operations with delay in the range of 5.1 to 15.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths or both. More vehicles stop than for LOS A, causing higher levels of average delay.

Level-of-service C describes operations with delay in the range of 15.1 to 25.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.

Level-of-service D describes operations with delay in the range of 25.1 to 40.0 seconds per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or a high v/c ratios (volume of cars to capacity of intersection). Individual cycle failures are noticeable.

Appendix B

Storm Water Runoff Management
and Drainage Plan

**PROPOSED LE JARDIN ACADEMY CAMPUS
STORM WATER RUNOFF MANAGEMENT
AND
DRAINAGE PLAN**

**Prepared for
LE JARDIN ACADEMY**

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May 9, 1996

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I. INTRODUCTION

Le Jardin Academy is proposing to develop a grade K through 12 campus with up to 1000 students on the 20-acre site identified by Tax Map Key 4-2-14: Parcel 14. Located north of the intersection of State Route 61 (Kalaniana'ole Highway) and Kapaa Quarry Road on the windward side of Oahu, the property was formerly the site of the Kailua Drive-In theater. Access into the site will be from Kapaa Quarry Road, approximately 1,000 feet northeast of its intersection with Kalaniana'ole Highway. A separate direct connection to Kalaniana'ole Highway for vehicles exiting the site and proceeding westerly, or mauka, is also available from the site.

II. PROJECT BACKGROUND

II.1 PROPOSED PROJECT

The project site abuts the signalized intersection of Kalaniana'ole Highway and Kapaa Quarry Access Road; the latter being the stem of the "T"-intersection entering from the north. Kapaa Quarry Access Road is privately owned by the Harold K.L. Castle Foundation in the area of the project site and is maintained by the City & County of Honolulu. The City and Ameron HC&D have a road & utility easement over the roadway. The road is unimproved (no gutters, sidewalks or planter strips), has a pavement width of 30 feet, and has shoulders consisting of either dirt or base rock (Reference 1). Storm water runoff from the highway and Kapaa Quarry Road are carried by drainage facilities within the respective right-of-ways to the Kawai Nui Marsh.

II.2 TOPOGRAPHIC FEATURES

A detailed topographic survey has been completed by Community Planning, Inc. (CPI) in 1994. The information available includes a drawing at 1in.=40 ft. mapping with 2 foot contours (Reference 4). The property ranges in elevation from 60 to approximately 150 feet. The majority of the site is gently sloping toward the south, with a depression adjacent to the culvert passing under Kalaniana'ole Highway.

II.3 RAINFALL

Annual rainfall for the project site may be estimated from two State of Hawaii gauges listed below:

788.1	Pali Golf Course	85.6 inches	(Reference 5)
790.0	Olomana Subdivision	52.0 inches	(Reference 5)

III. EXISTING DRAINAGE CONDITIONS

The site is designated on the Flood Insurance Rate Map (FIRM) as Zone D, which indicates that the area does not have the flood hazards determined.

Existing drainage facilities of the former Kailua Drive-In Theater collects runoff from the adjoining mauka property designated as area, A-1 in Figure 1 by a perimeter swale system and directs the flow along the western side of the parking area. This collected sheet flow is then combined with flow from a small gulch within area, A-1 and a 6-inch drain from the former drive-in theater retail area into a manhole near the exit road to Kalaniana'ole Highway. The flow is then transported to a drop manhole by a 24 inch reinforced concrete drain to a depression on the property along Kalaniana'ole Highway. Sheet flow from area A-3a is also collected at the same location, combined and passed under the highway by a 36 inch reinforced concrete culvert constructed in 1949 as part of the original highway. The flow passes over approximately 800 feet of flat pasture grass land on the Maunawili side of the highway, finally reaching Kahaniki Stream on the mauka side of the Kalaniana'ole bridge.

Two box inlets were constructed by the drive-in theater to capture sheet flow runoff from area, A-3b. The two inlets collect the storm runoff on the south side of the pavement edge near the former entry, at the top of the entry drive. A 24 inch reinforced concrete pipe connects the two inlets, which flows into a 36 inch reinforced concrete pipe under the entry drive, crossing the Kailua Quarry Road and into the marsh (see Figure 1).

Area A-2 is drained by curb inlets at the bottom of the entry and exit roads. The flow is then transported under the Kailua Quarry Road and into the marsh by a 18 inch reinforced concrete drain pipe (see Figure 1).

Calculations for 10, 50, and 100 year storms were made following the drainage design standards of the City and County of Honolulu (Reference 8). A table is provided in Appendix A.1.

The City & County of Honolulu Department of Public Works Drainage Section is not aware of any storm drainage problems in the area (Reference 2).

IV. PROPOSED DRAINAGE

The City Drainage Section is requiring that the proposed school shall not increase the amount of runoff (Reference 2). The proposed school site would reduce the amount of runoff to Kawai Nui Marsh because of the landscaping on the new campus and the reduction of paved asphalt parking area from the former drive-in theater. A drainage report which confirms a reduction in runoff is required to be submitted to and approved by the City Drainage Section (Reference 2). Construction plans, including an erosion control plan and report, will require the approvals of the Department of Public Works and its Division of Engineering.

IV.1 OVERALL DRAINAGE

The project site is included with a steeply sloped mauka area, A-1. The majority of this area is owned by others. This project will not modify the area included in A-1 except to maintain and improve existing drainage facilities. Storm runoff will continue to be directed toward the Kalaniana'ole Highway culvert system (see Figure 2).

Area A-2 includes the steep sloping areas of the project site and include the entry and exit roads to Kapaa Quarry Road. Storm runoff will remain the same since the roads will be cleaned, repaved and the slopes maintained with no proposed construction.

Since the areas, A-1 and A-2, will remain under the existing conditions, no additional proposed project calculations were made for these areas.

IV.2 ONSITE DRAINAGE

The proposed school will utilize approximately 15 acres of the former drive-in theater which is currently paved with deteriorated asphalt. The proposed drainage system will improve runoff conditions by removal of the existing asphalt pavement for reuse as structural fill and new pavement base course. The site will be leveled slightly for play fields, court yards, and building pads thus increasing the time of concentration and detention time. Calculations for the proposed drainage condition for area P-3a and P-3b are found in Appendix A.2.

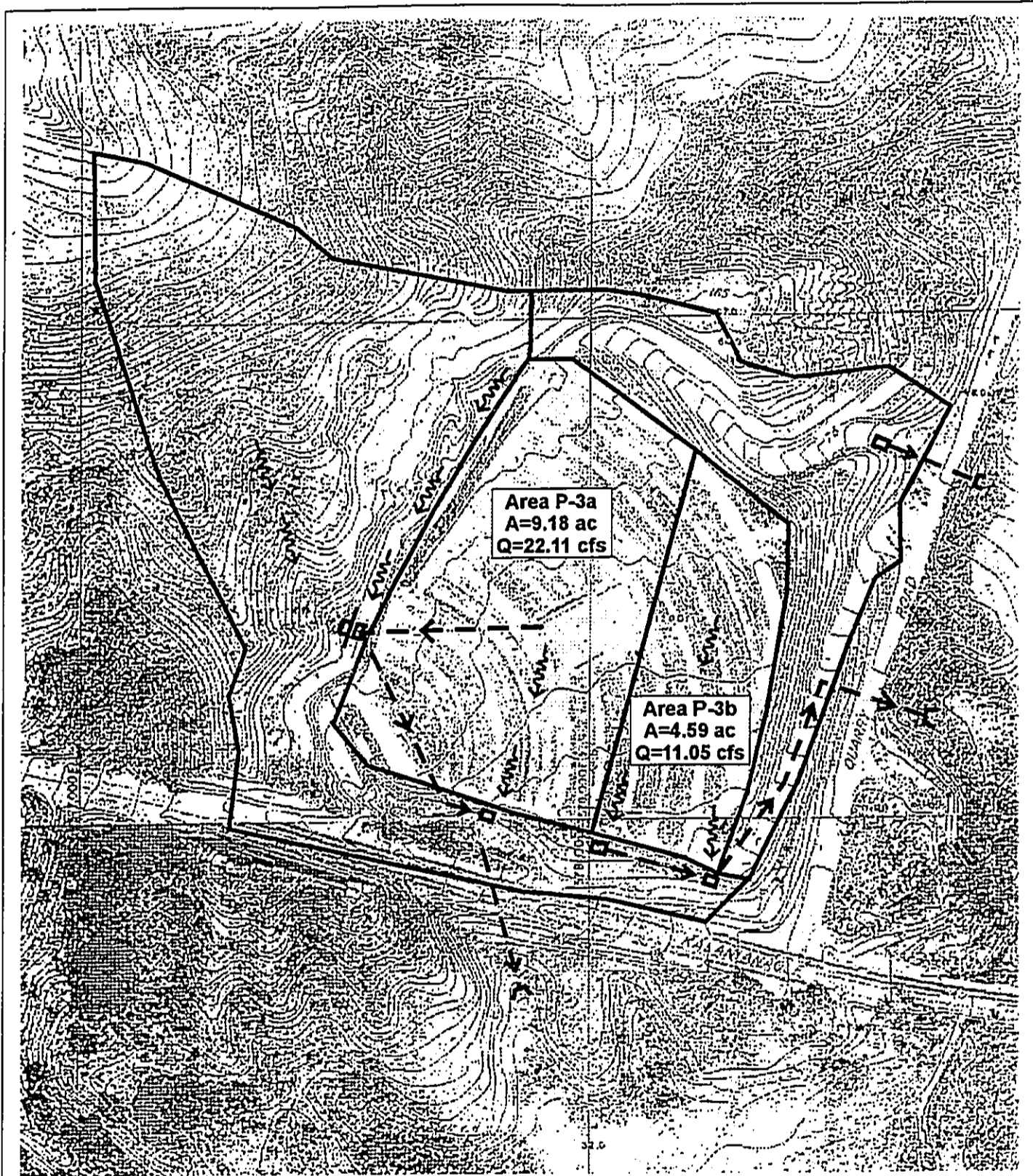
Comparing area 3 for the three storm frequencies listed in Appendix A.1 and A.2 show reductions of approximately 70% when the limits of new construction are compared to the existing conditions. The three drainage areas would continue to utilize the existing drainage outlet facilities of the former Kailua Drive-In Theater as shown in Figure 2.

Since this project will include a graded area of more than five acres, a National Pollutant Discharge Elimination System (NPDES) General Permit - Notice of Intent will be required under the State of Hawaii NPDES permit regulations (Reference 3).

V. GRADING and SOIL EROSION POTENTIAL

V.1 GRADING

There will be several phases of construction for the proposed school project over a period of 10 to 15 years. The initial grading concept for the first phase will be a slight leveling of the site to provide play fields, classroom pads, and other building sites. Additional grading for roadways and parking will attempt to minimize the amount of earth movement as to balance the amounts of cut and fill, thus reducing the cost of importing or exporting material.



Note: Q reflects 50-year storm one hour rainfall.



GRAPHIC SCALE



Figure 2: Proposed Drainage Condition
Reference: City & County of Honolulu
Planning Department
Photography and Ground Control Survey 1969
Sheet Number: 584-72 & 584-78

V.2 SOIL EROSION POTENTIAL

The project site is divided into three major basin areas for the purpose of calculating soil erosion potential (see Figure 1). The areas represent sites that have differing soil erosion potential characteristics such as slope and/or drainage network.

The level portion of the property will be used for development of the school facilities. The existing entry and existing roads to the Kapaa Quarry Road will be cleaned and paved with maintenance of the adjoining slopes.

The development of the facilities will occur in several phases. The first phase of construction will reduce the impact of soil erosion since the construction activities will be focused on less than half the 15 acres of generally level paved area.

Soil losses have been estimated using the Universal Soil Loss Equation as described in the City and County of Honolulu standards (Reference 6).

CALCULATION OF THE SEVERITY RATING NUMBER

Soil loss and severity ratings were calculated for the construction area in accordance with the City and County of Honolulu "Soil Erosion Standards and Guidelines", November 1975 (Reference 6). The example shown below illustrates the calculations for area P-3a. A significant part of this area will be athletic fields.

1. Universal Soil Loss Equation, $E = RK(LS)(CP)$.

E = Annual Soil Loss in tons per acre

$$E = RK(LS)(CP)$$

R = Rainfall Erosion Effect Factor
for a full year, is 300 (Reference 6, Exhibit 3).

$$R = 300$$

K = Soil Erodibility Factor
The project is to be constructed on ALF
Alaeloa silty clay, (Reference 5).

$$K = 0.15 \text{ (Reference 6, Exhibit 5).}$$

LS = Length and steepness of slope Factor

The LS factor was calculated by the formula given in Reference 6, Exhibit 7, using an average slope of 3 percent and a typical field slope length of 800 feet.

$$LS = 0.536$$

CP = Engineering Erosion Control Factor

Based on examples given in Reference 6, Exhibit 8, the following values were chosen for the CP factor.

$$CP = C \times P$$

$$C = 0.75$$

Use of silt fences and berms, $P = 0.8$; grading of less than 15 acres, $P = 0.7$; and sediment basin, $P = 0.6$.

$$P = 0.8 \times 0.7 \times 0.6 = 0.336$$

$$CP = (0.75) \times (0.336) = 0.252$$

$$E = (300) \times (0.15) \times (0.536) \times (0.252) = 6.08 \text{ tons/acre}$$

2. Severity Rating Number, $H = (2FT + 3D)AE$.

F = Potential Downstream Drainage Factor

Potential damage area more than 300 feet but with drainage channel through or close to lower boundary of site, grading area not directly adjacent to channel.

$$F = 4 \text{ (Reference 6, Exhibit 1, Table 1).}$$

T = Time Duration

$$T = 1 \text{ year (12 months).}$$

D = Sediment Damage Factor

The project site is located in a region where any discharge from the construction areas reaching the sea would enter Waimanalo (area classified Class A, Reference 6, Exhibit 2).

$$D = 2 \text{ (Reference 6, Exhibit 1, Table 2).}$$

A = Area of Disturbance
The grading area is 9.18 acres.

$$A = 9.18$$

E = Annual Soil Loss

$$E = 6.08 \text{ (as calculated above).}$$

H = Severity Rating Number

$$H = [2 \times (4) \times (1) + 3 \times (2)] \times (9.18) \times (6.08) = 781$$

The calculated severity rating number for this project under the worst case scenario is approximately 10,000 as shown in Appendix A.3. About 75% of the rating value results from the steep slopes adjacent to the entry and exit roads.

The standard severity rating number for the Island of Oahu is 50,000. This value of H represents the maximum amount of environmental damage considered tolerable, based on studies of stream sediment loads and analysis of the best practical and feasible control measures. No project with a severity rating number substantially above 50,000 will be approved until measures have been taken to reduce the number to meet the standard (Reference 6). Compared to the standard severity rating number of 50,000, the erosion hazard for this project is less than the maximum for the Island of Oahu.

V.3 RUNOFF MANAGEMENT SYSTEMS

TEMPORARY EROSION CONTROL MEASURES DURING CONSTRUCTION

The project site is relatively flat and currently paved with deteriorating asphalt. Planning considerations to minimize discharge and erosion of the construction site must include both provisions for water quantity and quality (Reference 9).

Water Quantity: Onsite temporary detention will decrease runoff volume and reduce peak flow.

Water Quality: Potential to trap sediment and sediment-attached substances carried by runoff.

A series of silt fences and berms will be placed parallel to Kalaniana'ole Highway and the existing concrete retaining wall and metal barrier along the eastern side of the project above the entry road will prevent flow from leaving the construction site in an uncontrolled manner.

Sediment traps and barriers will be placed in front of and adjacent to the major discharge points of the existing drainage systems shown in Figure 3. Examples of possible sediment reducing systems are illustrated in Appendix B. Detailed erosion control plans will be prepared in accordance with the City and County of Honolulu standards for approval at the time construction plans are submitted.

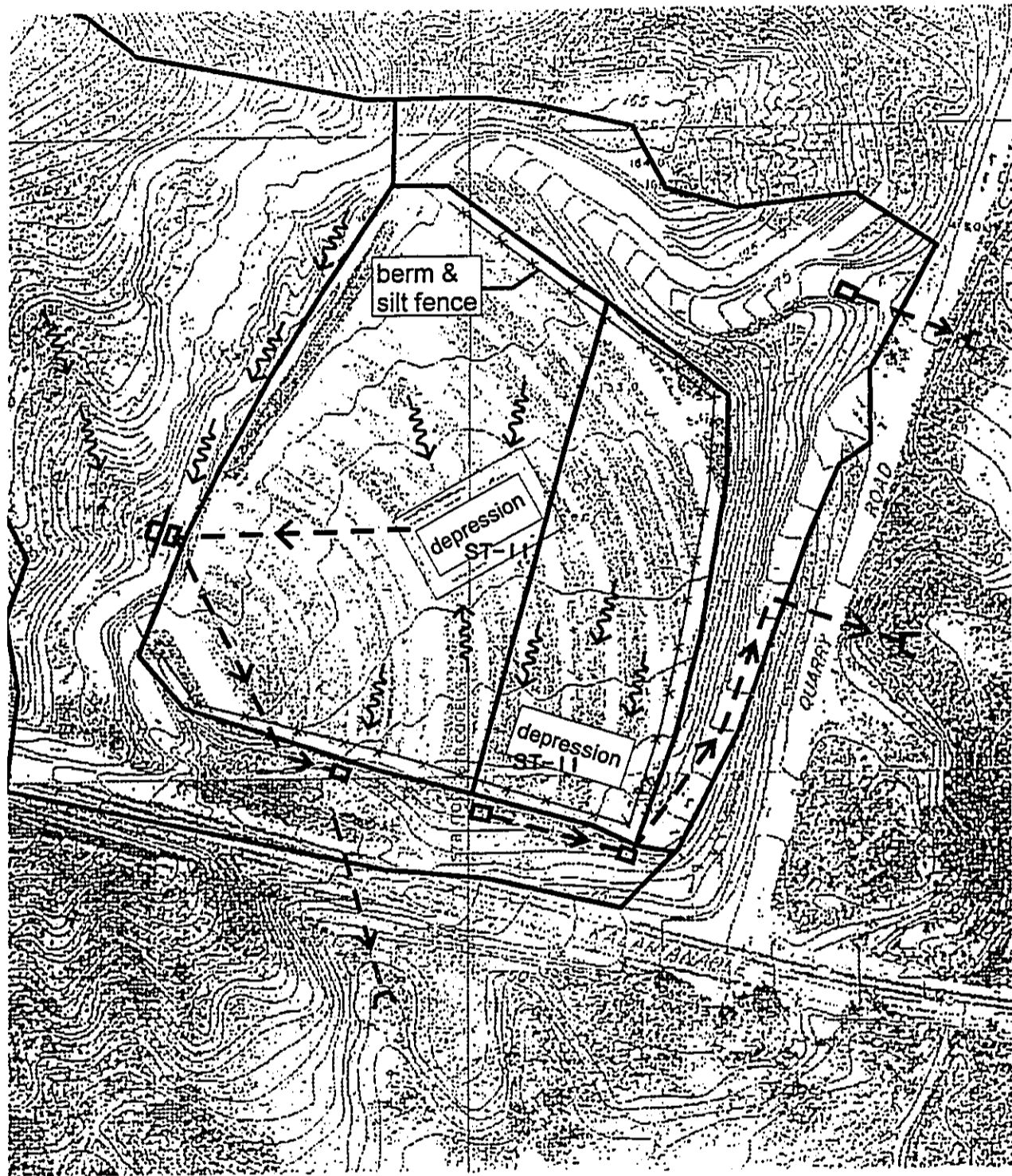
Windblown dust will be controlled by watering. Final turfing and paving will follow grading completion.

PERMANENT EROSION CONTROL MEASURES

The site will be leveled slightly for play fields, court yards, parking facilities and building pads, increasing the time of concentration and detention time for storm runoff. To control erosion, all areas will be either grassed, landscaped, or paved.

VI. CONCLUSIONS

The proposed project is expected to reduce the storm water runoff from the limits of new construction by approximately 70%. This should improve runoff water quality and quantity of accumulated wind blown sediments, decomposing organic materials and trash dumped on the existing site and transported to Kawai Nui Marsh by the existing drainage system.



Note: ST-II sediment trap and other controls applied per final NPDES permit conditions.

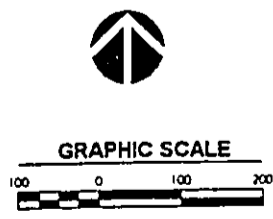


Figure 3: Temporary Erosion Control Measures
Reference: City & County of Honolulu
Planning Department
Photography and Ground Control Survey 1969
Sheet Number: 584-72 & 584-78

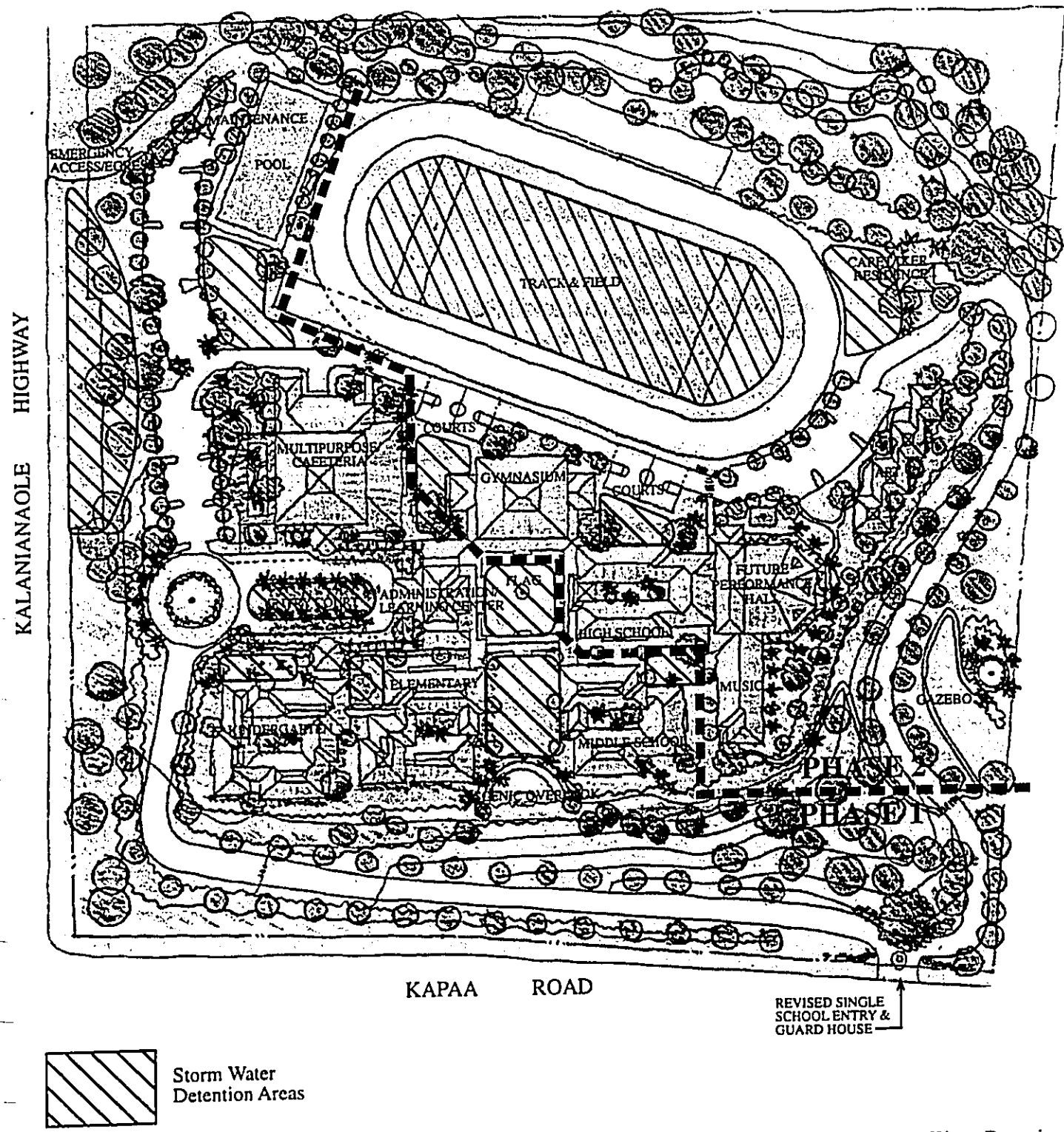


Figure 4: Conceptual Site Plan - Storm Water Detention Areas
Source: Group 70 International, Inc. Conceptual Site Plan

VII. REFERENCES

- | Name | Date | Department | |
|---|---------|------------------------------|----------|
| 1. Dexter Akamine | 7/27/95 | DPW Div. of Road Maintenance | 523-4547 |
| 2. Sumio Tano | 7/28/95 | DPW Drainage Section | 523-4756 |
| 3. Gerald Takayesu | 7/19/95 | DPW Division of Engineering | 527-5856 |
| 4. Bernard Kea | 7/7/95 | Community Planning Inc. | |
| 5. "KAWAI NUI MARSH MASTER PLAN" | | | |
| 6. "SOIL EROSION STANDARDS AND GUIDELINES", Department of Public Works, City and County of Honolulu, November 1974. | | | |
| 7. "SOIL SURVEY OF THE ISLAND OF KAUAI, OAHU, MAUI, MOLOKAI, AND LANAI, STATE OF HAWAII", U.S. Department of Agriculture, Soil Conservation Service, in cooperation with the University of Hawaii Agricultural Experiment Station, August 1972. | | | |
| 8. "STORM DRAINAGE STANDARDS" Department of Public Works, City and County of Honolulu, May, 1988. | | | |
| 9. "RUNOFF MANAGEMENT SYSTEM STD 570", US Dept. of Agriculture, Natural Resources Conservation Service, 1978 | | | |

DTS: City & County of Honolulu Department of Transportation Services

DOT: State of Hawaii Department of Transportation

BWS: City & County of Honolulu Board of Water Supply

DPW: City & County of Honolulu Department of Public Works

DWWM: City & County of Honolulu Department of Wastewater Management

APPENDIX A CALCULATIONS

A.1 EXISTING DRAINAGE CONDITION

Existing Condition (10-year storm, 1-hour rainfall):

Drainage Area	C	Tc (min)	i (in/hr)	CF	I (in/hr)	A (acres)	Q (cfs)
A-1	0.4	25	3.0	1.6	4.8	15.86	30.45
A-2a	0.9	8	3.0	2.4	7.2	1.56	10.11
A-2b	0.42	8	3.0	2.4	7.2	5	15.12
A-3a	0.85	8.5	3.0	2.4	7.2	9.18	56.18
A-3b	0.85	8.5	3.0	2.4	7.2	4.59	28.09
						Total	139.95

Existing Condition (50-year storm, 1-hour rainfall):

Drainage Area	C	Tc (min)	i (in/hr)	CF	I (in/hr)	A (acres)	Q (cfs)
A-1	0.43	25	4.0	1.6	6.4	15.86	43.65
A-2a	0.9	8	4.0	2.4	9.6	1.56	13.48
A-2b	0.42	8	4.0	2.4	9.6	5	20.16
A-3a	0.86	8.5	4.0	2.4	9.6	9.18	75.79
A-3b	0.86	8.5	4.0	2.4	9.6	4.59	37.90
						Total	190.97

Existing Condition (100-year storm, 24-hour rainfall):

Drainage Area	C	Tc (min)	i (in/hr)	CF	I (in/hr)	A (acres)	Q (cfs)
A-3a	0.87	8.5	16.0	2.4	38.4	9.18	306.69
A-3b	0.87	8.5	16.0	2.4	38.4	4.59	153.34
						Total	460.03

A.2 PROPOSED DRAINAGE CONDITION

Proposed Condition (10-year storm, 1-hour rainfall):

Drainage Area	C	Tc (min)	i (in/hr)	CF	I (in/hr)	A (acres)	Q (cfs)
P-3a	0.4	29	3.0	1.4	4.2	9.18	15.42
P-3b	0.4	29	3.0	1.4	4.2	4.59	7.71
						Total	23.13

Proposed Condition (50-year storm, 1-hour rainfall):

Drainage Area	C	Tc (min)	i (in/hr)	CF	I (in/hr)	A (acres)	Q (cfs)
P-3a	0.43	29	4.0	1.4	5.6	9.18	22.11
P-3b	0.43	29	4.0	1.4	5.6	4.59	11.05
						Total	33.16

Proposed Condition (100-year storm 24-hour rainfall):

Drainage Area	C	Tc (min)	i (in/hr)	CF	I (in/hr)	A (acres)	Q (cfs)
P-3a	0.44	29	16.0	1.4	22.4	9.18	90.48
P-3b	0.44	29	16.0	1.4	22.4	4.59	45.24
						Total	135.72

A.3 EROSION CONTROL - STANDARD SEVERITY RATING NUMBER

AREA: A-2

R	K	(LS)	(CP)	E	F	T	D	A	H
	soil type ALF	25% 200 ft.	cond. 2c	(tons/acre)		(years)		(acres)	Severity Rating
300	0.15	8.33	0.252	94.46	4	1	2	6.56	8675.41

Tons/year = 619.67

AREA: A-3a

R	K	(LS)	(CP)	E	F	T	D	A	H
	soil type ALF	3% 800 ft.		(tons/acre)		(years)		(acres)	Severity Rating
300	0.15	0.536	0.252	6.08	4	1	2	9.18	781.18

Tons/year = 55.80

AREA: A-3b

R	K	(LS)	(CP)	E	F	T	D	A	H
	soil type ALF	3% 600 ft.		(tons/acre)		(years)		(acres)	Severity Rating
300	0.15	0.492	0.252	5.58	4	1	2	4.59	358.52

Tons/year = 25.61

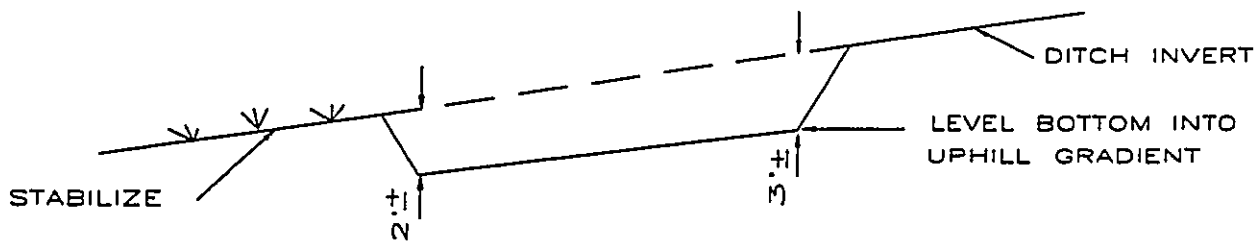
Total Severity Rating 9815.11

May, 1996
Proposed Le Jardin Academy Campus
Storm Water Runoff Management & Drainage Plan

APPENDIX B SAMPLE RUNOFF MANAGEMENT DETAILS

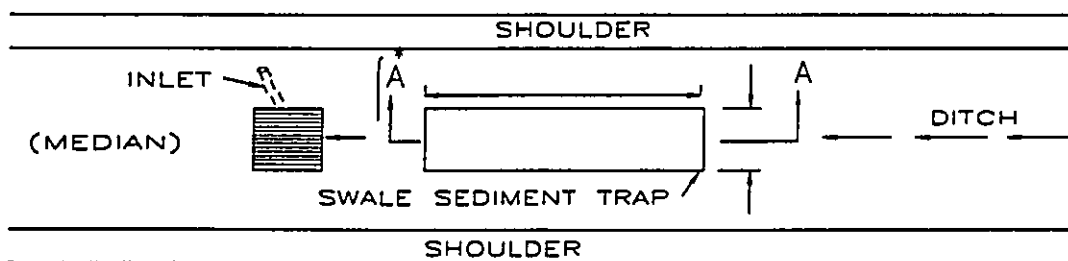


SEDIMENT TRAP



SECTION A-A

SWALE SEDIMENT TRAP



TO REMAIN STABILIZED OR COVERED WITH A 6" LINING OF 2" STONE

CONSTRUCTION SPECIFICATION FOR ST-II

1. THE SWALE SEDIMENT TRAP SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE DIMENSIONS PROVIDED ON THE DESIGN DRAWINGS OR SIZED TO PROVIDE THE MINIMUM STORAGE NECESSARY 1800 CUBIC FEET OF STORAGE FOR EACH ACRE OF DRAINAGE AREA.
2. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
3. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
4. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION SHALL BE MINIMIZED.
5. THE SEDIMENT TRAP SHALL BE REMOVED AND AREA STABILIZED WHEN THE CONTRIBUTORY DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
6. THE SWALE SEDIMENT TRAP WILL BE PROPERLY BACKFILLED AND THE SWALE OR DITCH RECONSTRUCTED.

MAXIMUM DRAINAGE AREA: 2 ACRES

PG. 5A.40

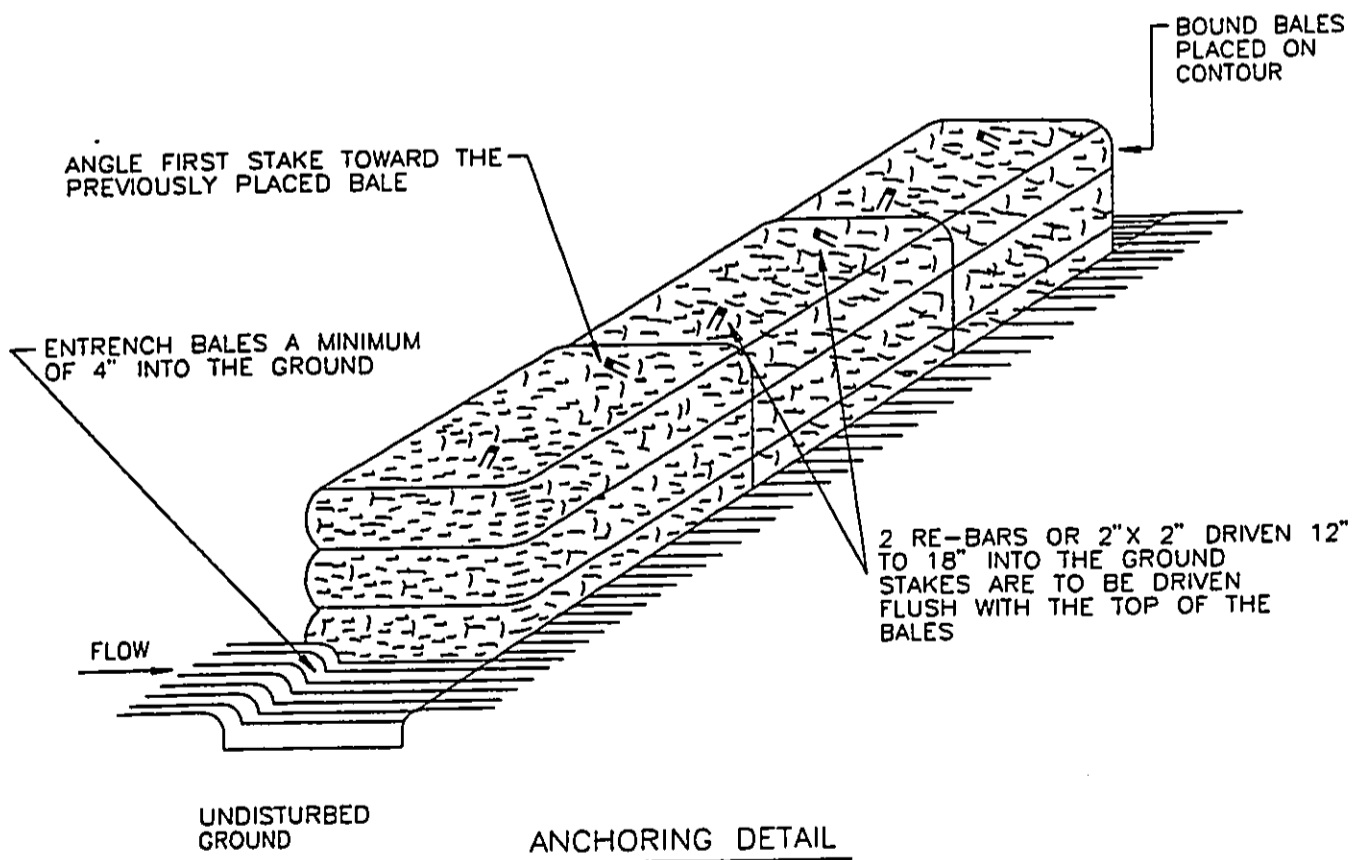
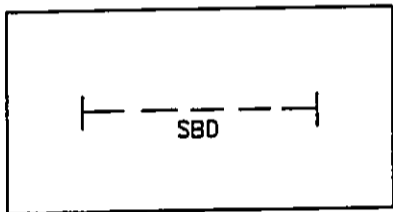
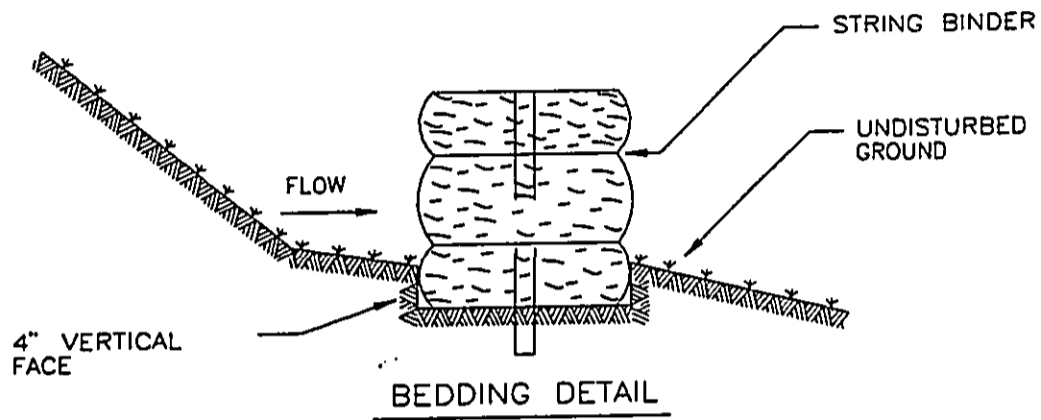
U.S. DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE

SWALE SEDIMENT
TRAP - ST IV

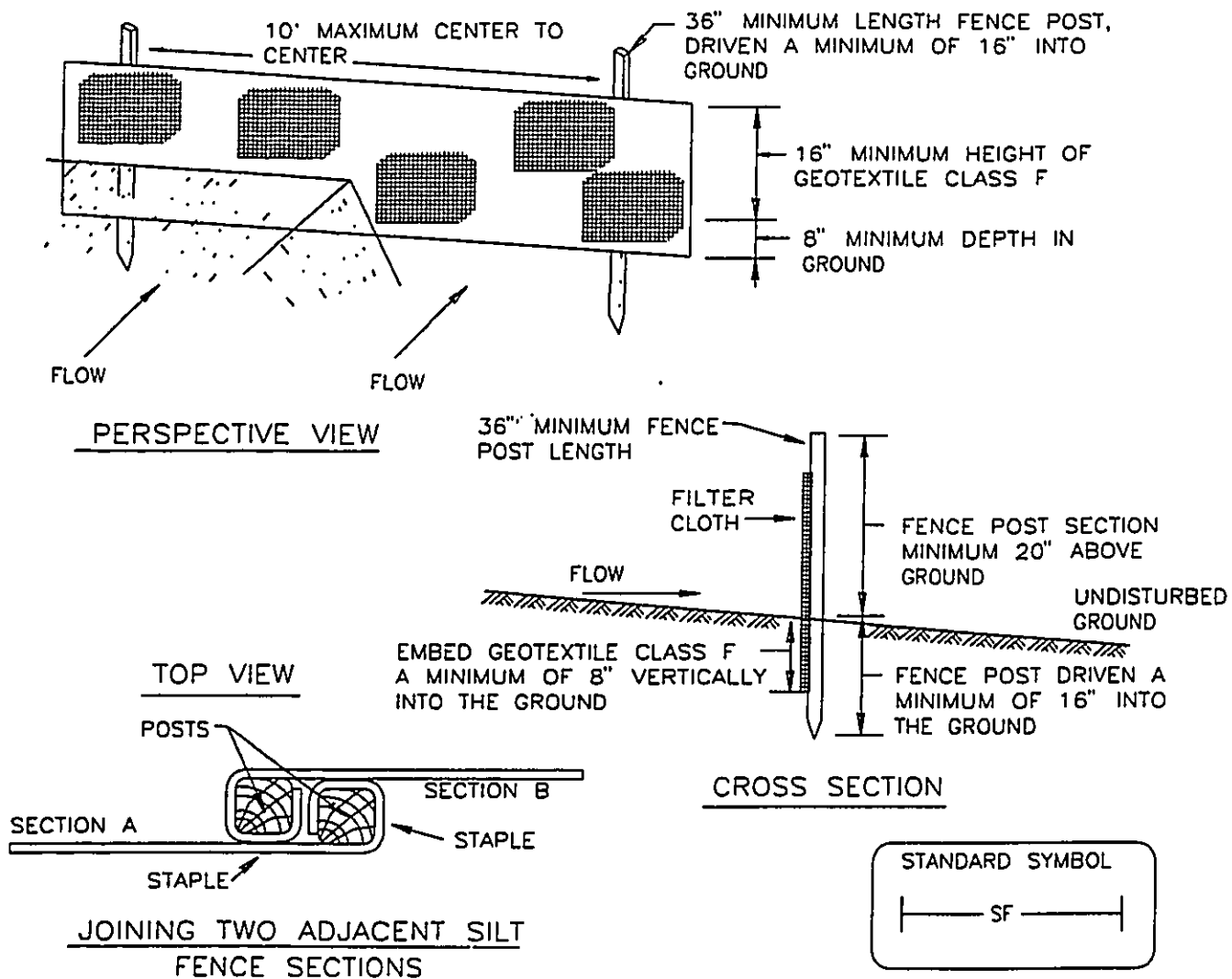
STANDARD SYMBOL



DETAIL 32 - STRAW BALE DIKE



DETAIL 22 - SILT FENCE



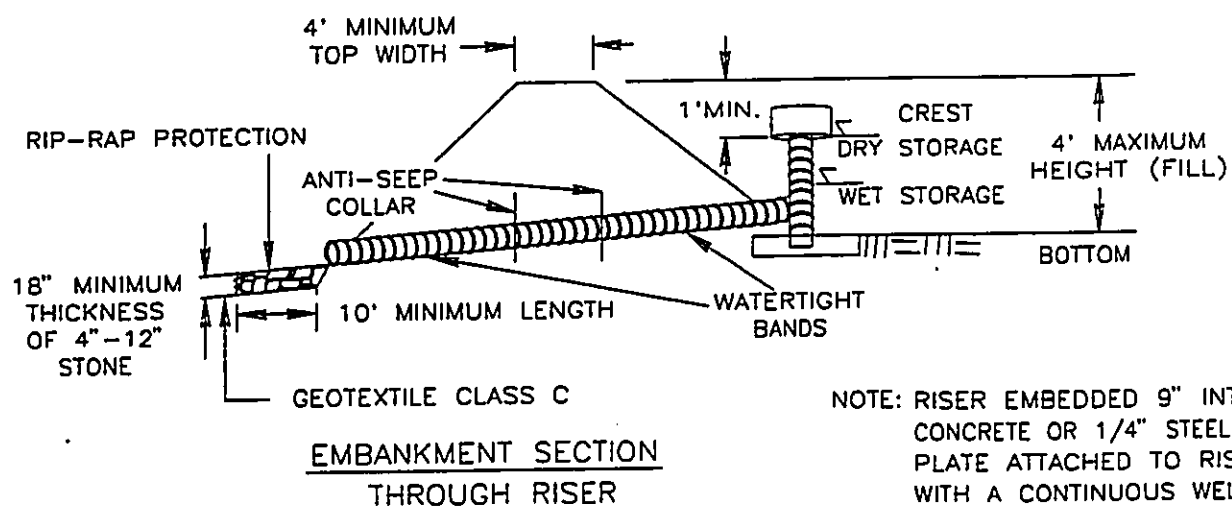
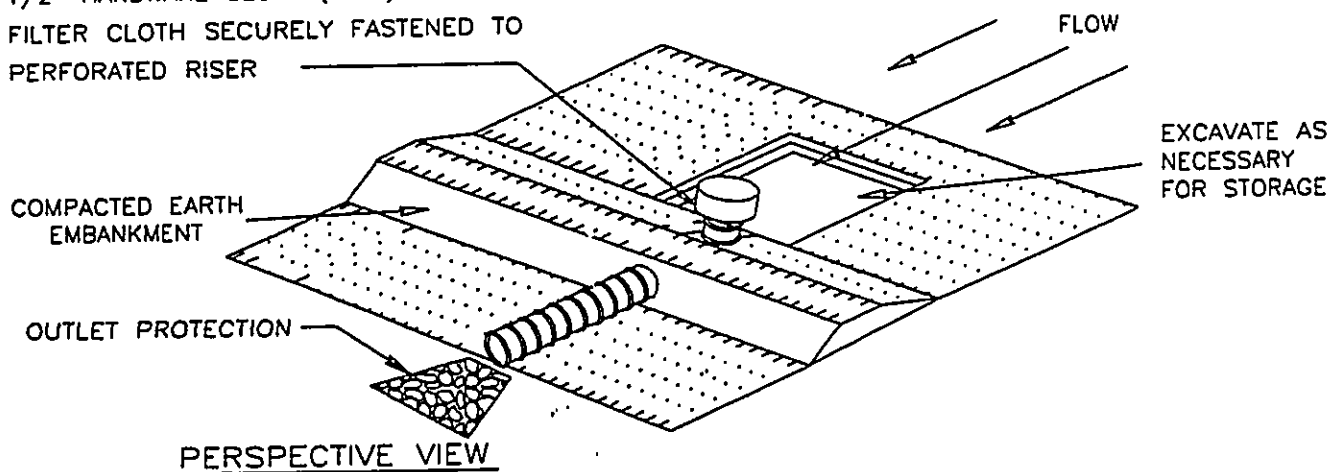
Construction Specifications

1. Fence posts shall be a minimum of 36" long driven 16" minimum into the ground. Wood posts shall be 1 1/2" x 1 1/2" square (minimum) cut, or 1 3/4" diameter (minimum) round and shall be of sound quality hardwood. Steel posts will be standard T or U section weighting not less than 1.00 pond per linear foot.
2. Geotextile shall be fastened securely to each fence post with wire ties or staples at top and mid-section and shall meet the following requirements for Geotextile Class F:

Tensile Strength	50 lbs/in (min.)	Test: MSMT 509
Tensile Modulus	20 lbs/in (min.)	Test: MSMT 509
Flow Rate	0.3 gal ft' / minute (max.)	Test: MSMT 322
Filtering Efficiency	75% (min.)	Test: MSMT 322
3. Where ends of geotextile fabric come together, they shall be overlapped, folded and stapled to prevent sediment bypass.
4. Silt Fence shall be inspected after each rainfall event and maintained when bulges occur or when sediment accumulation reached 50% of the fabric height.

DETAIL 8 - PIPE OUTLET SEDIMENT TRAP - ST I

1/2" HARDWARE CLOTH (WIRE) WITH
FILTER CLOTH SECURELY FASTENED TO
PERFORATED RISER

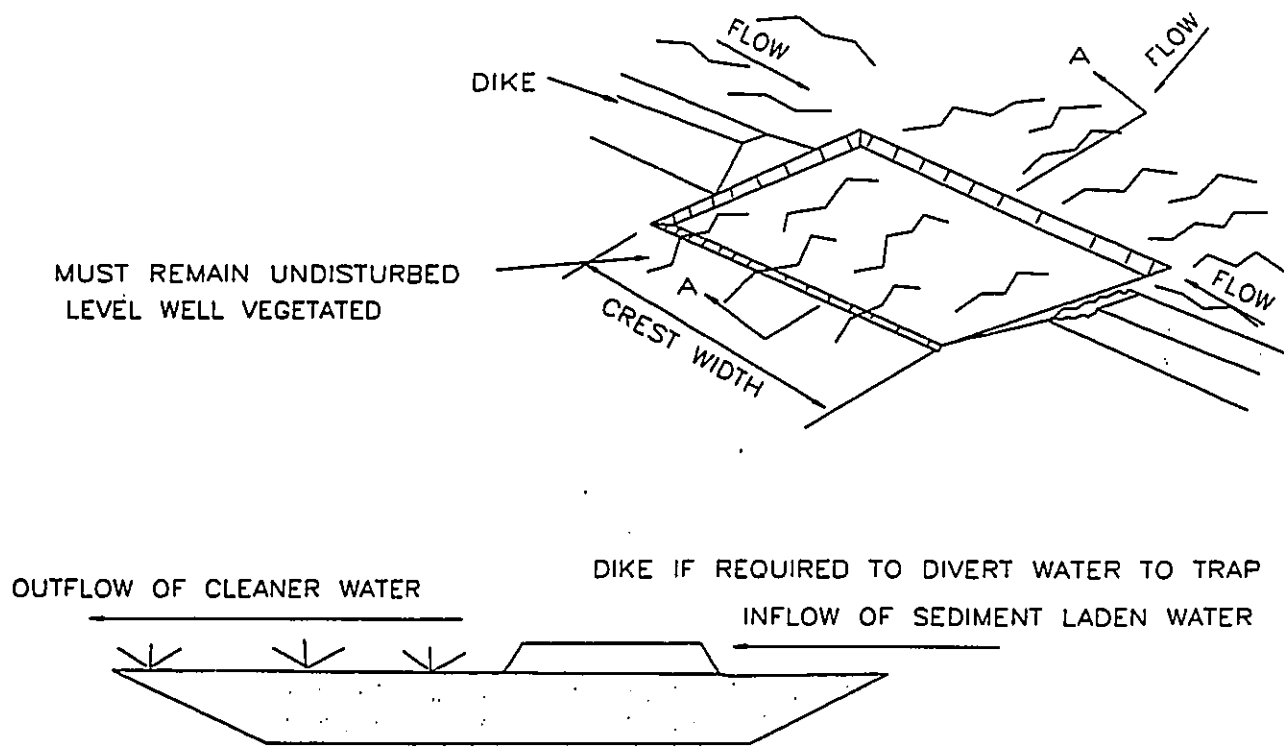


NOTE: RISER EMBEDDED 9" INTO
CONCRETE OR 1/4" STEEL
PLATE ATTACHED TO RISER
WITH A CONTINUOUS WELD
ON BOTTOM AND 2' OF STONE
PLACED ON STEEL PLATE
TWICE THE RISER DIAMETER
(MIN.)

Construction Specifications

1. The area under the embankment shall be cleared, grubbed and stripped of any vegetation and root mat. The pool area shall be cleared.
2. The fill material for the embankment shall be free of roots or other woody vegetation as well as oversized stones, rocks, organic material, or other objectionable material. The embankment shall be compacted by traversing with equipment while it is being constructed.
3. The total trap volume as measured from the bottom to riser crest elevation shall be 3600 cubic feet per acre of drainage area (see Table 9). The top of embankment must be 1' above the riser crest elevation.
4. Sediment shall be removed and the trap restored to its original dimensions when the sediment has accumulated to one half of the wet storage depth of the trap (900cf/ac). The sediment shall be deposited in a suitable area and in such a manner that it will not erode.
5. The structure shall be inspected periodically and after each rain and repairs made as necessary.

FIG.5A.18 FILENAME GRAS-OUT



CREST WIDTH (FT)=4xDRAINAGE AREA (ACRES)

SECTION A-A
EXCAVATED GRASS OUTLET SEDIMENT TRAP

CONSTRUCTION SPECIFICATION FOR ST-II

1. VOLUME OF SEDIMENT STORAGE SHALL BE 1800 CUBIC FEET PER ACRE OF CONTRIBUTORY DRAINAGE AREA.
2. MINIMUM CREST WIDTH SHALL BE 4 x DRAINAGE AREA
3. SEDIMENT SHALL BE REMOVED AND TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO 1/2 THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE.
4. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
5. CONSTRUCTION OPERATIONS SHALL BE CARRIED OUT IN SUCH A MANNER THAT EROSION AND WATER POLLUTION SHALL BE MINIMIZED.
6. THE SEDIMENT TRAP SHALL BE REMOVED AND AREA STABILIZED WHEN THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.
7. ALL CUT SLOPES SHALL BE 1:1 OR FLATTER.

MAXIMUM DRAINAGE AREA: 5 ACRES

PG.5A.38

U.S. DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

GRASS OUTLET
SEDIMENT TRAP
ST-II

STANDARD SYMBOL



Appendix C

Evaluation of Indirect Lighting and
Proposed Reduction Measures

APPENDIX C

LE JARDIN ACADEMY

EVALUATION OF INDIRECT LIGHTING AND PROPOSED REDUCTION MEASURES

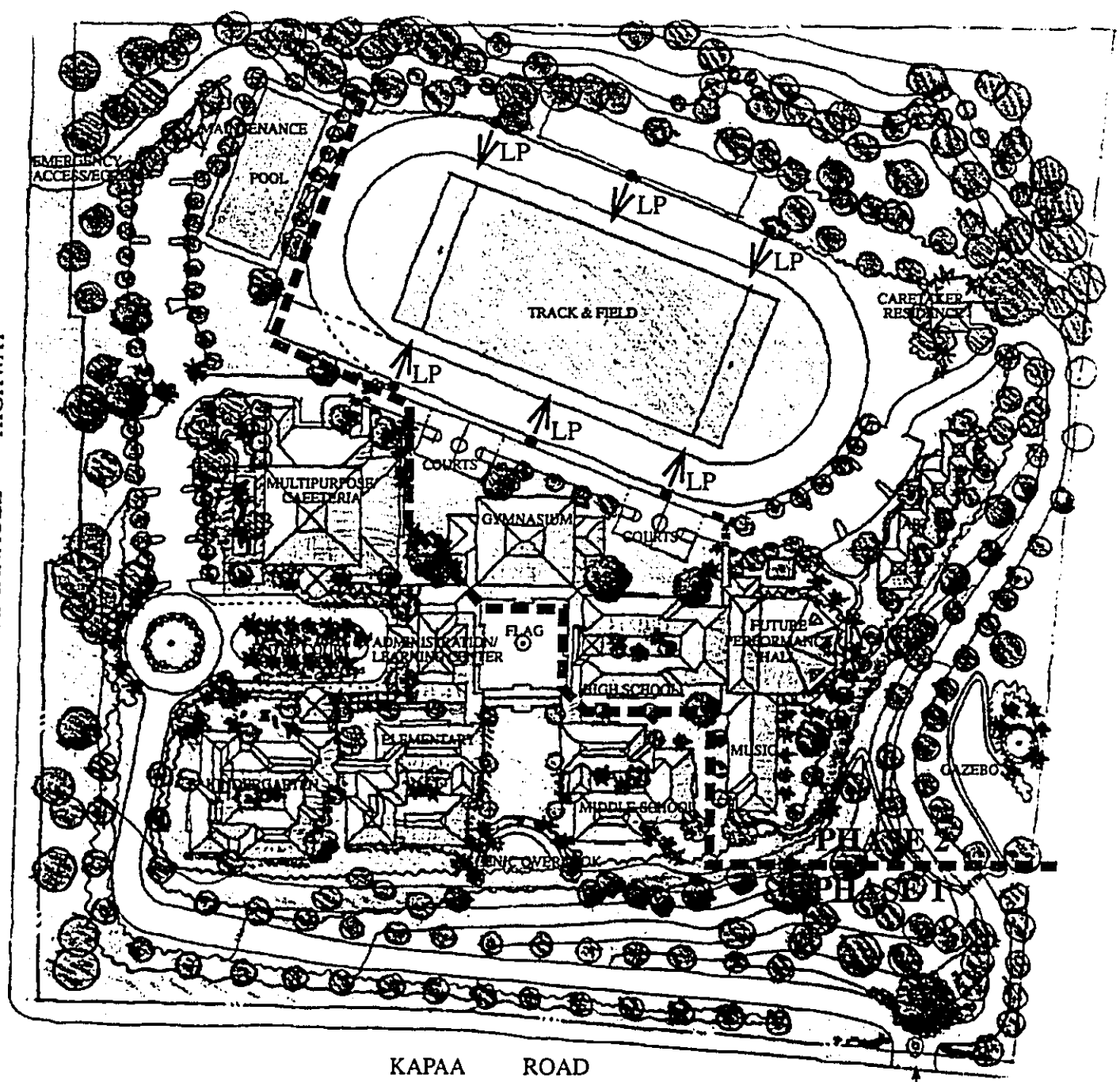
Prepared by:

ECM, Inc. Electrical, Civil, Mechanical Consultants
May 1996

TABLE OF CONTENTS

- A. PRELIMINARY LOCATION PLAN AND SECTION FOR ATHLETIC FIELD LIGHTING
- B. ESTIMATES OF SPILLOVER LIGHTING IN SURROUNDING AREA
- C. DLNR RECOMMENDED MEASURES FOR LIGHT SHIELDING TO MINIMIZE INDIRECT LIGHTING
- D. EXAMPLE APPLICATION OF SPILLOVER LIGHT REDUCTION SYSTEM
- E. SPECIFICATIONS FOR POSSIBLE LUMINARE SYSTEMS TO BE APPLIED AT PROJECT

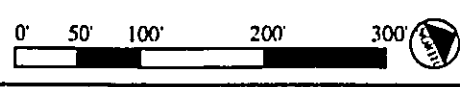
**A. PRELIMINARY LOCATION PLAN AND SECTION FOR
ATHLETIC FIELD LIGHTING**



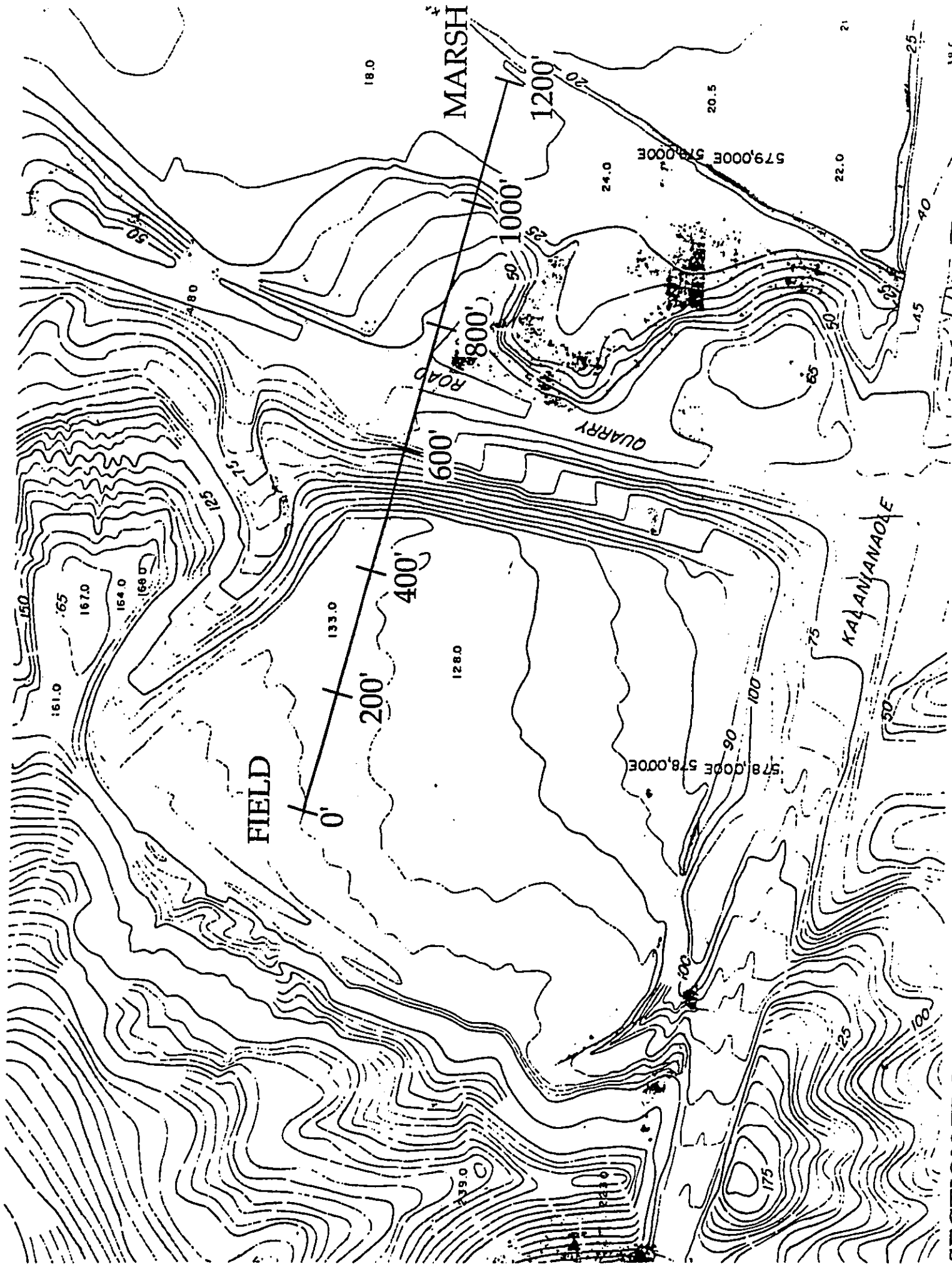
LP = Light Pole
 ↗ = luminaire pointing angle

REVISED SINGLE SCHOOL ENTRY & GUARD HOUSE

Conceptual Site Plan - Athletic Field Lighting
 Le Jardin Academy

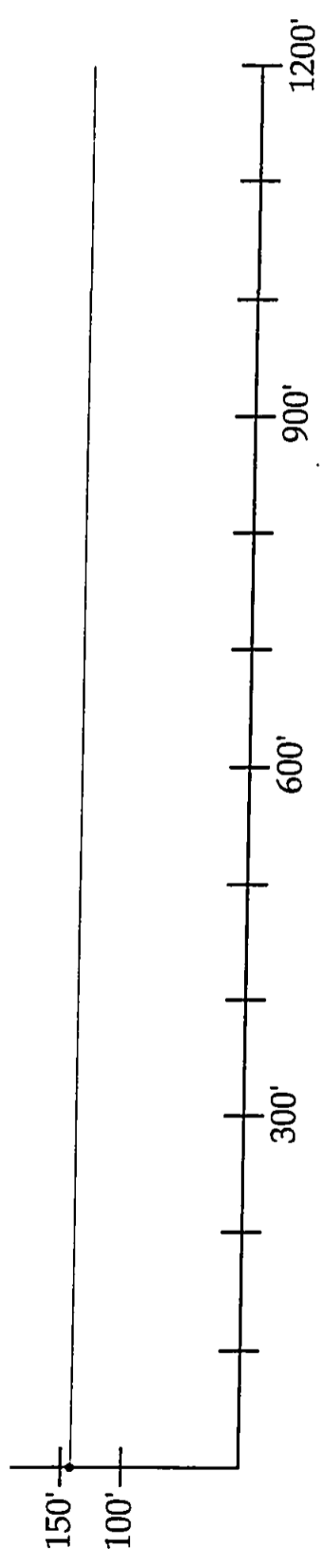
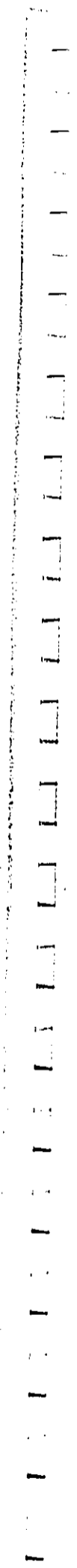


DOCUMENT CAPTURED AS RECEIVED

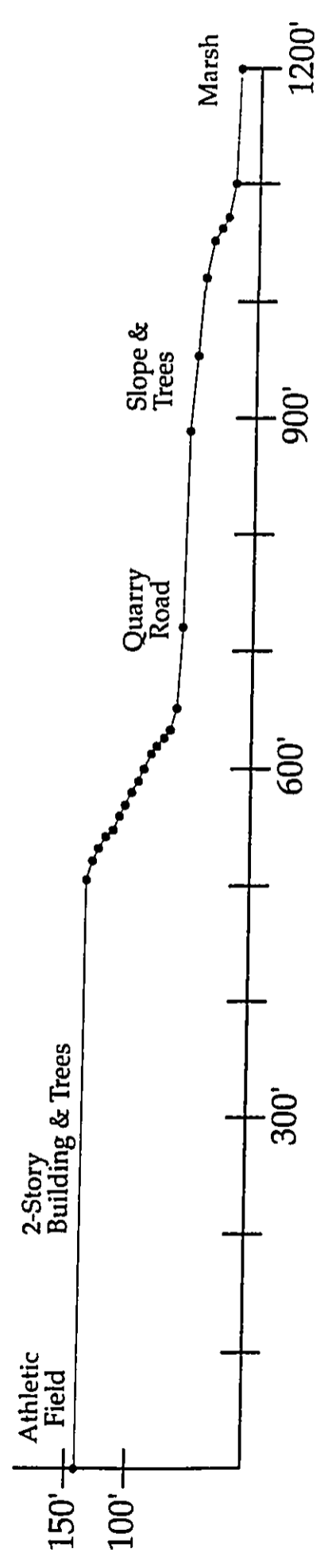


SECTION FROM ATHLETIC FIELD TO MARSH

SCALE: 1" = 200'



Level Site Scenario



Actual Topography and Site Conditions

**B. ESTIMATES OF SPILLOVER LIGHTING IN
SURROUNDING AREA**

Considerations for Lighting Design to Minimize Indirect Lighting Effects at Marsh

1. Use luminaire fixtures that shield lighting to focus illumination to athletic field. See specifications for Musco Level-8 unit. Back-wash light spilled from luminaire is minimized by design. Use rectangular cutoff luminaires or shielded ground level luminaires for street lighting. See specifications for Magnuform II Series.
2. Potential receptor located at marsh approx. 1,200 ft. from source.
3. Locate 3 light poles on either side of field, approx. 80 ft. high with 6-8 luminaires per pole focused toward field mid-line.
4. Level Site Scenario - Luminaires installed on a level site with no intervening buildings or vegetation would produce spill-over light levels of 0.25 foot-candles (fc) at 1,200 ft. which is less than full moonlight. (see section). This scenario is not applicable to the project site due to varying topography and intervening buildings and trees that absorb/diffuse indirect spill-over lighting.
5. Actual Site Scenario - Luminaires installed on project site in phase 2 of school development. High school facilities would be developed, mostly 2-story buildings positioned 400-600 ft. from source, between the athletic field and marsh. Trees will be grown around school buildings. Marsh is down-slope of school, and the slope has dense tall tree cover. Spill-over light levels will fall-off to low levels beyond school buildings due to buildings and trees, and will be negligible at marsh (1,200 ft.).
6. Street light fixtures along Kalaniana'ole Highway and Quarry Road are unshielded high intensity luminaires with no skirt on lens. This type of fixture produces substantial glare and spill-over lighting. Glare and indirect lighting from the existing street lights affect marsh today. These existing sources produce spill-over lighting levels far exceeding any potential spill-over lighting from the athletic field and school roadways. Rectangular cut-off luminaires or shielded ground level luminaires are proposed for the school site, which limit spill-over lighting to within 80-100 feet.
7. The cumulative lighting effect of the school facilities will be negligible at the marsh. Light effects at the marsh will continue to be caused by the adjacent street lighting.

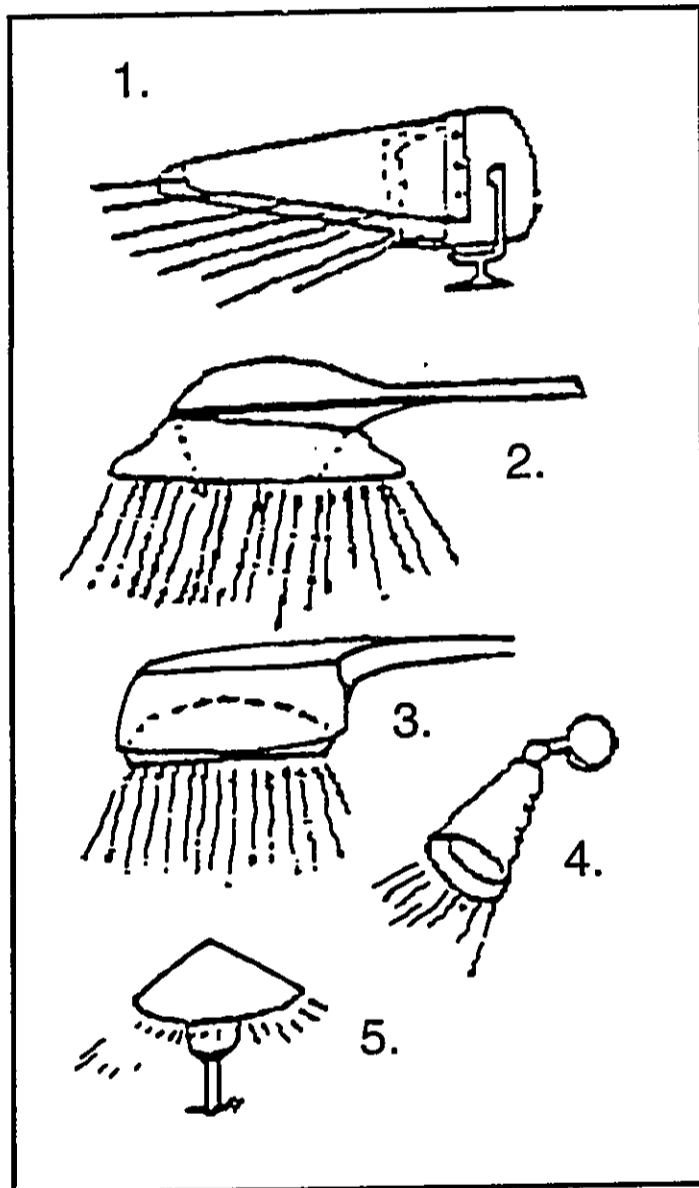
**ESTIMATED LIGHT LEVELS AT DISTANCE
FROM ATHLETIC FIELD SOURCE**

Distance from Fixture (feet)	Level Site Analysis Light from Fixture (fc)	Anticipated Light from Fixture (fc)
1,100 - 1,200	< 0.25	0.0
900	< 0.44	0.0
600	< 1.0	< 0.25
300	< 4.0	< 4.0

Notes:

- (1) 0.25 fc = less than full moonlight
- (2) Light level with MUSCO Sportscluster-2 with Level-8 option.

C. DLNR RECOMMENDED MEASURES FOR LIGHT SHIELDING TO MINIMIZE INDIRECT LIGHTING



- DLNR recommends using these types of lights whenever possible:
- 1. Shielded floodlights.
 - 2. Shielded streetlights.
 - 3. Cut-off luminate streetlights.
 - 4. Shielded spotlights aimed downwards.
 - 5. Indirect lighting low to the ground.

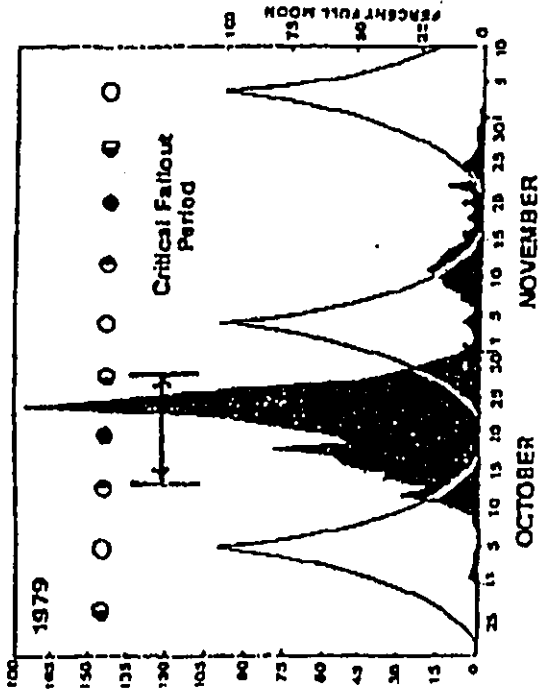


Figure 4. Relationship of shearwater "fallout" to the moon phases. The critical period of fallout occurs during the waxing and waning gibbous moon phases (darkest nights). Dowsing lights that are not absolutely necessary during that period could substantially reduce the annual shearwater fallout problem.

What To Do if Shearwaters Fall In Your Area

1. Collect birds as soon as possible to avoid losses to dogs and cars. They are generally docile birds and are easily handled. Take them to the nearest "shearwater aid station" located at county fire stations and at a few private business locations around the island. If birds must be held overnight, keep them in ventilated cardboard boxes with a secure lid.
2. Do not release birds by tossing them into the air. They may have unseen internal injuries and could become more badly injured.

TECHNICAL ASSISTANCE IS AVAILABLE FOR ADDITIONAL INFORMATION, CONTACT:

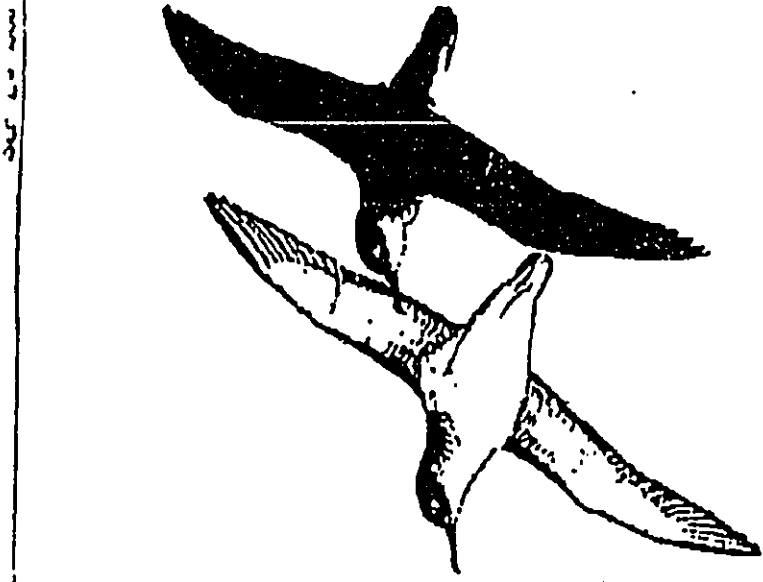
State of Hawaii
Department of Land and Natural Resources
Division of Forestry and Wildlife
P.O. Box 1671
Lihue, Hawaii 96766
245-4433

U.S. Dept. of the Interior
Fish and Wildlife Service
P.O. Box 87
Kilauea, Hawaii 96754
828-1413

The Nature Conservancy
of Hawaii
1026 Nuuanu Avenue, Suite 201
Honolulu, Hawaii 96813
537-4508



DEPARTMENT OF
LAND AND NATURAL RESOURCES



THE NEWELL'S SHEARWATER LIGHT ATTRACTION PROBLEM

A GUIDE FOR ARCHITECTS,
PLANNERS, AND RESORT MANAGERS

INTRODUCTION:

The future of a native Hawaiian seabird, the Newell's Shearwater, is threatened by the growth of new urban developments. Every year on Kauai, nearly 1,500 Newell's Shearwaters are attracted to bright urban lights, fly into unseen objects and fall turned to the ground. Fortunately, 90% of them are recovered and successfully returned to the wild through the "SOS" (Save our Shearwater) program which involves the cooperation of the general public.

This brochure is designed to describe the bird, its problems with lights and specifically what architects, planners, resort managers and the general public can do to reduce or avoid the light attraction problem.

THE BIRD

The Newell's Shearwater once nested on all of the major Hawaiian Islands, but the mongoose, introduced to Hawaii, Maui, Oahu and Kauai in the late 1800's is believed to have caused the extinction of shearwaters on those islands. Kauai is the last stronghold for this unique native Hawaiian seabird.

Newell's Shearwaters nest during the spring and summer months in the interior mountains of Kauai. They dig a long burrow into the ground beneath dense vegetation and lay a single egg each year. The eggs hatch during July and August, and the nestlings are reared within the burrow. The adult birds abandon the nestlings a week or two before they are old enough to fly. The nestlings become hungry, and leave the nesting grounds by themselves shortly after nightfall. They head for the open ocean, and must depend upon their instincts to find food. They do not return to their nest, but fly south towards the equator where they will remain all winter on the open seas until the following spring.

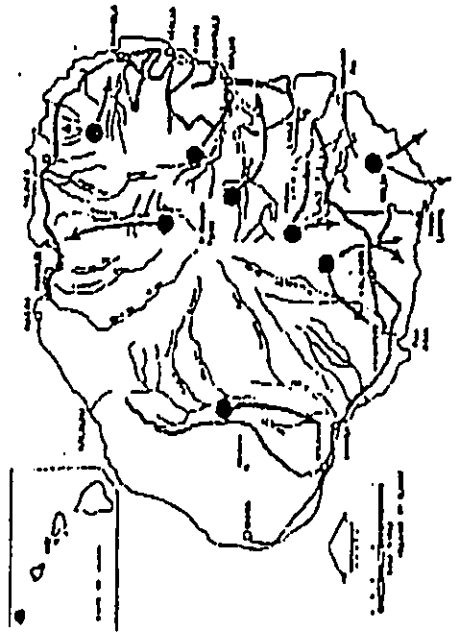


Figure 1. Map showing known nesting areas of the Newell's Shearwater, and probable light paths to the sea, which require them to pass over brightly lit urban areas.

THE THREATS:

PREDATORS: Dogs, cats, rats and feral pigs are known to kill some shearwaters and their young on the nesting grounds each year. The accidental establishment of a new predator to Kauai such as the mongoose, could cause the rapid extinction of this bird. Mongoose sightings on Kauai should be reported to wildlife officials promptly.

LIGHT ATTRACTION: Young shearwaters leaving their nests for the first time, do so only after dark. They are inexperienced and have a natural attraction to bright lights. Flying near urban areas, they become temporarily blinded by the lights and fly into unseen objects such as utility wires, trees, buildings and automobiles. Often times they are just confused and exhausted. Most often they are only stunned and fall to the ground, but about 10 percent of them die each year. The problem is growing because of the increased number of urban lights associated with new resort and residential developments. The greatest "fallout" problem occurs near coastal towns, particularly near river mouths.

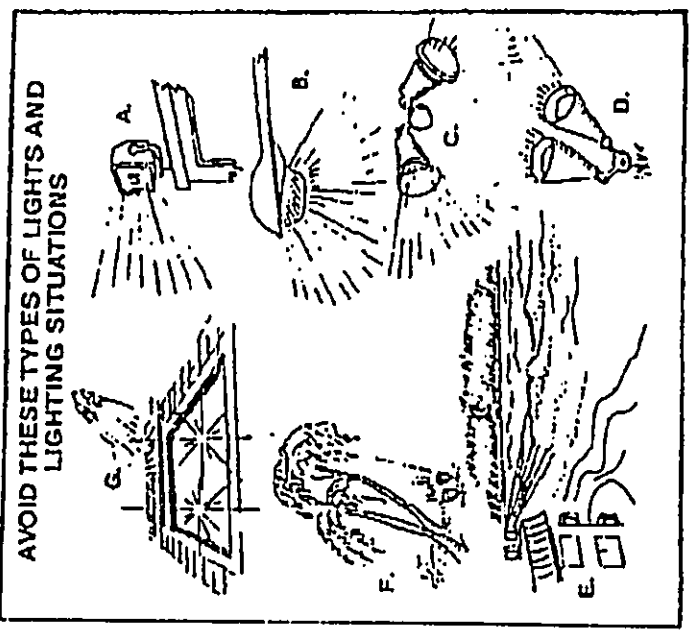


Figure 2. Avoid these types of lights: A. Unshielded high intensity floodlights on tall structures. B. Street lights without shields. C. Unshielded spotlights. D. Spotlights aimed downwards. Avoid using these types of lighting situations during peak fallout periods (new moon) during October and November. E. Floodlights on surf. F. Spotlights aimed up at vegetation. G. Spotlights directed on pools which reflect light.

WHY CAN WE DO TO HELP?

Architects and Planners

- Be aware of the light attraction problem during the planning stages of new development.
- Make every effort to avoid lighting situations where light glare projects upwards or laterally (see figure 2). Avoid large high-intensity floodlights located on building tops or poles whenever possible.
- Use shielded lights, cut-off luminaires or indirect lighting whenever possible. (see figure 3).
- Avoid locating bright lights near utility wires or other objects that could be difficult for birds to see at night.

Hotel, Resort and Condominium Managers

- When converting to new exterior light fixtures, consider installing shielded lights, cut-off luminaires or indirect lighting.
- Consider installing shields on exterior lights that are known to attract shearwaters. Some light manufacturers offer ready made shields. In some cases inexpensive shields can be fabricated.
- Avoid using unnecessary lighting during the critical shearwater fallout period (October and November each year). Note: The heaviest fallout occurs on and around the new moon, generally for only 10 to 12 days. (See figure 4). Dowsing unnecessary floodlights that light up the surf or shine upward upon buildings or trees for that short period could significantly reduce shearwater fallout.

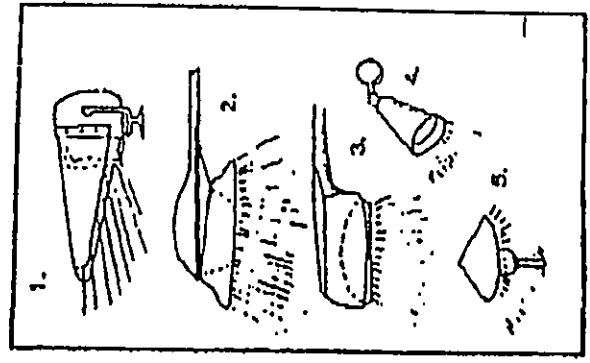


Figure 3. Use these types of lights whenever possible: 1. Floodlight, 2. Shielded floodlight, 3. Cut-off luminaire, 4. Shielded spotlight, 5. Indirect lighting low to the ground.

CORRECTION

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

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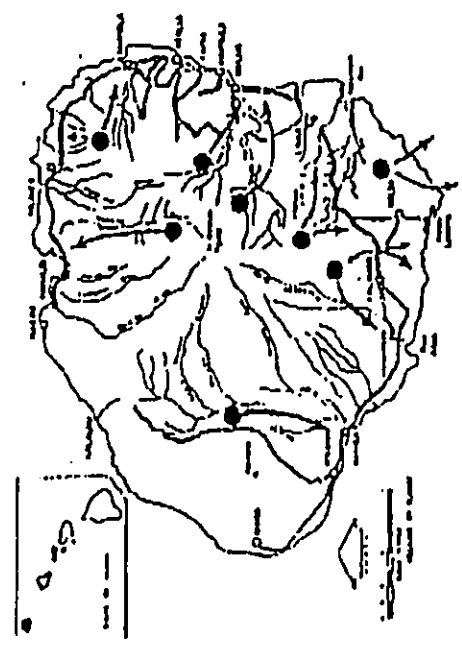


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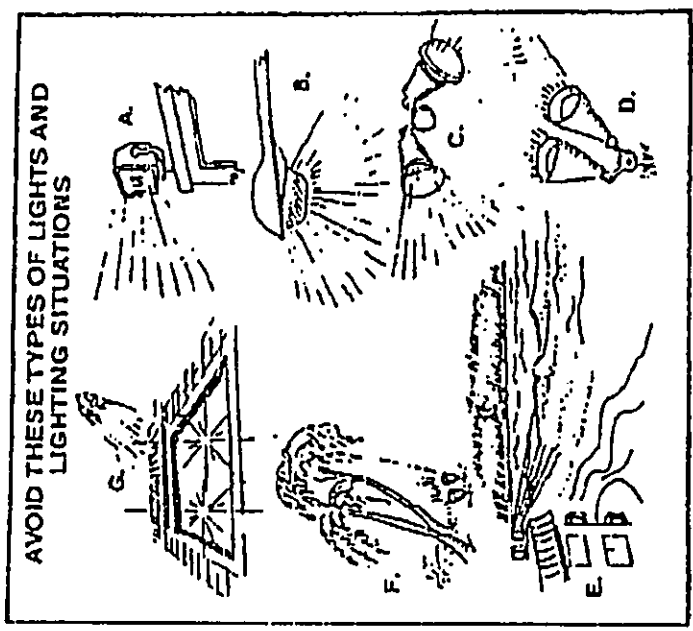


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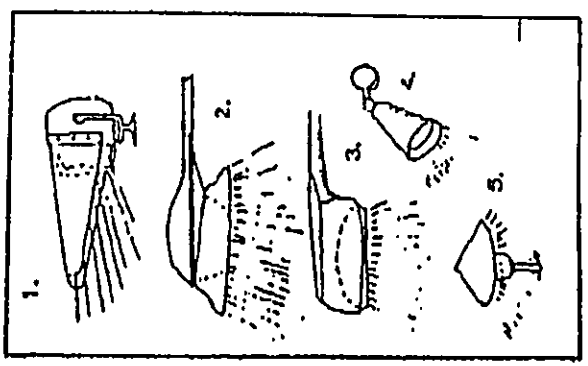


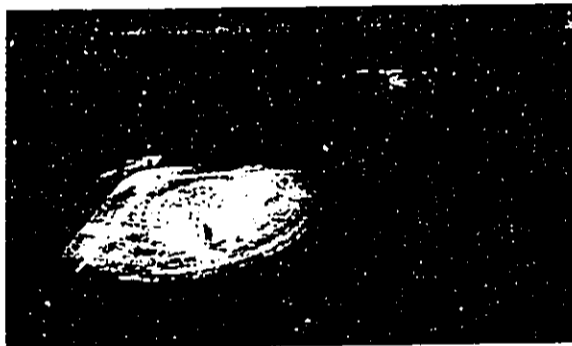
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**D. EXAMPLE APPLICATION OF SPILLOVER LIGHT
REDUCTION SYSTEM**



Poway, California Community Park Softball Fields

Two lighted softball fields were included in the planning for Poway, California's new 28-acre Community Park project. The primary concern of Mr. Jim Bentz, acting director of Poway's Parks and Recreation Department, was



spill light and glare control. It was considered of vital importance that spill light be minimized on a mobile home park located just 100 feet from the edge of the fields, and on an adjacent older residential neighborhood. Not only did the city require that spill light and glare be reduced to an absolute minimum, but that a minimum footcandle level be maintained on the playing field area.

Based on these primary requirements, it was apparent to Jim Bentz and the Poway city fathers that Musco's customized spill and glare control system was unmistakably the obvious choice to light the two new softball fields. It was just a few years prior that Musco was successful in significantly reducing annoying spill light emanating from the city's Lake Poway Championship soft-

ball field. The field was initially located in a secluded area. However, the area surrounding the field soon thereafter began to develop into a residential neighborhood.

"Musco was able to come in and retrofit our lighting system, even though it wasn't originally designed for glare control", Bentz said.

"Since it installed the Musco system, the city has yet to receive a complaint about the lights. So we were well aware of the Musco's advanced technology."

"We also knew of other companies that try to contain spill light," Bentz said, "but, we felt quite strongly that Musco was the only one that could do the job, and were determined that we wanted to use Musco again for our new project."

The city of Poway was required by law to accept bids from other lighting companies, but pre-evaluated them prior to opening bids, using performance specifications as the criteria. Poway's City Council was thereby assured that other companies who thought they could compete with Musco had an opportunity to do so.

"As it turned out", Bentz reported, "Musco was the only firm that could meet the city's requirements."

Working with previously set pole locations and heights, Musco technicians designed and installed a Sportscluster-2 lighting system that resulted in an 80 to 95% reduction in spill light compared to the standard Sportscluster system. In addition, the Musco system provided 33 footcandles of light level on the infield and 24 footcandles on the outfield, with playing field uniformity at 1.3 to 1 on the infield and 2 to 1 on the outfield.

As a secondary requirement, the city of Poway requires that recreational lights be turned off at a given time. Musco technicians responded with a push button timing system accessible to city personnel, with the additional safeguard of an automatic switch to override the manual system to ensure shutting down the system by a 10 p.m. deadline.

"Musco met or surpassed all our requirements", commented Bentz, "and it's hard for anyone to come in and sell us a competing product."

PROJECT:

Design total lighting system for 2 - 260 foot radius softball fields.

SPECIFICATIONS:

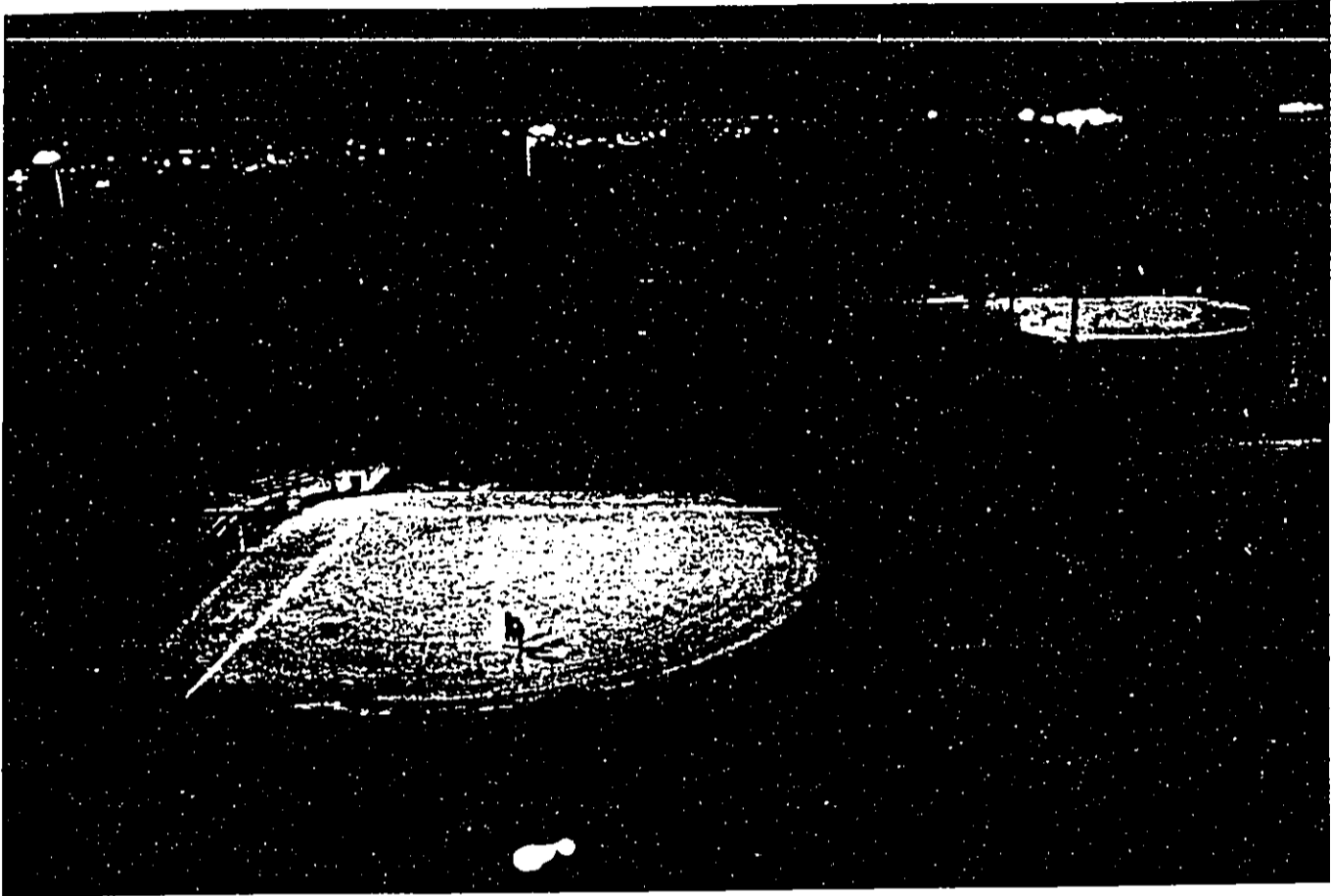
- Provide a minimum maintained footcandle level on the field.
- Minimize spill light from the fields on a mobile home park located 100 feet from one edge of the field and an older residential neighborhood on the other side of the field.
- Significantly reduce spill and glare while maintaining specified light levels on the fields.
- Work with previously set pole locations and heights.
- Provide an automatic turn off for the lighting system to comply with city guidelines.

SOLUTION:

A Musco spill and glare control sports lighting system with patented reflectors that redirect spill light onto the field.

RESULTS:

- Playing field light levels of 33 footcandles with 1.3/1 uniformity were achieved on the infields and 24 footcandles with 2/1 uniformity on the outfield.
- Spill light was reduced 80-95% compared to the prior generation Sportscluster system and conventional types of sports lighting.
- Player glare was significantly reduced, improving playability and making the ball brighter and easier to follow.
- A push button timing system accessible to city personnel was provided with the added safeguard of an automatic switch to override the manual system, ensuring shutting down the system by the 10 p.m. deadline.



Poway Community Park Poway, California

Off-Sight Glare Control

- Musco's Level-8™ reflector systems reduced spill and glare light on nearby residential neighborhoods by 95%

On-Field Lighting

- 33 footcandles (355 lux), infield
- 24 footcandles (258 lux), outfield
- Layout—6 poles per field, 80-foot mounting height



Corporate Office:

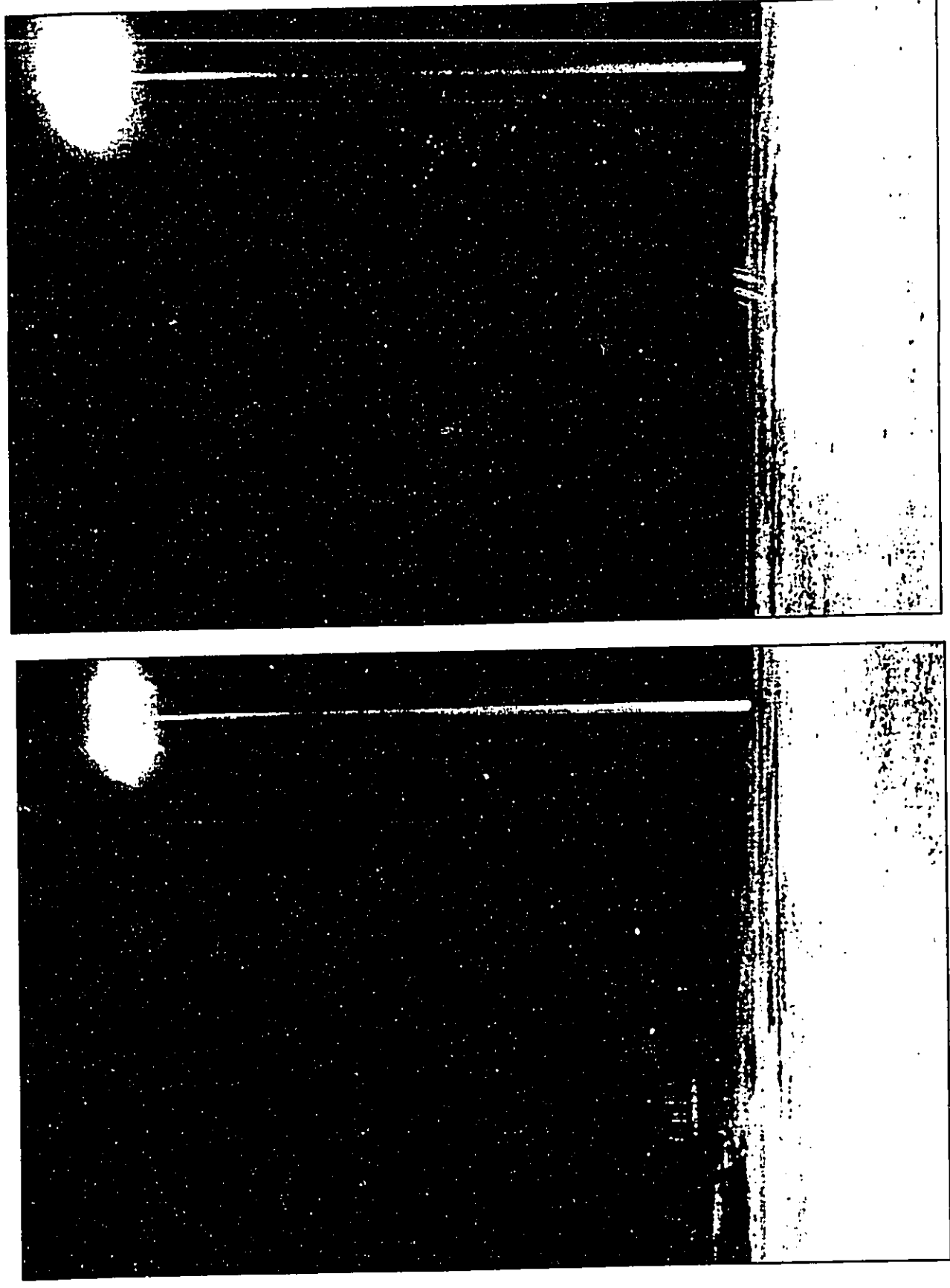
100 First Avenue West • P.O. Box 808 • Oskaloosa, Iowa 52577
515/673-0411 • 800/825-6030 • Fax: 515/673-4740

Manufacturing:

2107 Stewart Road • P.O. Box 14 • Muscatine, Iowa 52761
319/263-2281 • 800/756-1205 • Fax: 800/374-6402

Level-8™ Modification

Provides maximum level of environmental light control



**E. SPECIFICATIONS FOR POSSIBLE LUMINARE
SYSTEMS TO BE APPLIED AT PROJECT**

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MAY 21 '96 11:00 ECM, INC 800-2449535

Musco Products to Meet Your Sports-Lighting Needs

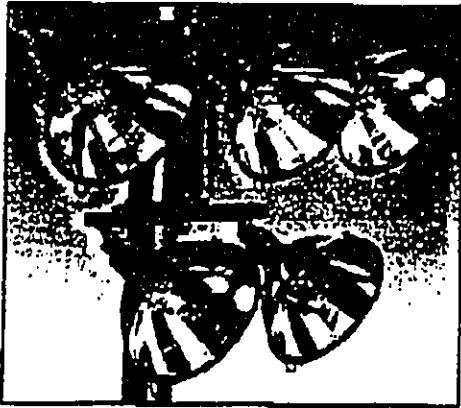
Light-Structure System™

Outdoor: New Lighting Applications

Engineered as 5 easy pieces that support the 5 important sports-lighting principles of safety, durability, energy efficiency, environmental sensitivity and cost.

Increases light levels up to 25%
Reduces wasted spill light up to 85%

Additional Product Lines:



Sportscluster-2

Outdoor: Retrofit Applications

A modular photometric unit factory-aimed and tested to perform from your choice of structures—makes retrofit of old equipment easy.

Increases light levels up to 25%
Decreases wasted spill light up to 85%

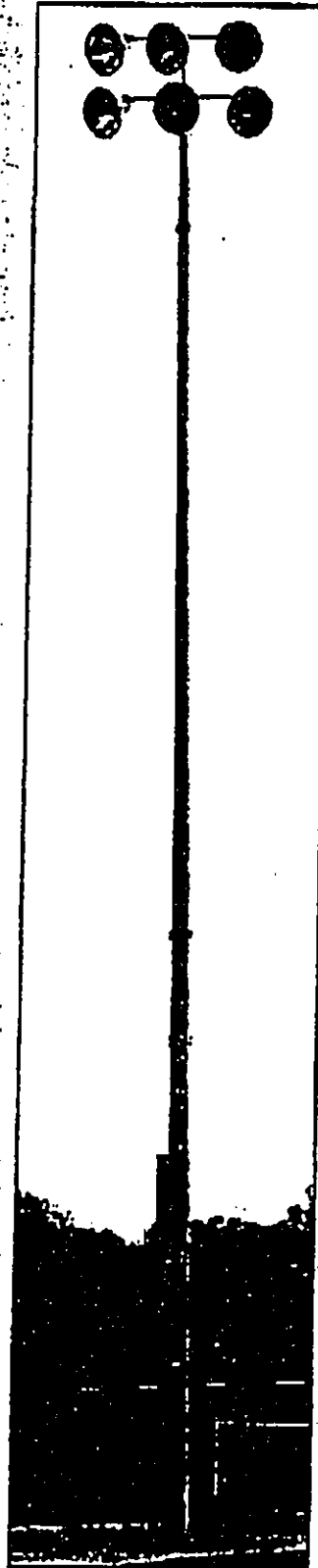


Indoor Light-Pak System™

Indoor: New and Retrofit Applications

Energy-efficient indoor sports lighting that operates at your choice of two energy levels for improved cost control.

Saves energy cost over alternative systems



Corporate Office:
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BLSP3

SEE THE VALUE OF MUSCO'S SPILL AND GLARE CONTROL TECHNOLOGY

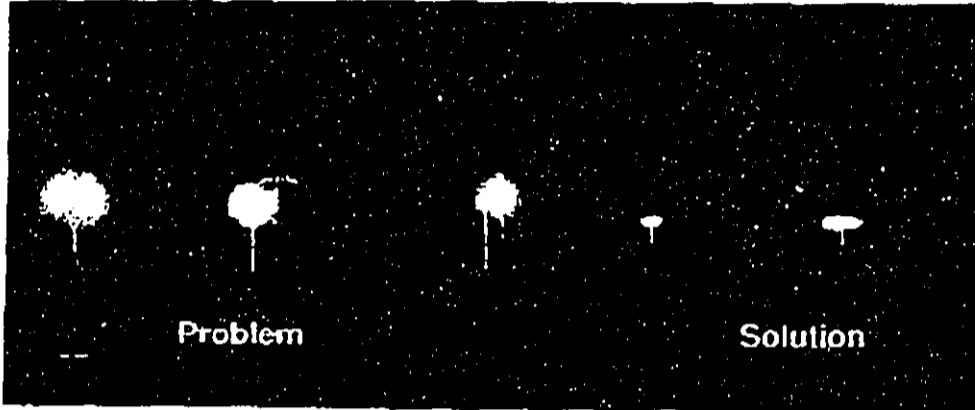
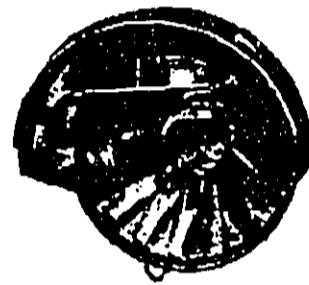


Photo taken during retrofit to Level-B. Field on the left is original Sportscluster. Field on the right is nearing completion of Level-B modification.



The advanced design of the Level-B reflector modifications reduce environmental light problems and improve playability on the field.

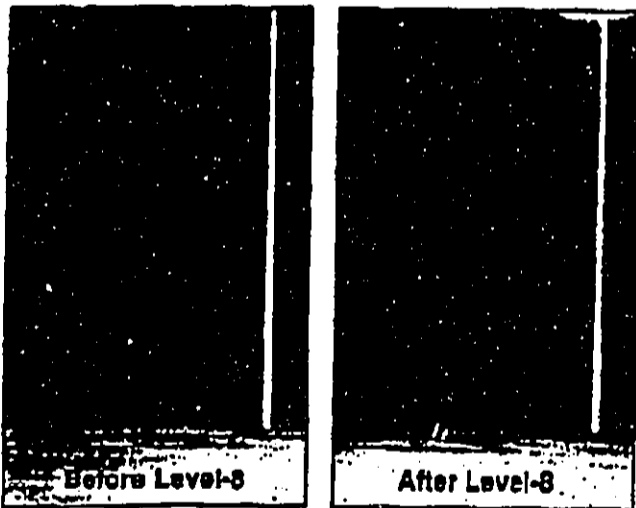
Extraordinary light control for serious problems

Sportscluster-2 has all the light control that most fields ever need . . . built right into the system. But where serious problems exist, Musco offers a Level-B™ modification of Sportscluster-2 that gives dramatic relief.

Level-B modifications are precisely tailored for specific situations that call for substantial reductions—as much as 95 percent—of off-field spill and glare.

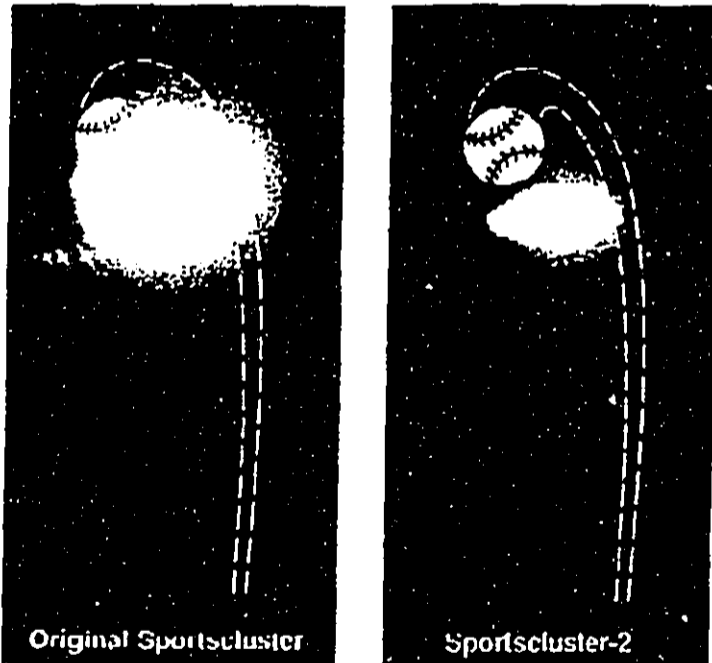
Even with reductions of this magnitude, this advanced technology gives you the same amount of high performance and outstanding playability on the field—without adding extra fixtures.

A view of the neighbors



Level-B modification can make a visible difference in light control situations. The picture on the left shows the effect of ballfield lighting on the adjacent house before the Level-B modification was installed. Light spill created a serious nuisance for residents. With the Level-B installation, spill and glare was reduced so substantially, the house is barely visible.

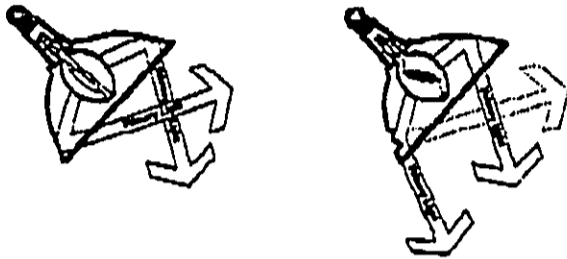
Gets glare out of the players' eyes



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25% more light on the field- up to 95% less light off the field



Sportscluster-2, the new generation in sports lighting, harnesses wasted spill light and uses it to improve light levels on the field.



Original Sportscluster

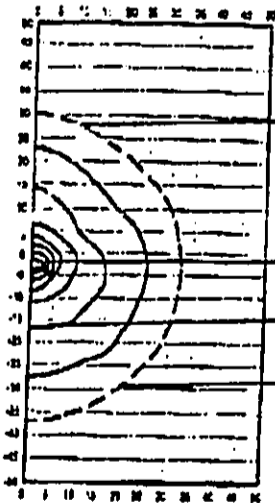
Sportscluster-2

Sportscluster-2 with Level-8™ option

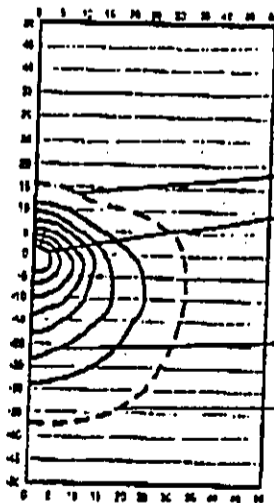


Photos of comparative beams projected on a grid ceiling for reference.

Comparative Isocandela Curves- Average of right & left sides



Original Sportscluster
ITL Report #ITL34086
Nema Type 4



Sportscluster-2
ITL Report #ITL35566
Nema Type 4



Sportscluster-2 Level 8
ITL Report #ITL35567
Nema Type 4

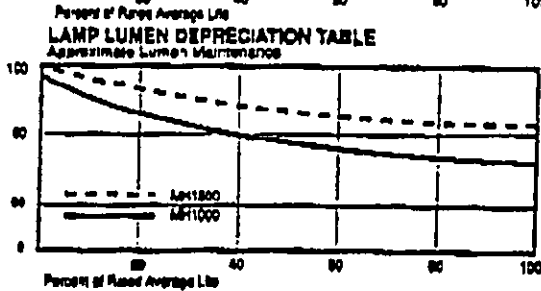
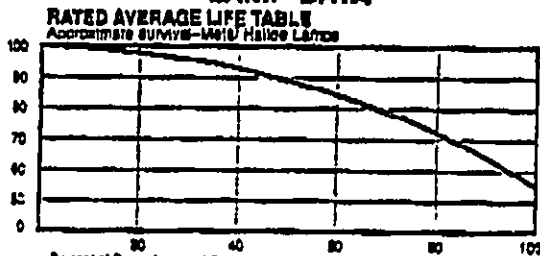
PHOTOMETRICS SUMMARY

For most sports-lighting applications Sportscluster-2 and Level-8™ will produce 25% more horizontal footcandles than the original Sportscluster (SC-1).

Lamp type: 1500 watt Metal Halide rated at 155,000 lumens						
NCMA TYPE		2	3	4	5	6
Max	SC-1	1,360,496	723,823	302,980	169,172	93,717
Candlepower	SC-2	1,445,500	553,400	350,000	202,560	154,500
	L-8	1,297,000	524,100	357,100	201,580	157,050
Horizontal Beam Spread	SC-1	25.3°	37.9°	64.9°	86.5°	117.0°
	SC-2	21.2°	43.0°	63.7°	83.7°	100.0°
	L-8	21.7°	42.4°	60.8°	76.9°	82.0°
Vertical Beam Spread	SC-1	29.2°	38.2°	67.2°	88.9°	120.2°
	SC-2	30.4°	41.1°	53.2°	72.1°	86.1°
	L-8	30.3°	42.7°	54.2°	73.5°	83.6°
Upper Vertical Beam	SC-1	15.1°	18.8°	34.3°	43.8°	61.8°
	SC-2	11.5°	14.5°	18.9°	29.3°	34.2°
Lower Vertical Beam	SC-1	14.1°	18.6°	32.9°	43.1°	58.6°
	SC-2	18.9°	26.6°	36.3°	42.8°	51.9°
	L-8	20.1°	28.8°	38.1°	46.8°	54.0°

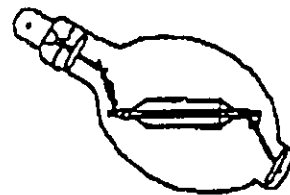
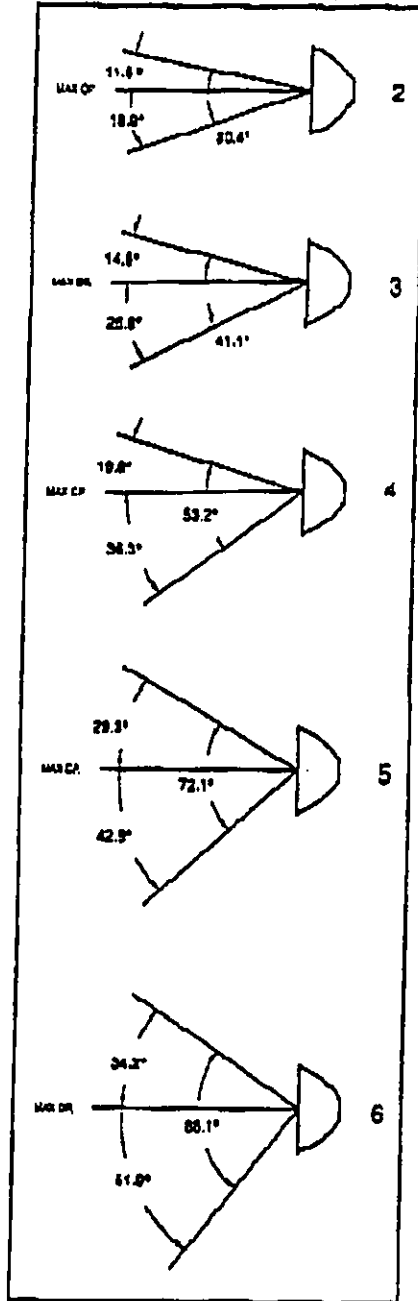
Photometric summary by independent Testing Laboratories, Boulder, CO.

LAMP DATA



Warning: If the outer jacket of the lamp is broken, the lamp should be replaced even if arc tube is still operational. Outer jacket shields against UV rays. Lamps with blackened arc tube should be replaced even if operational due to potential for traumatic failure.

Sportscluster-2 Beam Spreads



Lamp Operating Characteristics—Photometric

	1500 Watt	1000 Watt
Rated initial lumens (1)	155,000 (103 lpw)	105,000 (105 lpw)
Mean lumens, approximate (2)	142,000 (94.7 lpw)	84,000 (84 lpw)
Rated average life, hours vertical - 5 hrs per start	3,000	6,000
Rated average life, hours vertical - 10 hrs per start	5,000	12,000
Correlated color temperature (approx.) (2)	3700K	3700K
CIE chromaticity (approx.) (2)	x-.396; y-.390	x-.396; y-.360
Color rendering index (Ra)	65	65

(1) Measured at 100 hours of life with lamp tilted 30° below horizontal
 (2) Measured at rated lamp watts on a clear test spot. LPW does not include ballast losses.
 (3) Measured with the lamp operating at rated watts.

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MAGNUFORM® II SERIES

RC RECTANGULAR CUTOFF LUMINAIRES

The Magnuform II Series offers an aesthetically-styled rectangular housing with sharp cutoff for a variety of distributions for any lighting application. With a wide range of optical assemblies the RC Series is ideal for shopping centers, parking areas, malls, commercial and industrial complexes, roadway, or any area where luminaire styling contributes to the visual environment.

Magnuform II offers two housing sizes. The small RCS/RCJ unit is available in 100-400 watt HPS and 175-400 Metal Halide. The larger RCL, RCT unit has wattage ranges of up to 1000 watt HPS and MH.

Housing — Lightweight, rugged, one-piece formed and welded aluminum ensures smooth construction and weatherproof integrity. The luminaire is pre-drilled for mounting to pole or wall.

Ballast — 180°C insulation, -20°F starting (-40°F, HPS), 60 Hz MPF ballast, 50 Hz ballast available - contact factory.

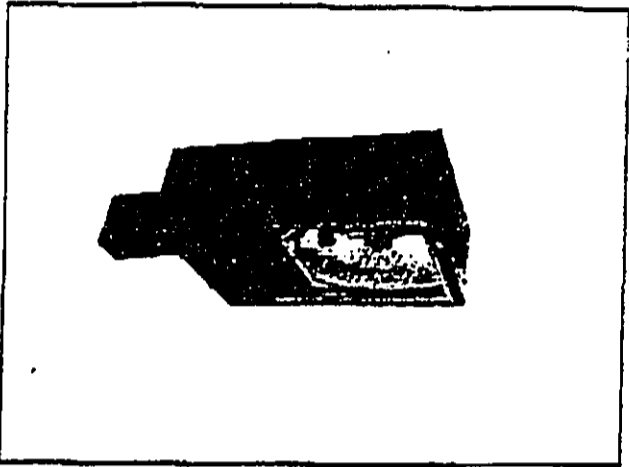
POWER-PANEL® Assembly — All electrical components are mounted on a galvanized steel plate which is held in place by spring loaded latches for easy installation and removal. Pre-wired with quick disconnect plugs.

Lens Door Frame — Extruded frame with rigid corner bracing and die-cast zinc latches to permit tool-less entry for servicing. The door has high quality silicone gasketing to seal against entry of insects, dirt and moisture. Decorative silkscreening provides for concealment of electrical compartment.

Lens — Flat, tempered and impact resistant glass.

LEKTROCOTE® Finish — Two mils minimum of electrostatically applied powder coating, high temperature bonded to the surface for maximum adherence and finish hardness. Standard finishes are bronze, black, gray and white. See ordering information.

Additional Features — Fully gasketed for all weather operation, U.L. 1572 listed and suitable for wet locations. C.S.A. certified for outdoor use. IP suitability — IP65.



DIMENSIONS

DIMENSIONAL DATA

	RCS RCJ	RCL RCT
A	10 1/4" 413 mm	22 1/2" 572 mm
B	23 1/2" 591 mm	30 1/4" 768 mm
C	8" 203 mm	10" 254 mm



CATALOG LOGIC

RC M-0400 2-2 P 2-1-F1

Shape: R-Rectangular

Series: C-Cutoff

Housing Style: S-Small
L-Large (Same as M with 1000W Back Assembly)
J-Small Forward Throw
T-Large Forward Throw

Wattage Small RCS

100	HPS
175	100
280	150
400	200
400	400

Large MH HPS
1000 1000

Source: H-Metal Halide
S-High Pressure Sodium

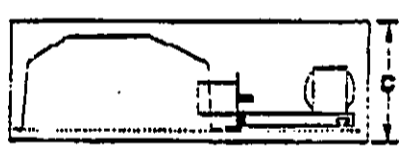
Reflector Type: 1-RCS, RCL, RC, RCT
2-RCL

Options:
P1-Long (P1-120V, P2-200V, P3-240V, P4-277V, P5-480V, P6-347V)
PC-Busbar Type Preconnected (120-277V)
TRIST-LOCK® for 180V-480V
Specify notes.

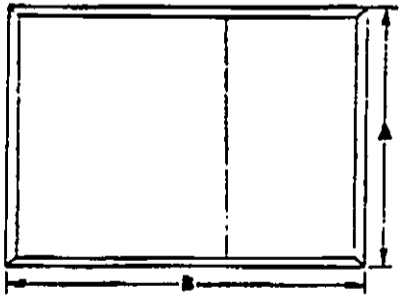
LEKTROCOTE® Finish:
1-Bronze
2-Black
3-Gray
4-White

Voltage: 6-480 Volt
6-T6/T8c (120V, 277V, 347V)
6-Quad™ up (480V, 300V, 240V, 277V)
For 800 volt, or 60 Hz consult factory.

Beam Distribution:
S-Type "S" Medium Forward Throw
F-Type "F" Medium Forward Throw
W-Type "W" Beams
*Available on RCS/RCL housing only
Cutoff types are standard but field adjustable for other devices. See ordering information for details.



RCS/RCJ/RCL/RCT



Project	
Type	Catalog Number
Remarks	



Lighting, Inc.

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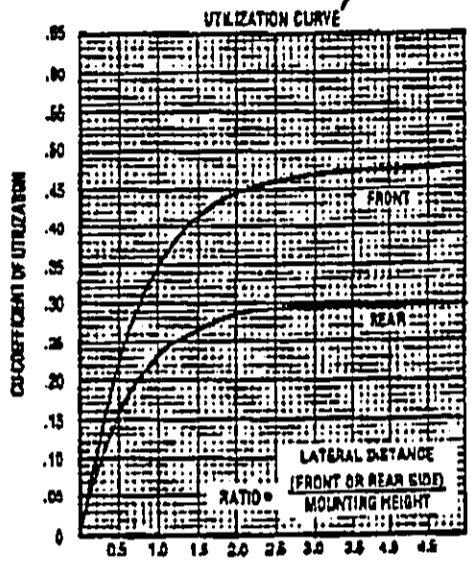
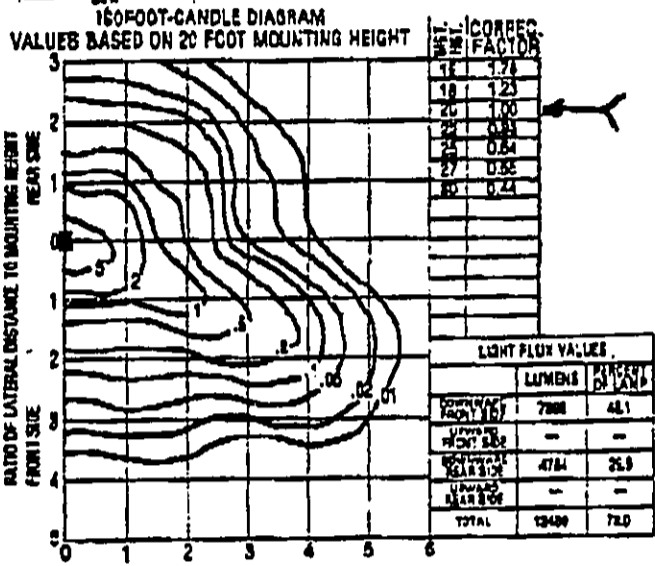
HUBBELL LIGHTING PHOTOMETRIC REPORT

RCS-0150S



TEST NO.: HP-01695
SOURCE: HIGH PRESSURE SODIUM
LAMP: S85
WATTS: 150
L.C.L.: 5'
LUMENS: 16000

TYPE: III
DISTRIBUTION: MEDIUM
CLASSIFICATION: CUTOFF
EFFICIENCY: 78%
DATE: 1-8-82
APPROVED: *[Signature]*



EFFECTIVE LUMENS = CU x BARE LAMP LUMENS
AVERAGE HORIZONTAL FOOTCANDLES ON AREA = $\frac{\text{EFFECTIVE LUMENS}}{\text{SPACING} \times \text{WIDTH OF AREA}}$

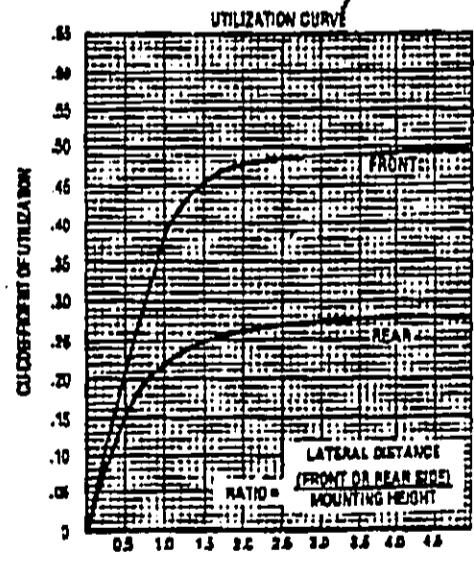
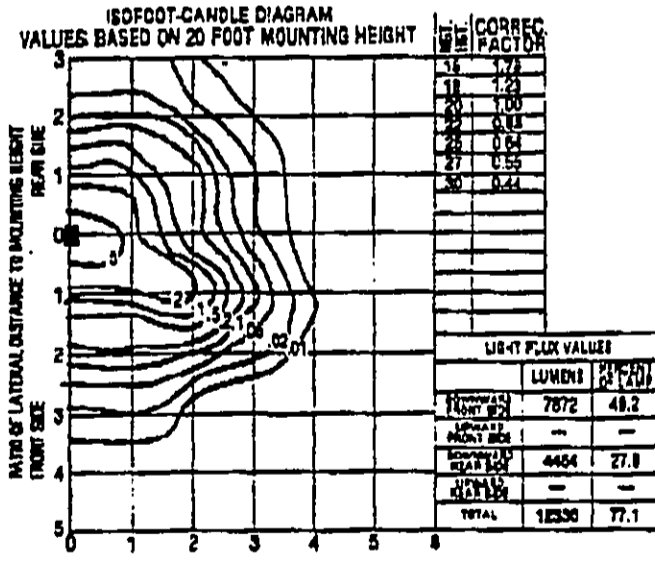
HUBBELL LIGHTING PHOTOMETRIC REPORT

RCS-0150S



TEST NO.: HP-01693
SOURCE: HIGH PRESSURE SODIUM
LAMP: S55 (CLEAR)
WATTS: 150
L.C.L.: 5'
LUMENS: 16000

TYPE: III
DISTRIBUTION: SHORT
CLASSIFICATION: CUTOFF
EFFICIENCY: 77.1%
DATE: 2-18-82
APPROVED: *[Signature]*



EFFECTIVE LUMENS = CU x BARE LAMP LUMENS
AVERAGE HORIZONTAL FOOTCANDLES ON AREA = $\frac{\text{EFFECTIVE LUMENS}}{\text{SPACING} \times \text{WIDTH OF AREA}}$



Hubbell Lighting, Inc.

TESTED TO CURRENT IES AND NEMA STANDARDS UNDER STABILIZED LABORATORY CONDITIONS. VARIOUS OPERATING FACTORS CAN CAUSE DIFFERENCES BETWEEN LAB DATA AND ACTUAL FIELD MEASUREMENTS.

6a (II)

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July 1984

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