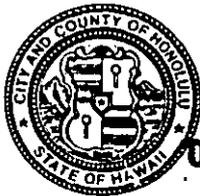


DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET • HONOLULU, HAWAII 96813
TELEPHONE: (808) 523-4414 • FAX: (808) 527-6743 • INTERNET: www.co.honolulu.hi.us

JEREMY HARRIS
MAYOR



RECEIVED

02 APR 18 A8:30

RANDALL K. FUJIKI, AIA
DIRECTOR

LORETTA K.C. CHEE
DEPUTY DIRECTOR

2001/ED-16(RY)

OFF. OF ENVIRONMENTAL
QUALITY CONTROL

April 10, 2002

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
State of Hawaii
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

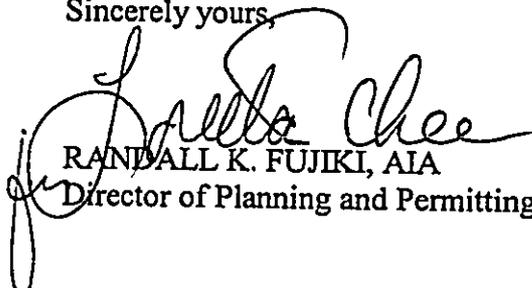
Dear Ms. Salmonson:

Findings of No Significant Impact (FONSI) for
Varona Village Community Services Project
Tax Map Key 9-1-17:Portion 69, City & County of Honolulu, Oahu, Hawaii

The Department of Planning and Permitting (DPP) has reviewed the comments received during the 30-day public review period which began on July 8, 2001. The DPP has determined that this project will not have significant environmental effects and has issued a FONSI. Please publish this notice in your OEQC Environmental Notice as soon as possible.

We have enclosed a completed OEQC Publication Form, a hardcopy of and a computer diskette containing the revised project summary, and four copies of the Final Environmental Assessment. If you have any questions, please contact Raymond Young of my staff at 527-5839.

Sincerely yours,


RANDALL K. FUJIKI, AIA
Director of Planning and Permitting

RKF:lh
Doc 145971

cc: A. Kamemura, Department of Community Services

Enclosures

26

MAY 8 2002

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2002-05-08-0A-~~FEA-~~

**(Varona Village
Community Services) Project**

FINAL ENVIRONMENTAL ASSESSMENT
(Draft Environmental Assessment titled:
Friendship Community Services Inc., Varona Village Project)

Prepared For:
City and County of Honolulu
Department of Community Services

Prepared By:
PBR HAWAII

March 2002

Varona Village Community Services Project

**FINAL ENVIRONMENTAL ASSESSMENT
(Draft Environmental Assessment titled:
Friendship Community Services, Inc., Varona Village Project)**

**Prepared For:
City and County of Honolulu
Department of Community Services**

**Prepared By:
PBR HAWAII**

March 2002

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VARONA VILLAGE COMMUNITY SERVICES PROJECT
Final Environmental Assessment

1.0 INTRODUCTION

This Environmental Assessment (EA) has been prepared in compliance with Chapter 343, *Hawai'i Revised Statutes* (HRS) and 24 Code of Federal Regulations (CFR) Part 58 for the proposed Varona Village Community Services Project (the "Project") and the adjacent existing portion of Varona Village. It should be noted that subsequent to the publication of the Draft EA, the Friendship Bible Church, initiator of the Friendship Community Services (FCS) Project, is no longer associated with the project. Previous references and letters to FCS and their responsibility to mitigate impacts are no longer applicable. Instead, the Department of Community Services, a future private developer, or a combination of both entities will be addressing those concerns. Since Friendship Bible Church is no longer initiating this project, the site plan and structural improvements shown on the Site Plan (Figure 3), are based on one possible development scenario. It should also be noted that development scenarios are subject to changes and if those changes are substantial, a revised environmental disclosure document may be required in order to comply with the Environmental Impact Disclosure Law. Since the Department of Planning and Permitting (DPP) is the accepting authority for this Final EA, DPP shall be consulted as to whether future changes and their associated impacts are deemed substantial or are already disclosed and adequately addressed in this FEA.

1.1 PROJECT SUMMARY

Project Name: Varona Village Community Services (VVCS) Project.

Proposing Agency: City and County of Honolulu Department of Community Services (DCS).

Landowner: City and County of Honolulu.

Location: Varona Village, 'Ewa.

Tax Map Key: 9-1-017: 069 (portion).

Existing Use: The subject parcel includes residential dwellings and vacant lands.

Proposed Use: Community-Type Facilities and continuation of existing Residential Use.

Project Area: Approximately 27 acres of Varona Village, consisting of two areas, 14 acres in the eastern portion to be developed as the Varona Village Community Services Project and 13 acres in the western section which will remain as existing residential use.

State Land Use: Urban and Agricultural.

County Zoning: AG-1.

SMA: The subject property is not in the SMA. The State Office of Planning determined that the proposed action is consistent with the approved Coastal Management Program for the area.

VARONA VILLAGE COMMUNITY SERVICES PROJECT
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Action Requested: Use of County lands and CDBG funds.

Accepting Authority: Department of Planning and Permitting, City and County of Honolulu.

**Anticipated
Determination:** Finding of No Significant Impact (FONSI).

1.2 LOCATION

Varona Village consists of approximately 27 acres of semi-developed and semi-vacant land located in the District of 'Ewa in the ahupua'a of Honouliuli, Island of O'ahu. Of that 27 acres, about 14 acres in the eastern portion of Varona will be developed as the VVCS Project. (See Figure 1). The Project area as a whole is bordered on the north and east by vacant lands and the future North-South Road, vacant land to the west and Renton Road to the south.

1.3 LAND OWNERSHIP

The project area occupies a portion of TMK 9-1-017:069, and is shown in Figure 2. The subject property is owned by the City and County of Honolulu.

1.4 IDENTIFICATION OF PROPOSING AGENCY

The proposing agency is the City and County of Honolulu Department of Community Services (DCS). The mailing address and primary contact person for the proposing agency is:

Michael T. Amii, Director
Department of Community Services
City and County of Honolulu
715 South King Street, Suite 311
Honolulu, Hawai'i 96813

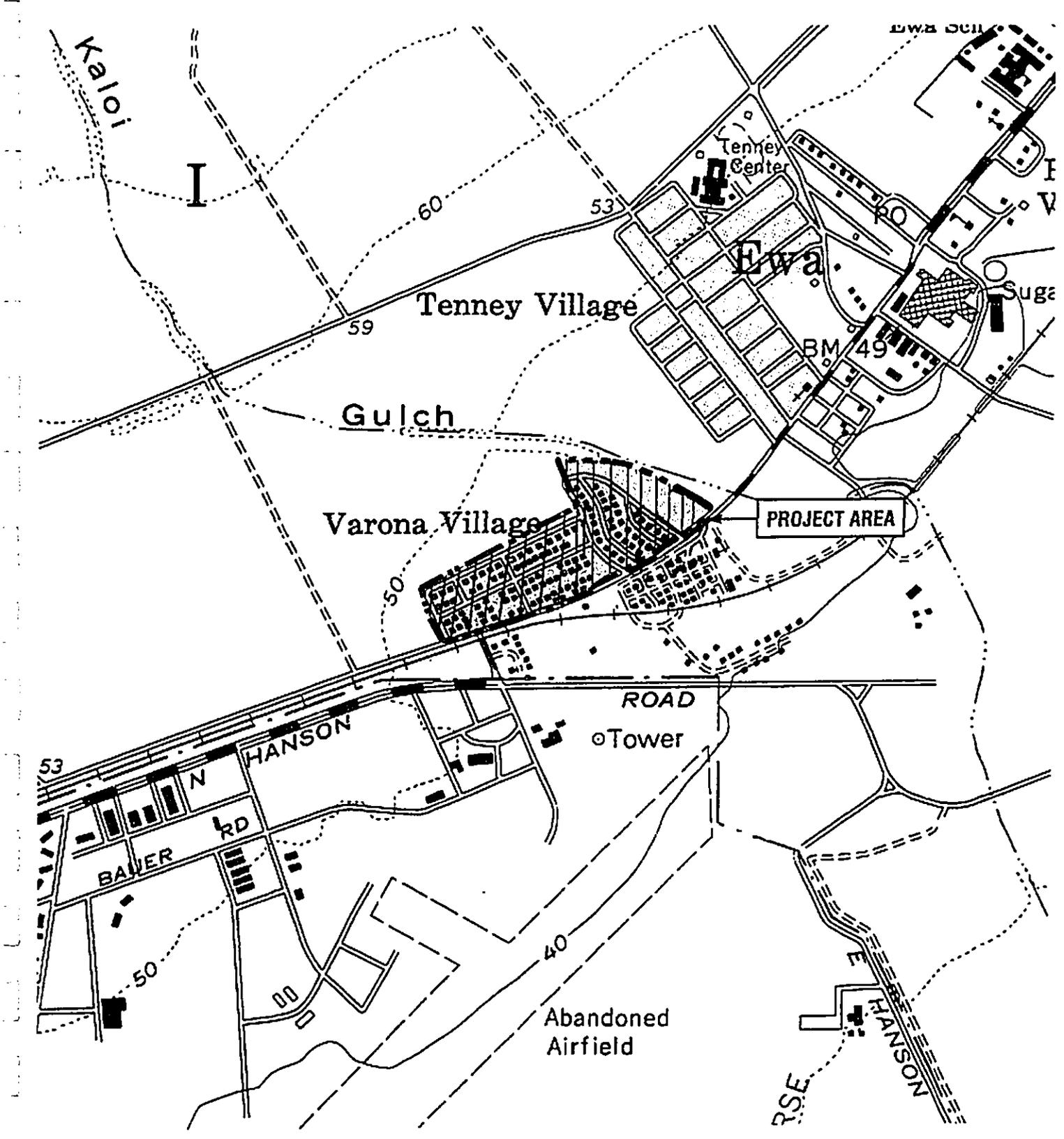
1.5 IDENTIFICATION OF ACCEPTING AGENCY

The accepting agency is the City and County of Honolulu Department of Planning and Permitting.

1.6 IDENTIFICATION OF AGENCIES CONSULTED

Consulted agencies or agencies that provided information in the preparation of this environmental assessment include the following:

CITY AND COUNTY OF HONOLULU
Board of Water Supply
City Councilmember John DeSoto
Department of Design and Construction
'Ewa Neighborhood Board No. 23
Fire Department
Department of Parks and Recreation



LEGEND

 Project Area

FIGURE 1
Location Map

VARONA VILLAGE



Source: USGS Topographical Map

VARONA VILLAGE COMMUNITY SERVICES PROJECT
Final Environmental Assessment

Department of Planning and Permitting
Police Department
Department of Transportation Services

STATE AGENCIES

Department of Agriculture
Department of Education
Office of Environmental Quality Control
Office of Hawaiian Affairs
Department of Health
Department of Land and Natural Resources
Department of Land and Natural Resources, State Historic Preservation Division
Office of State Planning
Department of Transportation
University of Hawai'i, Environmental Center

FEDERAL AGENCIES

Army Corps of Engineers
US Department of Housing and Urban Development
Department of the Interior, U.S. Fish and Wildlife Service

PRIVATE AGENCIES

Building Industry Association Hawai'i
'Ewa Beach Community Association
Hawaiian Electric Company
Historic 'Ewa
Varona Camp Community Improvement Association
Verizon

1.7 ENVIRONMENTAL IMPACT STATEMENT LAW (CHAPTER 343, HRS)

In accordance with the State of Hawai'i's Environmental Impact Statement Law, Chapter 343, HRS, there are Agency actions applicable to new development that trigger the environmental review process. One of these is the use of county lands and/or funds. Since the VVCS Project is sited on County lands, the Project must comply with Chapter 343, HRS.

Because Chapter 343, HRS is applicable to the Varona Village Project, this Environmental Assessment has been prepared to identify whether "significant environmental effects" will result from development of the VVCS Project. According to the Department of Health Rules, which are governed by Chapter 343, HRS, if "significant environmental effects" are not identified by an Environmental Assessment, preparation of a full Environmental Impact Statement is exempted, and a "finding of no significant impact" is issued by the Accepting Authority. Otherwise, a Notice of Preparation is issued and processing of a full Environmental Impact Statement is required. This EA has also been prepared in compliance with 24 CFR, Part 58.

As required by the Rules, this EA describes the following elements of the proposed Project: 1) the technical, economic, social, cultural and environmental characteristics of the Project; 2) the affected

VARONA VILLAGE COMMUNITY SERVICES PROJECT
Final Environmental Assessment

environment; 3) a summary of impacts and alternatives considered that would meet Project objectives; 4) the mitigation measures proposed; 5) significance of environmental impacts; and 6) determination. In addition, the relationship of the proposed action to existing public plans, policies, and controls is discussed.

VARONA VILLAGE COMMUNITY SERVICES PROJECT
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2.0 PROJECT DESCRIPTION, PURPOSE AND NEED

This section provides background information, identifies project goals and objectives, describes the proposed improvements, and delineates construction activities and approximate costs.

2.1 PROJECT DESCRIPTION

The existing Varona Village is located on the western end of 'Ewa Villages. The subject parcel is the entire developed Varona Village. The eastern portion, which consists of approximately 14 acres, is planned to be developed as the VVCS Project. The western portion of the village would remain in its existing residential use.

The Project is broken into two parcels of land. The first parcel may be acquired by a non-profit using financing or private funds. Federal funds such as Community Development Block Grant (CDBG) monies could possibly be used in the future. The second parcel will be the existing Varona Village (shown on Figure 3 as the "Existing T.O.R. Housing"), for which there are no current plans other than residential use compatible with the original village.

The VVCS Project will be a community center that may include a park, educational or recreational facilities including classrooms and workshops, and facilities for seniors and other community needs, including child care. As the 'Ewa Villages are redeveloping it has become apparent that there is a critical lack of child and elderly care services in the 'Ewa Plain. The VVCS Project proposes to offer both types of services in a home-like setting. In conjunction with the Project, ball courts and other recreational facilities would be developed that could be available for public use after school hours. Many of the existing structures will be renovated for use as the community center and some additional structures will be constructed to complete the campus. (See Figure 3).

The VVCS Project will try to incorporate some of the techniques discussed in the State Office of Environmental Quality Control's Guidelines for Sustainable Building Design in Hawai'i in designing any new structures. In addition, to promote the use of recycled glass, materials with recycled glass content may be purchased.

While actual phasing of the development of the VVCS Project has not been determined, the following possible scenario is provided for a project such as this:

Phase I: Relocation of facilities and personnel from present site if existing program is to be implemented.

Phase II: Operation of program and increase in services when existing portion of Kapolei Parkway is opened.

Phase III: Expansion of facilities/further increase in programs and services when Kapolei Parkway is completed and/or the North-South Road is operational.

VARONA VILLAGE COMMUNITY SERVICES PROJECT
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2.2 PURPOSE AND NEED

In the spring of 1990, the City and County of Honolulu (the City) embarked on a challenging housing project to provide home ownership opportunities for the tenants who reside in the 'Ewa plantation villages of Renton, Tenney and Varona. This endeavor has been referred to as the *'Ewa Villages Revitalization Project*.

The impetus for the 'Ewa Villages Revitalization Project was the expiration of the land lease between the Estate of James Campbell and O'ahu Sugar Company in 1995. In light of this uncertainty, the City, through the Department of Housing and Community Development, began exploring alternate means of ensuring continued housing for the current residents of the three plantation villages. A program was developed that provided for the acquisition of the land by the City, rehabilitation of existing structures, and the subsequent sale of houses and lots to the current residents.

In addition to the rehabilitation of existing villages, the master planning for the Project provided for revitalization of the area with new residential units, development of a district park and other passive community park areas, new recreational and community facilities, a new 18-hole golf course, infrastructure improvements, and a commercial and retail complex. Development controls and guidelines were created to guide the rehabilitation and revitalization efforts, as well as the long term maintenance of the historic character of the area. Many of the planned additions and improvements have been completed. The development of the remaining area, including the VVCS Project, is a component to completing the 'Ewa Villages Revitalization Project.

The eastern portion of Varona Village near the Kalo'i Channel is in disrepair. What remains of the housing in the area is dilapidated and non-conforming. The historical structures are at the point where, if left, will not be salvageable. The property is strewn with junk cars, rubbish, non-conforming fences, chicken coops, and battered furniture. Much of the landscaping has not been maintained and includes over a dozen mature shade trees.

The VVCS Project proposes a land use plan to retain the "plantation" residential character of Varona Village and enhance the cultural resource of the 'Ewa Villages while providing needed social and educational services. As a logical component of the completion of the 'Ewa Villages project, the VVCS Project represents compatible uses for an existing and growing urbanized area. As such, the following objectives have been established for the VVCS Project:

Goals and Objectives of the Varona Village Community Services Project

- 1) To develop the VVCS project site in a manner that addresses the needs of the City and community.
- 2) The Project will be developed in a historically sensitive manner in accordance with the Memorandum of Agreement dated February 10, 1995 concerning 'Ewa Villages.
- 3) The Project should address the impacts on its neighboring community and provide social benefits to the entire 'Ewa Plain including child care, elderly care, and educational opportunities of children and adults.

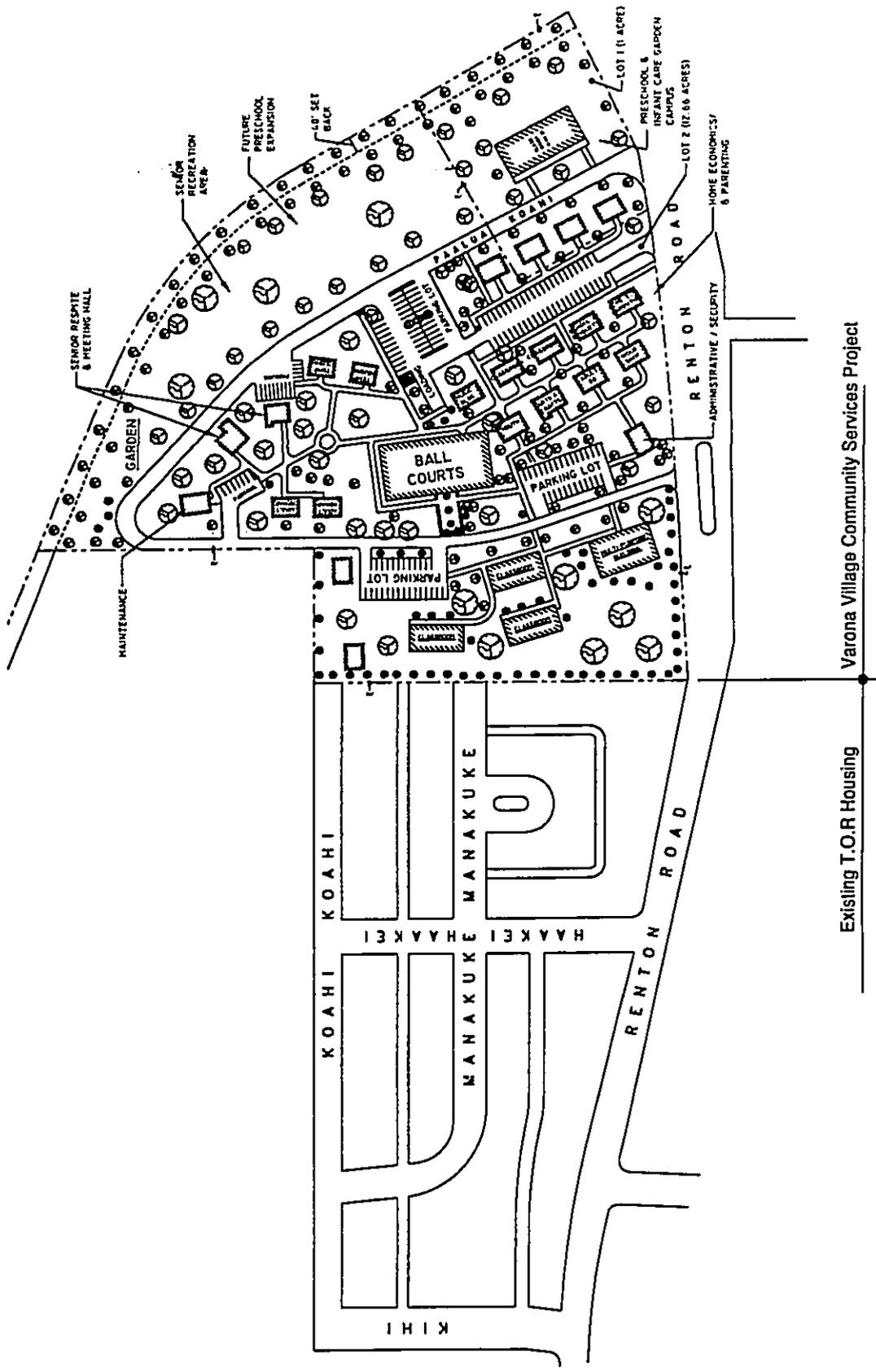
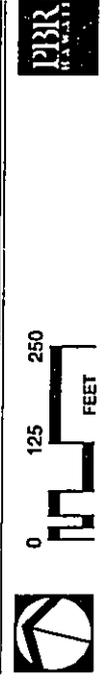


FIGURE 3
 Site Plan
VARONA VILLAGE



Note: One Possible Scenario.
 Subject to change.

Source: Hida, Okamoto & Associates, Inc.

Existing T.O.R. Housing
 Varona Village Community Services Project

VARONA VILLAGE COMMUNITY SERVICES PROJECT
Final Environmental Assessment

- 4) Improve environmental conditions in Varona by cleaning up rubbish on the site and maintaining the mature trees and plantings that exist on the property to the extent possible.

The VVCS Project is consistent with and supports the General Plan of the City and County of Honolulu and its vision for future development on the 'Ewa Plain. The planning and development process continues to be a joint effort of the community, the City & County of Honolulu, and private partnerships.

2.3 DESCRIPTION OF THE SUBJECT PROPERTY

In 1996, most of the area surrounding Varona Village was evaluated in an Environmental Assessment Report and Finding of No Significant Impact (FONSI) (refer to Figure 3A). Beyond the immediate area are the Urban District Lands in 'Ewa (see Figure 4) and the Varona Village area is one of the last major components of the City's 'Ewa Villages project in 'Ewa.

The VVCS Project areas are located on the eastern edge of the existing Varona Village and total approximately 14 acres. The site is relatively flat, with an elevation of about 47 feet at the northern portion of the property and approximately 44 feet at the southern boundary of the parcel.

The surrounding area has been cultivated for sugar cane production for several decades. The portion of Varona Village where the proposed VVCS Project will be located consists primarily of vacant houses and lots, rubbish and accessory structures. Distant views are of Makakilo and the Wai'anae Mountains, as well as the Ko'olau Mountain Range. Because of its relatively flat terrain and low elevation, there are no views of the ocean to the south.

2.4 DESCRIPTION OF THE PLANNING AREA

Due to earlier urbanization of the property, no evidence of prehistoric occupation is expected to be found within the subject property. An archaeological survey of the 'Ewa Villages (including the project area) found no clear evidence of any prehistoric occupation. The majority of the area of application has been impacted by decades of residential use and intensive sugarcane cultivation. Traditional sources, such as early maps of the area and early archaeological studies, have not documented any archaeological sites in this portion of the Honouliuli ahupua'a.

The 'Ewa area has been maintained in sugar production for over 110 years, and during those years, numerous events and key characters have contributed to the land uses of the region. In 1877, James Campbell, a Scottish immigrant, bought 41,000 acres of what was then considered dry ranch land in 'Ewa from then landowner, John Coney, for the sum of \$95,000. A veteran of the sugar business, Campbell recognized the need for a readily available source of water for sugar to reach full economic potential. Two years later, in 1879, Campbell hired James Ashley to drill for water at 'Ewa. Ashley's attempts were successful and the first technical problem of the sugar industry was solved, as 'Ewa's first artesian well flowed for the next 60 years.

The year 1889 was a landmark year in that: 1) Ben Dillingham began leasing lands at Honouliuli from Campbell for \$50,000 per year for the purposes of large-scale cultivation; 2) Dillingham secured a charter from the Government of Hawai'i for the O'ahu Railway and Land Company (OR&L) to build O'ahu's first railroad; and 3) Dillingham subsequently approached W.R. Castle for

VARONA VILLAGE COMMUNITY SERVICES PROJECT
Final Environmental Assessment

his expertise in sugar cultivation. In 1890, with the financial backing from Castle's father, S.N. Castle, and the senior Castle's partner, C.M. Cooke, the 'Ewa Plantation Company was chartered. Over the next eight decades, from 1890 to 1971, the plantation underwent many economic and physical transformations and its overall growth was relatively steady. The 'Ewa Villages were built largely by the 'Ewa Plantation Company to house its employees from about the turn of the century through the late 1950s. According to available records over a period of about 60 years, the plantation built more than 1,200 residential units for its workers. Construction occurred as follows:

<u>Dwelling Units Constructed</u>	<u>Time frame</u>
72	1890s
536	1900 to 1910
132	1911 to 1919
285	1920s
168	1930s
35	1940s

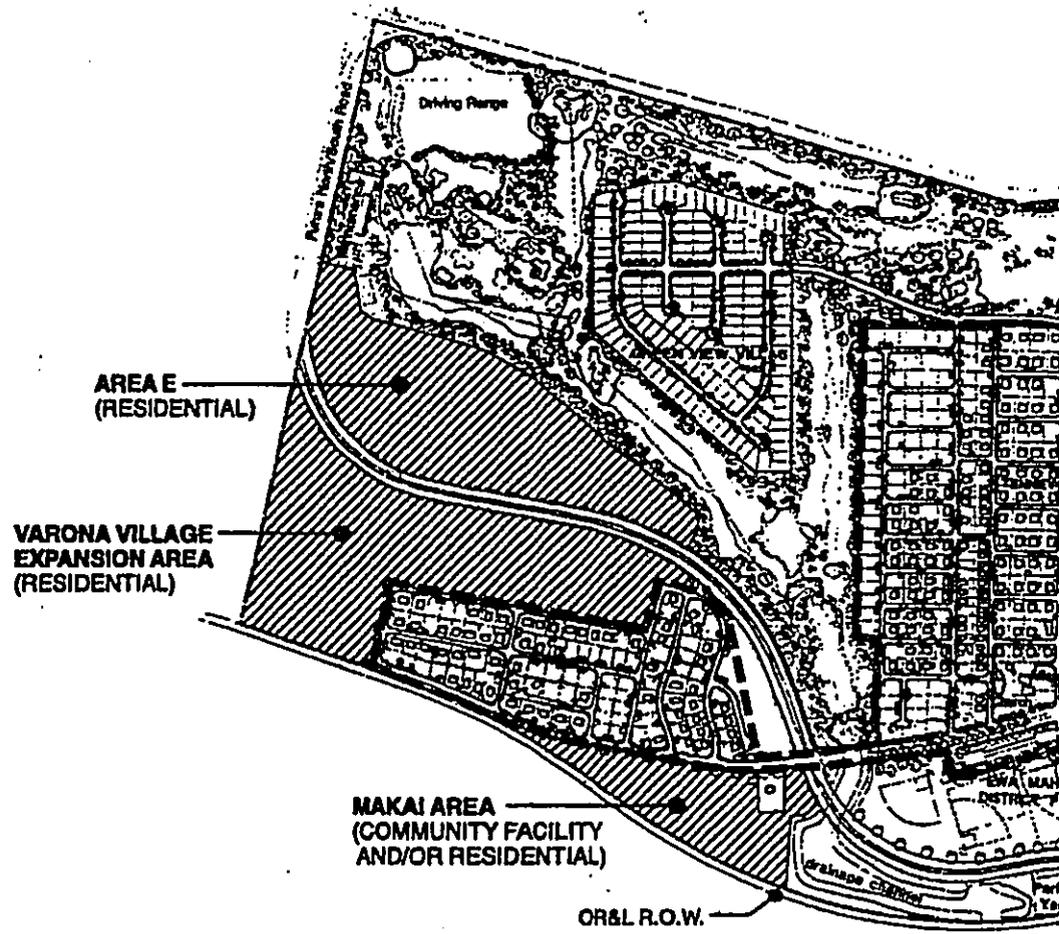
At one time, the 'Ewa Villages consisted of eight separate villages located in close proximity to the sugar mill and each other. These villages were: 1) Tenney, 2) Renton, 3) Varona, 4) Fernandez, 5) "C", 6) Mill, 7) Middle, and 8) Lower. The latter four villages have since been razed, while Tenney, Renton, Varona, and Fernandez (redeveloped from the late 1970s through early 1980s) still remain relatively intact. Each village was built separately and had its own unique sense of history, culture, and social composition.

Varona Village is isolated from the other villages by former cane fields and Kalo'i Channel. The heart of the village was formerly a spacious green with a large board-and-batten community hall that was constructed in 1934 for the Filipino Community Association. The community hall has since been razed and the open space has been left untended. The proposed project includes 73 existing dwellings in Varona Village, of which 40 are currently occupied. Most of the existing dwellings will not be affected by the proposed project. Of the total, only 5 existing dwellings are located in the proposed project area. Of those, only 2 contain renters who will continue to live there, and the remainder are vacant and/or are not being rented.

The project area abuts the future North-South Road and the existing Varona Village. The 'Ewa Villages are conveniently proximate to the future and present employment centers of the City of Kapolei, Ko Olina, Barbers Point Harbor, Campbell Industrial Park, Kapolei Business Park, Kalaeloa, and Ocean Pointe. Nearby recreational opportunities include the golf courses of 'Ewa Villages, West Loch, Ko Olina, Kapolei, Coral Creek, Ocean Pointe, Hawai'i Prince and 'Ewa International, as well as the Ko Olina recreational boat harbor. Neighboring developments include: West Loch Fairways, Fernandez Village; Hoakea Housing; 'Ewa By Gentry; and D.E. Thompson Elderly Housing project along Renton Road.

Land uses around the project site are primarily residential housing to the west, 'Ewa Villages Golf Course to the north, 'Ewa Villages residential dwellings to the east, and 'Ewa by Gentry residential dwellings to the south. Public facilities within the 'Ewa Villages include: 'Ewa Elementary School; 'Ewa Post Office; 'Ewa Mahiko Park; Sotoshuji Mission; Lanakila Baptist School; 'Ewa Community Church; 'Ewa Hongwanji; Friendship Bible Church School and Youth Center; and 'Ewa Immaculate Conception Church.

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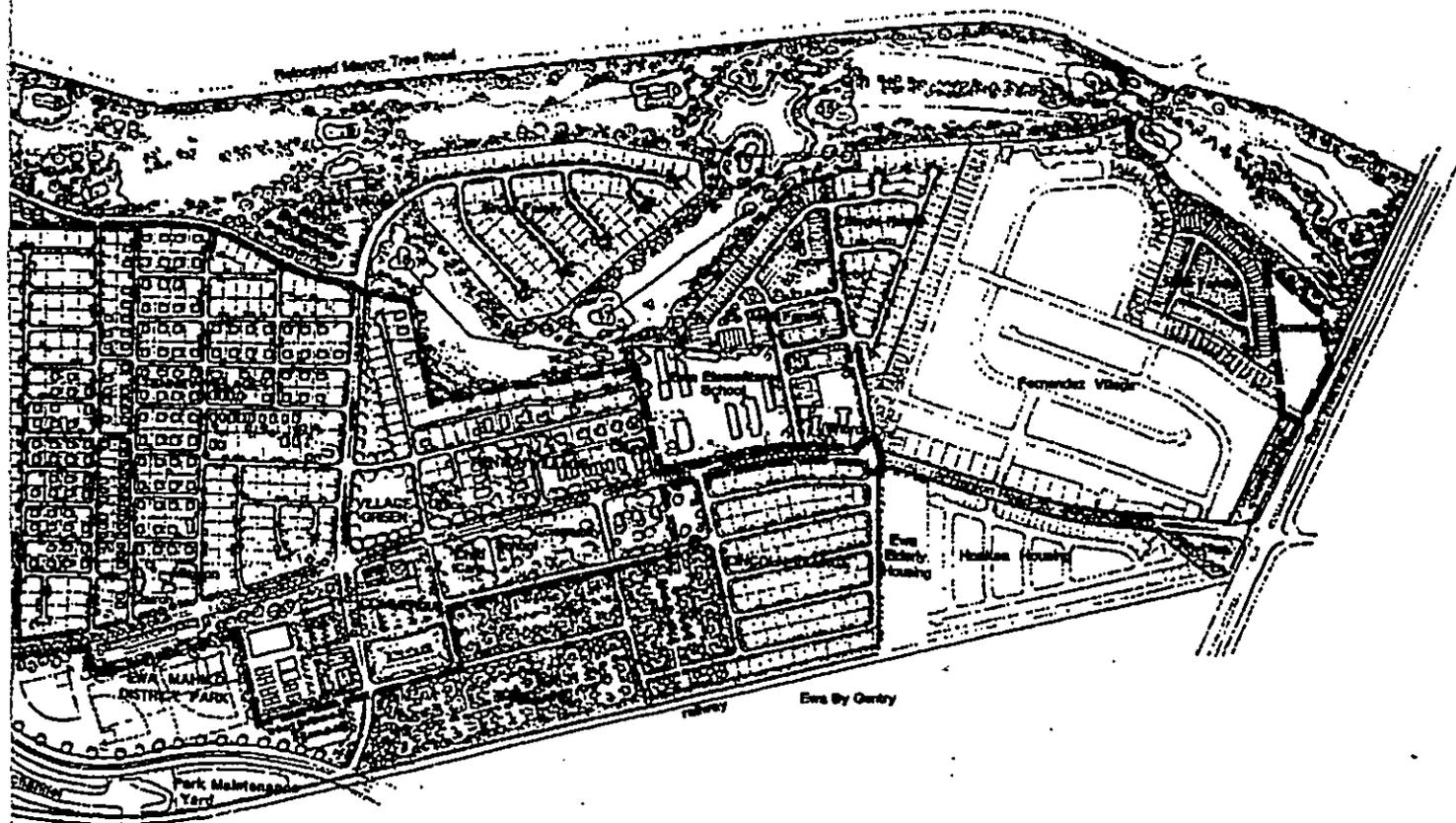
VARONA VILLAGE PHASE II LAND USE SUMMARY			
PROJECT AREA	PROPOSED LAND USE	APPROX. ACREAGE	APPROX. NUMBER OF UNITS
AREA E	RESIDENTIAL	25	252
VARONA VILLAGE EXPANSION AREA	RESIDENTIAL	27	157
MAKAI AREA	COMMUNITY FACILITY/ RESIDENTIAL	9	110

LEGEND

 Varona Village Phase II

 Historic District Boundary

Source: City & County of Honolulu, Department of Planning
R.M. Towill
State Historic Preservation Division



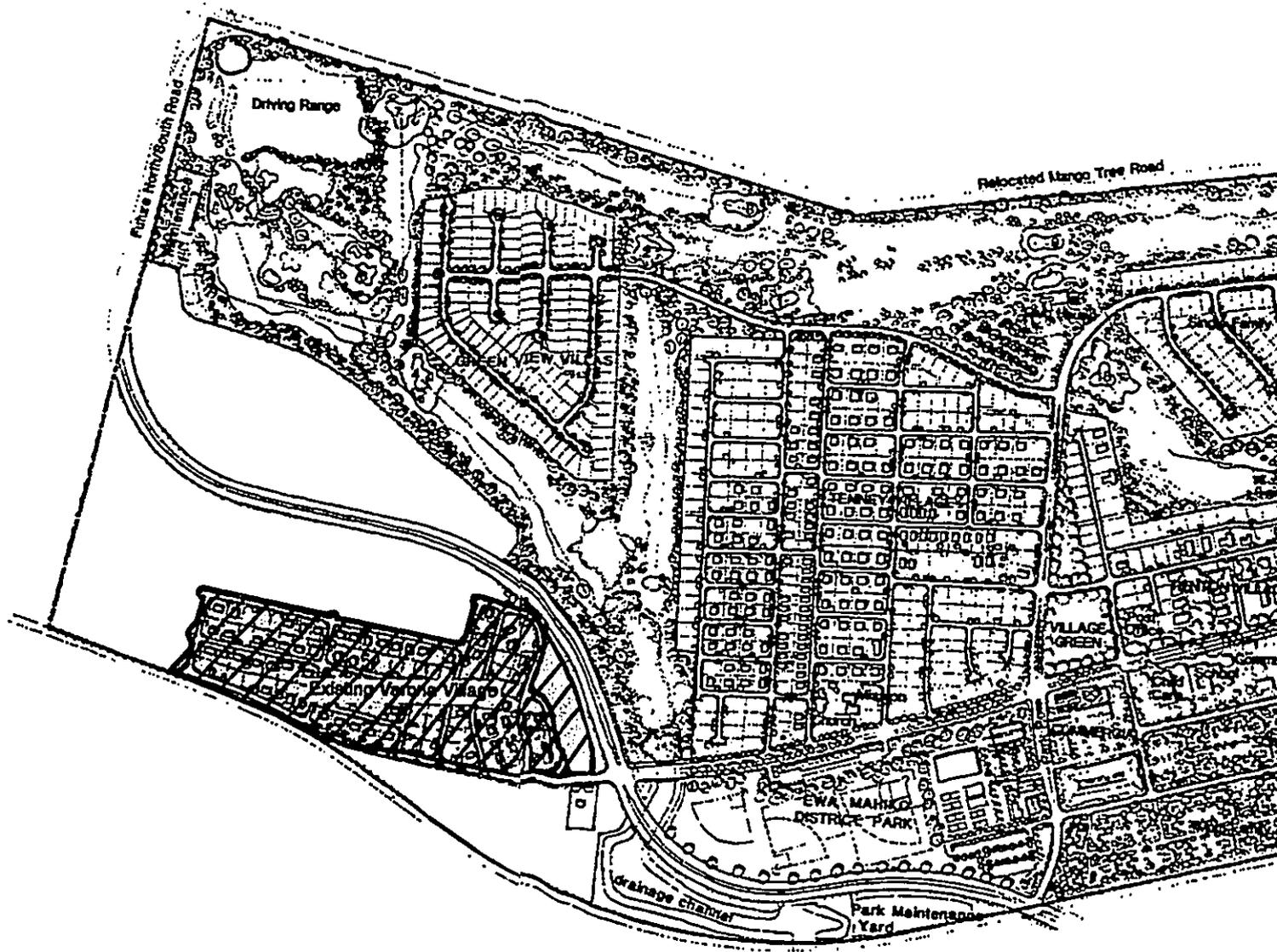
Varona Village Phase II
 Historic District Boundary

City of Honolulu, Department of Community Services
 Historic Preservation Division

FIGURE 3A
 Varona Village, Phase II
VARONA VILLAGE



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LEGEND

 Project Area

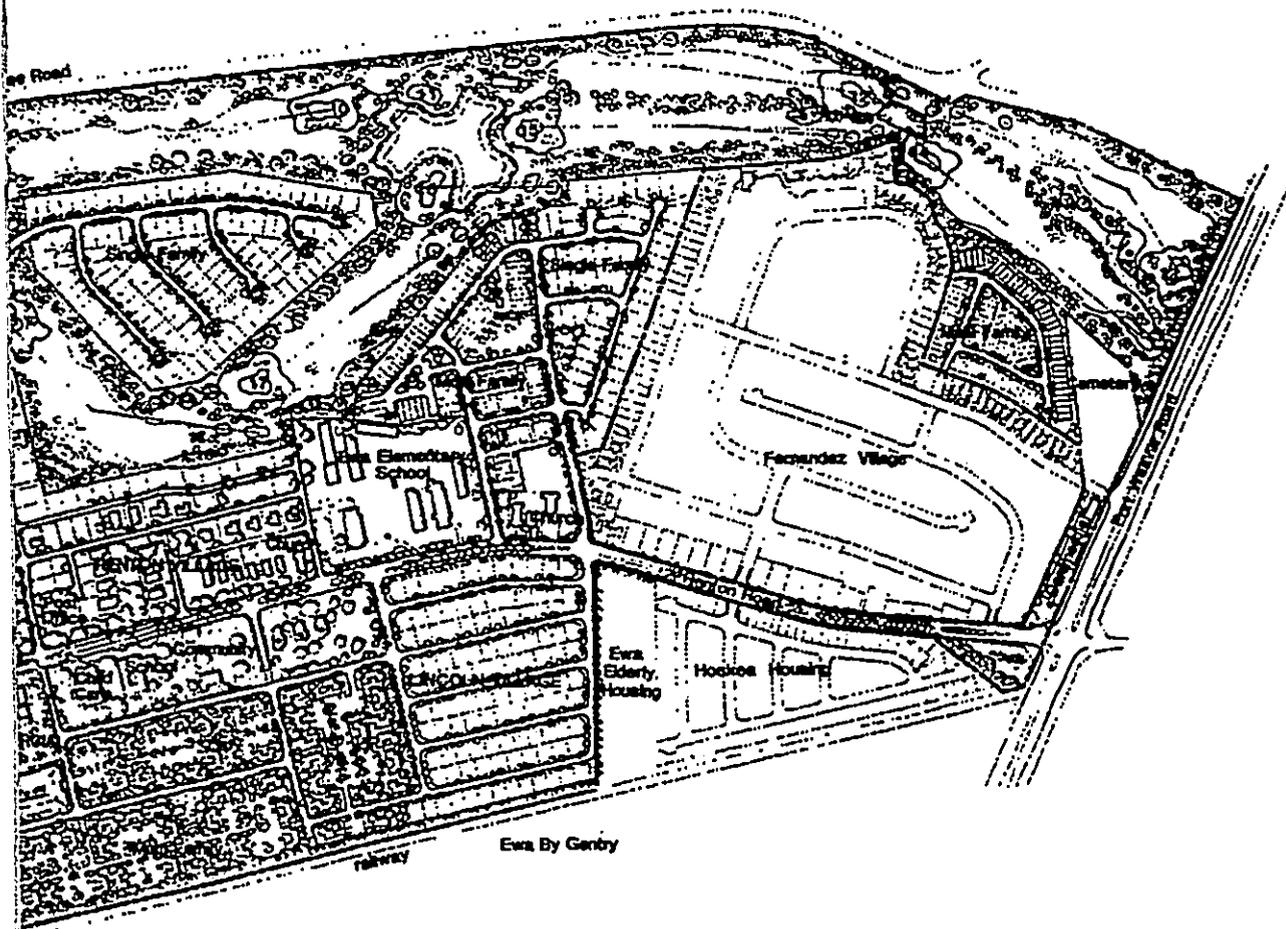


FIGURE 4
'Ewa Village Master Plan
VARONA VILLAGE PHASE II



VARONA VILLAGE COMMUNITY SERVICES PROJECT
Final Environmental Assessment

3.0 LAND USE CONFORMANCE

State of Hawai'i and City and County of Honolulu land use plans, policies and ordinances relevant to the proposed VVCS Project are described below.

3.1 STATE OF HAWAI'I

3.1.1 State Land Use Law (Chapter 205, Hawai'i Revised Statutes)

The State Land Use Law (Chapter 205, Hawai'i Revised (HRS)), established the State Land Use Commission (LUC) and gives the body the authority to designate all lands in the State into one of four districts: Urban, Rural, Agriculture, or Conservation. The majority of the proposed buildings of VVCS will be located within the State Urban District. (See Figure 5). The proposed improvements are consistent with the uses allowed within the Urban District. However, a portion of the site for the VVCS project is within the State Agricultural District. According to the Department of Planning and Permitting, a State Land Use District Boundary Amendment to the Urban District or a Special Use Permit for the portion of the project within the State Agricultural District is required unless it is shown that the proposed project is an exempt item.

Because the uses envisioned within the VVCS Project are not permitted within the State Agricultural District, the City and County of Honolulu DCS will seek to reclassify approximately 4.9 acres to the Urban District (or obtain a Special Use Permit). All of the uses planned within the VVCS Project are permitted in the Urban District.

The State Land Use Law provides that district boundary amendments (or Special Use Permits) involving land areas of 15 acres or less shall be determined by the appropriate county and shall not require consideration by the State LUC (Section 205-3.1(c), HRS). As such, DCS will file its reclassification petition directly with the City and County of Honolulu.

When reclassified to the Urban District, the use of the site for the project will be consistent with the State Land Use Law.

3.1.2 Hawai'i State Plan

The Hawai'i State Plan was adopted in 1978 and was revised in 1986 and again in 1991 HRS, Chapter 226, as amended). The Plan establishes a set of themes, goals, objectives and policies that are meant to guide the State's long-run growth and development activities. The three themes that express the basic purpose of the Hawai'i State Plan are *individual and family self-sufficiency, social and economic mobility and community or social well-being*. The Plan should encourage development of the subject property in a manner that will ultimately help fulfill these goals for the residents of Hawai'i.

Discussion: The Project is geared to address all three themes from the Hawai'i State Plan. Educational programs and employment training are elements of the Project that will help move participants toward economic self-sufficiency and thereby, economic mobility. The proposed Project will be the first revitalization effort made in Varona Village. Its development is likely to spur a

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multiplier effect and cause an overall rehabilitation of the Village. It is the hope of the applicant that the Project will reduce crime in the area, generate new growth and clean-up and move the community closer to a healthy, vibrant neighborhood.

The following sections analyze the relationship of the proposed Project to relevant State Plan goals, objectives, policies and priority guidelines.

Objectives and Policies for the Physical Environment - Scenic, Natural Beauty, and Historic Resources

Section 226-12(b)(1): Promote the preservation and restoration of significant natural and historic resources.

Section 226-12(b)(4): Protect those special areas, structures and elements that are an integral and functional part of Hawai'i's ethnic and cultural heritage.

Discussion: According to an archaeological survey conducted for the 'Ewa Villages Master Plan, the VVCS Project will have "no effect" on archaeological resources. The Project will be developed in a historically sensitive manner in accordance with the Memorandum of Agreement dated February 10, 1995 concerning 'Ewa Villages.

Objectives and Policies for Socio-Cultural Advancement - Housing

Section 226-19(b)(1): Effectively accommodate the housing needs of Hawai'i's people.

Section 226-19(b)(3): Increase home ownership and rental opportunities and choices in terms of quality, location, cost, densities, style, and size of housing.

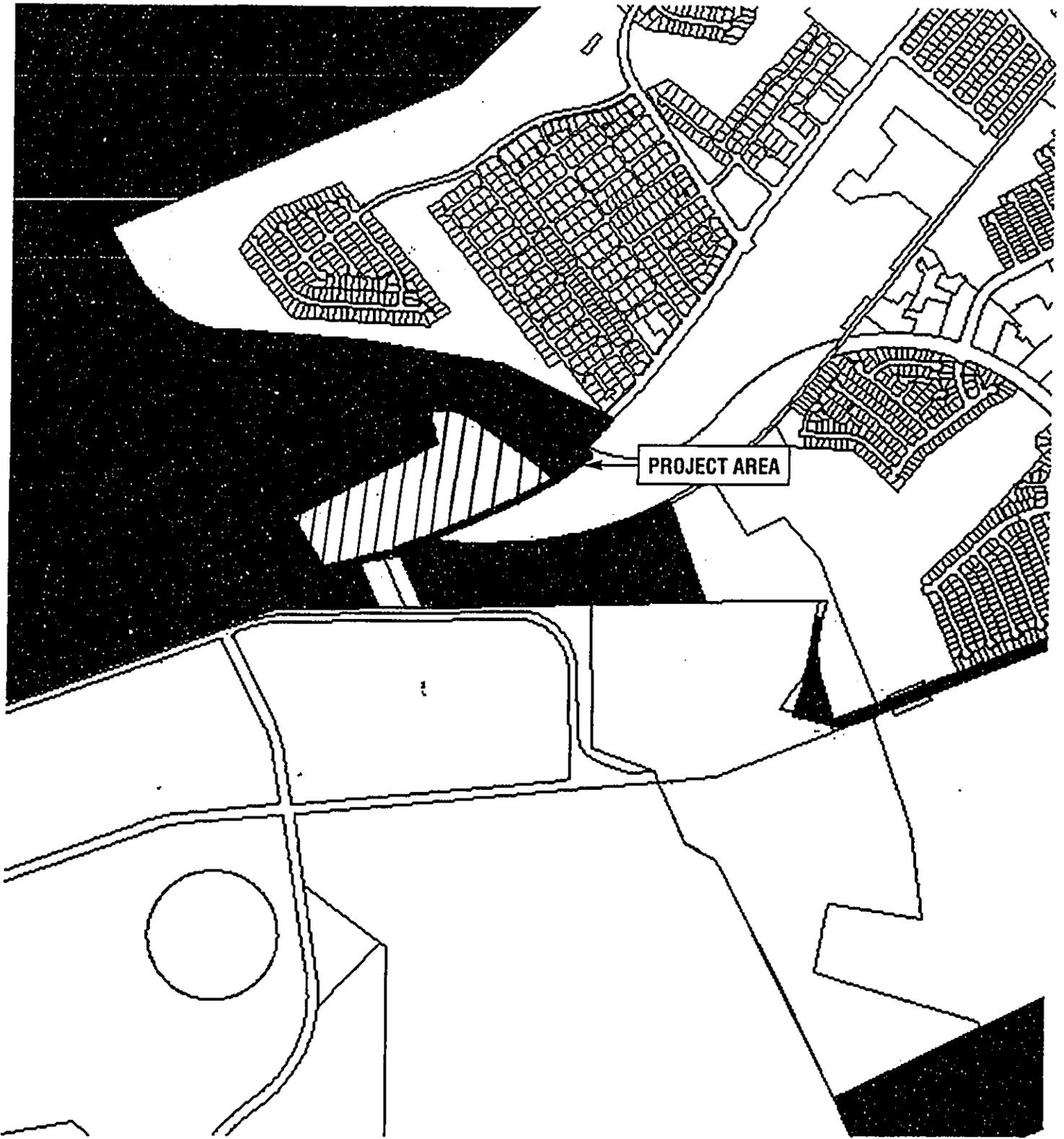
Discussion: Although the VVCS Project does not include housing opportunities, Varona Village and the surrounding 'Ewa Villages provide affordable housing opportunities for families. By developing services for residents, the proposed VVCS Project may create opportunities for more families to move to 'Ewa by fulfilling community service needs.

3.1.3 Hawai'i Water Plan

The Hawai'i Water Plan addresses the need for comprehensive water resource planning through four components: a water resource protection plan; water use and development plan for each county; a water projects plan; and a water quality plan. Coordination with the City and County of Honolulu Department of Planning and Permitting will be needed to incorporate the water demand projections for this Project into the O'ahu Water Management Plan component of the Hawai'i Water Plan.

3.1.4 State Functional Plans

The Hawai'i State Plan provides for the preparation of Functional Plans by the state agencies responsible for certain program areas. There are twelve Functional Plans dealing with specific areas of concern and each contains objectives, policies, and implementing actions necessary to accomplish



PROJECT AREA

LEGEND

-  Project Area
-  Agricultural
-  Urban

FIGURE 5

State Land Use Boundary Map

VARONA VILLAGE



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the goals of the plan. State Functional Plans cover the program areas of agriculture, transportation, conservation lands, housing tourism, historic preservation, energy, recreation, health, human services and employment. The following sections describe the aspects of the Functional Plans relevant to the Project and discuss the relationship of the proposed action to the goals, objectives and policies of the State.

State Education Functional Plan

Fulfilling a broadened and strengthened educational system that enriches all of Hawai'i's residents, regardless of age, race, place of residence or special needs, is the basic issue addressed in the State Educational Functional Plan.

Objective A: Service and Facilities.

Policy: Ensure the provision of adequate and accessible educational services and facilities that are designed to meet individual and community needs.

Discussion: The proposed VVCS Project may include educational and diversified life improvement courses and opportunities.

State Recreation Functional Plan

The State Recreation Functional Plan addresses improving the quality and quantity of recreational activities in Hawai'i. Particular areas of concern include land acquisition and management, shoreline and mountain access, accessibility for physically challenged citizens, and recreation program development and management.

Policy 11-A (1): Involve the public in the planning, development, and operation of recreational facilities and programs.

Objective 11-C: Improve and expand the provision of recreational facilities in urban areas and local communities.

Objective V-C: Assure adequate support for priority outdoor recreational programs and facilities.

Policy V-C (1): Explore alternative funding strategies and sources.

Policy V-C (2): Explore alternative land acquisition strategies.

Discussion: The Project includes privately developed play courts, community gardens and sufficient recreation space that will be accessible to the general public after school hours. One of the ways the public will be involved in the planning, development and operation of recreational facilities and programs will be through the environmental review process, which includes this EA.

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3.2 CITY AND COUNTY OF HONOLULU

Relevant land use plans of the City and County of Honolulu that pertain to the proposed improvements include the General Plan, the 'Ewa Development Plan, City and County Land Use Ordinance, and the 'Ewa Villages Master Plan (discussed in Section 2.2).

3.2.1 General Plan

The uses planned for the subject property will implement the objectives and policies of the City's General Plan in the areas of population, economic activity, natural environment and culture and recreation. The specific General Plan objectives and policies and their applicability to the proposed uses within the subject property are discussed below.

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

Discussion: The subject property will provide additional recreational opportunities as applicable to City and County of Honolulu requirements. Currently, the site is not accessible with little or no recreational value in its present vacant and overgrown state. No on-site recreational opportunities currently exist.

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

Discussion: Considering the critical need for social services and the need to maintain Hawai'i's cultural heritage, the timely approval of the VVCS Project is appropriate and will achieve this objective of the General Plan. The subject property will be designed to utilize existing site features such as internal roadways, building pads, restore structures, and drainage areas.

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.

Discussion: Existing drainage improvements of surrounding developments, such as the golf course, as well as proposed drainage structures for the project area, which includes catch basins, manholes, drain pipes, and box culverts, will better manage both on-site and off-site runoff. Transportation system improvements have been proposed (such as the connection of Kapolei Parkway to the proposed North-South Road) to partially mitigate future population growth in the area and increased traffic levels that may be generated.

3.2.2 'Ewa Development Plan

According to the 'Ewa Development Plan Land Use Map (which was adopted by the City Council in 1997), the parcels are designated as Low and Medium Density Residential. In their review of the Draft EA, the Department of Planning and Permitting noted the land use maps "are conceptual illustrations of the text of the Development Plan ("DP"), and should be interpreted as only providing

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a broad view of land use information for respective localities within the DP area. Accordingly, the text of the DP takes precedence over any map interpretations. Thus, when comparing the proposed project with the 'Ewa DP, the development of a low-medium density residential community is appropriate for Varona Village and adjacent areas."

In section 3.6.1.1, the Development Plan describes general policies for existing village structures. The specific 'Ewa Development Plan general policies and their applicability to the proposed uses within the subject property are discussed below.

'Ewa Villages should once again stand as a thriving and identifiable community, and should serve as a living example of Hawai'i's plantation heritage.

Discussion: The implementation of the 'Ewa Villages Master Plan (1989) has led to preservation efforts within the existing villages. Many existing villages structures were rehabilitated and/or adapted for reuse. Many affordable and market housing units were created. A golf course was developed to provide storage for storm waters and reduce historical flooding problems in the Villages. The implementation of the 'Ewa Villages Master Plan has not only renewed the aging housing stock and beautified the Villages, but has also created a thriving and identifiable community and a living example of Hawai'i's plantation heritage. The proposed project will enhance this effort by providing social services to this community.

In section 3.6.1.2, the Development Plan describes planning principles for the area. The specific 'Ewa Development Plan planning principles and their applicability to the proposed uses within the subject property are discussed below.

Principle 1: Preservation of Plantation Village Character. The existing rural form and historic character of the remaining 'Ewa Villages should be preserved and enhanced.

Discussion: The Project will be developed in a historically sensitive manner in accordance with the Memorandum of Agreement dated February 10, 1995 concerning 'Ewa Villages.

Principle 2: Retention of Historic Buildings. Existing buildings of historical, cultural and/or architectural significance should be preserved and maintained through rehabilitation programs and adaptive reuse.

Discussion: The Project will be developed in a historically sensitive manner in accordance with the Memorandum of Agreement dated February 10, 1995 concerning 'Ewa Villages.

Principle 3: Compatible Infill Development. Vacant areas should be developed in a style that is characteristic of the historic core.

Discussion: Within the VVCS site there is a mix of vacant and occupied parcels. The vacant areas will be built in a manner that complements the existing structures and will be developed in a historically sensitive manner in accordance with the Memorandum of Agreement dated February 10, 1995 concerning 'Ewa Villages.

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Principle 4: Support of Community Facilities. The sense of the 'Ewa Villages as a complete community unit should be re-established through the preservation of existing schools and churches, the expansion of parks and public open space areas, and the establishment of community facilities and market place for local businesses.

Discussion: The Project can offer new or expanded programs not currently provided in the area, including community services, schools, educational and recreational facilities.

To implement the general policies and planning principles for 'Ewa Villages, the 'Ewa Development Plan also provides guidelines on urban form. The specific 'Ewa Development Plan guidelines on urban form and their applicability to the proposed uses within the subject property are discussed below.

The current grid development pattern should be maintained in the existing villages and replicated in new infill developments.

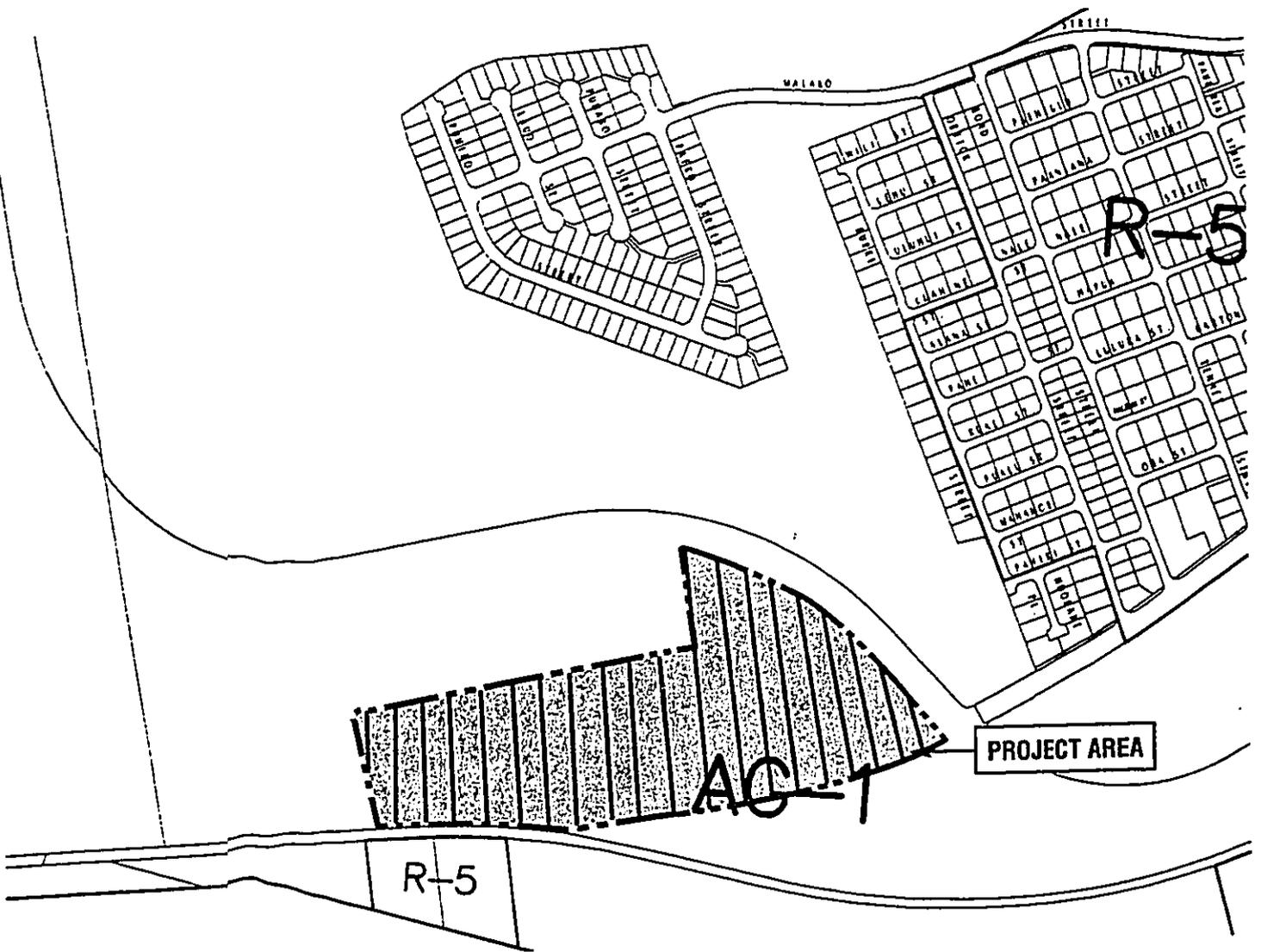
Discussion: The State Historic Preservation Division has suggested maintaining visual or implied remains of the original circulation patterns on the site. During the public review period, the Division expressed concern that the site plan shown on Figure 3 did not reflect the Division's suggestions about retaining the original circulation patterns visually. A revised site plan will be developed and submitted for review and comment to the Division before obtaining permits for the project. To the extent feasible, the revised plan will show walkways and/or landscaping defining the original roadways in Varona Village.

New structures on vacant lots in existing villages should complement the exterior design of adjacent homes.

Discussion: The proposed project will be subject to compliance with Section 106 of the National Preservation Act of 1966. Almost the entire project area is located within the 'Ewa Villages Historic District, which was the subject of a "Memorandum of Agreement Pursuant to Section 106." The Project will be developed in a historically sensitive manner in accordance with the Memorandum of Agreement dated February 10, 1995 concerning 'Ewa Villages.

3.2.3 Land Use Ordinance

The Land Use Ordinance (LUO) of the City and County of Honolulu is intended to regulate the use of land in a manner that will encourage orderly development in accordance with adopted land use policies. Permitted land uses are classified as "Principal", "Special Accessory" and "Conditional", and restrict uses for the existing zoning classification. The subject property is zoned AG-1 Restricted Agricultural District. (See Figure 6). According to the Department of Planning and Permitting, a zone change from AG-1 Restricted Agricultural District to an appropriate zoning district would be required, since meeting and day-care facilities are not permitted in the AG-1 District, unless supporting documentation, i.e., resolutions, ordinances, etc., can be produced that shows that the project is exempt from this land use approval.



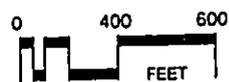
LEGEND

 Project Area

FIGURE 6

Zoning Map

VARONA VILLAGE



Source: Zoning Map No. 12

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3.3 APPROVALS AND PERMITS

The following is an approximate list of major approvals and permits required for the implementation of the VVCS Project.

<u>Permit or Approval</u>	<u>Authority</u>
Environmental Assessment	Department of Planning and Permitting
Building/Grading Permit	Department of Planning and Permitting
Change of Zone	Honolulu City Council
State Land Use District Boundary Amendment (less than 15 acres) or Special Use Permit	Honolulu City Council
NPDES Permit	State Department of Health

3.4 ESTIMATED TIMETABLE OF DEVELOPMENT

Processing of the necessary permits is estimated to take approximately one to one and a half years. The VVCS parcel would be developed after securing the necessary governmental approvals. Final determination of the development timetable and projected costs will be identified during the design and pre-construction process. Project occupancy is estimated to occur one year after securing the final governmental approval.

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4.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT, POTENTIAL IMPACTS OF THE PROPOSED ACTION, AND MITIGATIVE MEASURES

The environment encompassing and surrounding the VVCS site includes the physical or natural environment and the human or social environment. This section describes the existing conditions, potential impacts to the environment and mitigative measures.

4.1 PHYSICAL CHARACTERISTICS

In general, the subject property is not located in an environmentally sensitive zone such as a tsunami zone, erosion prone area, geologically hazardous land, estuary, potable groundwater recharge area, coastal water, or area of sensitive flora and fauna habitat.

The site is littered with all manner of rubbish. A thorough clean-up of the site will be required before any construction can begin. Much of the mature vegetation that exists on the site has not been maintained or watered. The existing vegetation will be restored to the extent possible.

The primary environmental characteristics of concern are drainage and the impact typically associated with new development on lands near existing residential development. During construction, mitigation measures will be necessary to reduce air and noise impacts. New structures will be designed to be compatible with the character of the surrounding historical residential community.

4.1.1 Climate

The most representative long-term wind data available for the subject property was collected at the Naval Air Station Barbers Point (NASBP), located southwest of the subject property. Wind frequency data for NASBP show the annual prevailing wind direction for this area as east northeast, with prevailing winds blowing from the northeast about 40 percent of the time at approximately 10 knots (12 miles per hour). Winds from the south are infrequent, occurring only a few days during the year and mostly in winter in association with Kona storms. The climate of the subject property is constant and relatively dry. The 'Ewa Plain experiences light rainfall of about 23 inches per year, most of which occurs between the months of November and April.

Based on more than 50 years of data collected at 'Ewa Plantation, average annual daily minimum and maximum temperatures in the subject property are 65°F and 85°F, respectively. The extreme minimum temperature on record is 47°F, and the extreme maximum is 93°F.

4.1.2 Geology/Topography

The island of O'ahu is of volcanic origin and is characterized by underlying basaltic flows. The 'Ewa Plain is an emerged coral reef formed during the Pleistocene Period when the ocean level was at a higher elevation. For the most part, the 'Ewa Plain is flat with a few isolated bluffs eroded by

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Honouliuli Stream. It is underlain by calcerous material that has been modified over the millennia so that it is hard but extremely permeable.

In general, the 'Ewa Plain above an elevation of approximately 100 feet below mean sea level consists of caprock comprising sedimentary deposits that form a wedge retarding the seaward movement of fresh groundwater from the inland basaltic aquifer. At higher elevations, the ground surface is made of alluvium and sedimentary deposits washed downslope over the millennia.

4.1.3 Soils

There have been three soil suitability studies prepared for Hawai'i whose principal focus has been describing the physical attributes of soils for development and the relative agricultural productivity. These three soil suitability studies are: the Detailed Land Classification, the Soil Conservation Service Soil Survey, and the Agricultural Lands of Importance to the State of Hawai'i.

4.1.3.1 Land Study Bureau Detailed Land Classification

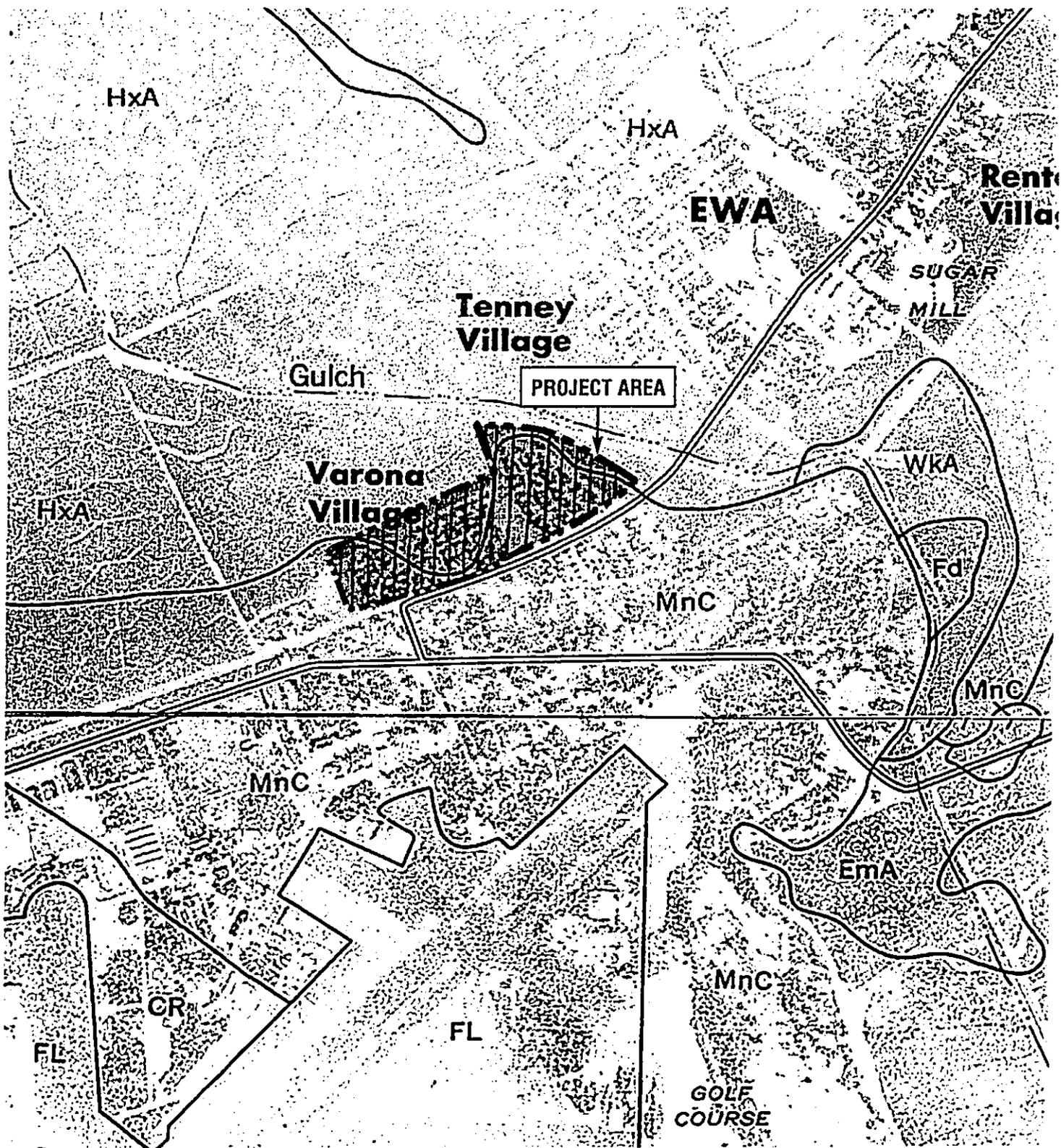
The *Detailed Land Classification* (1965 through 1972) series was produced by the Land Study Bureau (LSB) of the University of Hawai'i for each island. This series of reports were produced with the intention of developing a land inventory and productivity evaluation based on statewide "standards" of crop yields and levels of management. The LSB land classification is a synthesis of the information found in the 1955 Soil Survey for the Territory of Hawai'i as well as several other sources for data on geology, topography, climate, water resources and crops. The LSB classification system groups lands into homogeneous units called Land Types, describes their condition and environment, delineates the areas on aerial photo base maps, rates the lands on their overall quality (productivity) in relation to other land, and appraises their performance under selected alternative agricultural crops. A five-class productivity rating is applied using the letters A, B, C, D and E, with A representing the class of highest productivity and E the lowest. The productivity evaluations were based on statewide standards of crop yields and levels of management at the time the classification was made. Most of the soils in the area to be developed are categorized as "U" or urban, reflecting its past urban use. The non-urban soils on the project areas are rated "B" which reflects its past use for sugar cultivation under irrigated conditions.

4.1.3.2 Soil Conservation Soil Survey

The Soil Conservation Service Report of 1972¹ series for each island was prepared by the U.S. Department of Agriculture Soil Conservation Service (SCS) and the University of Hawai'i Agricultural Experiment Station. These reports are patterned after a soil classification procedure adapted for nationwide, uniform application. Soil types are ranked according to their suitability for most kinds of crops and characteristics applicable to development.

The soils on site are mostly classified as of the Māmala Series with the remainder in the Honouliuli Series. (See Figure 7). Both of these series consist of well-drained soil on coastal plains. Māmala

¹ U.S. Department of Agriculture, Soil Conservation Service and University of Hawai'i, *Soil Survey of Islands of Kaua'i, O'ahu, Maui, Moloka'i, and Lāna'i*, State of Hawai'i, August 1972



LEGEND

-  Project Area
-  HxA Honouliuli Stony Silty Clay, 0 to 2% Slopes
-  MnC Mamala Stony Silty Clay, 0 to 12% Slopes

FIGURE 7

SCS Soil Survey

VARONA VILLAGE



Source: USDA, Soil Conservation Service Soil Survey of Island of Oahu, State of Hawaii

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Series formed in alluvium deposited over coral limestone and consolidated calcareous sand. The Honouliuli Series developed in alluvium derived from basic igneous material. Both are characterized as nearly level to moderately sloping.

Permeability is moderately slow (Honouliuli Clay, 0 to 2 percent slopes [HxA], capability classification I if irrigated) and the erosion hazard is no more than slight. Honouliuli soils are geographically associated with Māmala (Māmala Stony Silty Clay Loam, 0 to 12 percent slopes [MnC], capability classification III if irrigated) soils which are also found within the subject property. The erosion hazard for the Māmala series is slight to moderate.

In terms of capability classifications, Class I soils have few limitations that restrict their use; Class II soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices; and Class III soils have severe limitations that reduce the choice of plants, require special conservation practices or both.

4.1.3.3 Agricultural Lands of Importance to the State of Hawai'i

The *Agricultural Lands of Importance to the State of Hawai'i* (ALISH) (1977) system was also prepared for the entire state, based on criteria established by the SCS. *Prime Agricultural Land* is defined as "... land best suited for the production of food, feed, forage, and fiber crops." Two other classes of land used by the ALISH system are *Unique Agricultural Land* and *Other Important Agricultural Land*. Both describe successively less productive soils. Most of the Varona Village is designated as Urban Land. A small portion is designated Other Important Agricultural Land. (See Figure 8) In regards to the Farmland Protection Policy Act, while the proposed project will involve Other Important Agricultural Land, the entire 'Ewa Plain, which consists of large portions of Prime, Unique, and Other Important Agricultural Land, is planned for a Secondary Urban Center (to Honolulu). Thus, farmlands (existing or future) will not be impacted by the project.

4.1.3.4 Grading and Soil Erosion

No significant grading within the project site will be required since the area is relatively flat. All grading operations will be in conformance with applicable ordinances of the City and County of Honolulu.

Impacts and Recommendations

Erosion control measures would lessen construction impacts and minimize the potential for erosion. Some of these tactics might be:

1. Minimize time of construction.
2. Retain existing ground cover until the latest date before construction.
3. Early construction of drainage control features.
4. Use of temporary sprinklers in non-active construction areas when ground cover is removed.
5. Station water truck on site during construction period to provide for immediate sprinkling, as needed, in active construction zones (weekends and holidays included).
6. Use of temporary berms and cut-off ditches, where needed, for control of erosion.

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7. Thorough watering of graded areas after construction activity has ceased for the day and on weekends.
8. Sodding or planting of all cut and fill slopes immediately after grading work has been completed.

Grading and erosion control plans for the Project will be prepared in compliance with Chapter 23, Revised Ordinances of Honolulu.

4.1.4 Flooding and Drainage

The impacts of flooding and drainage from the Project were studied by Hida, Okamoto & Associates, Inc.

4.1.4.1 Existing Conditions

The project site falls within the Kalo'i watershed, a drainage basin encompassing approximately 11 square miles. The watershed extends from the crest of the Wai'anae mountain range to the ocean. All of 'Ewa Villages, except the eastern-most portion adjacent to Fort Weaver Road, falls within the Kalo'i watershed.

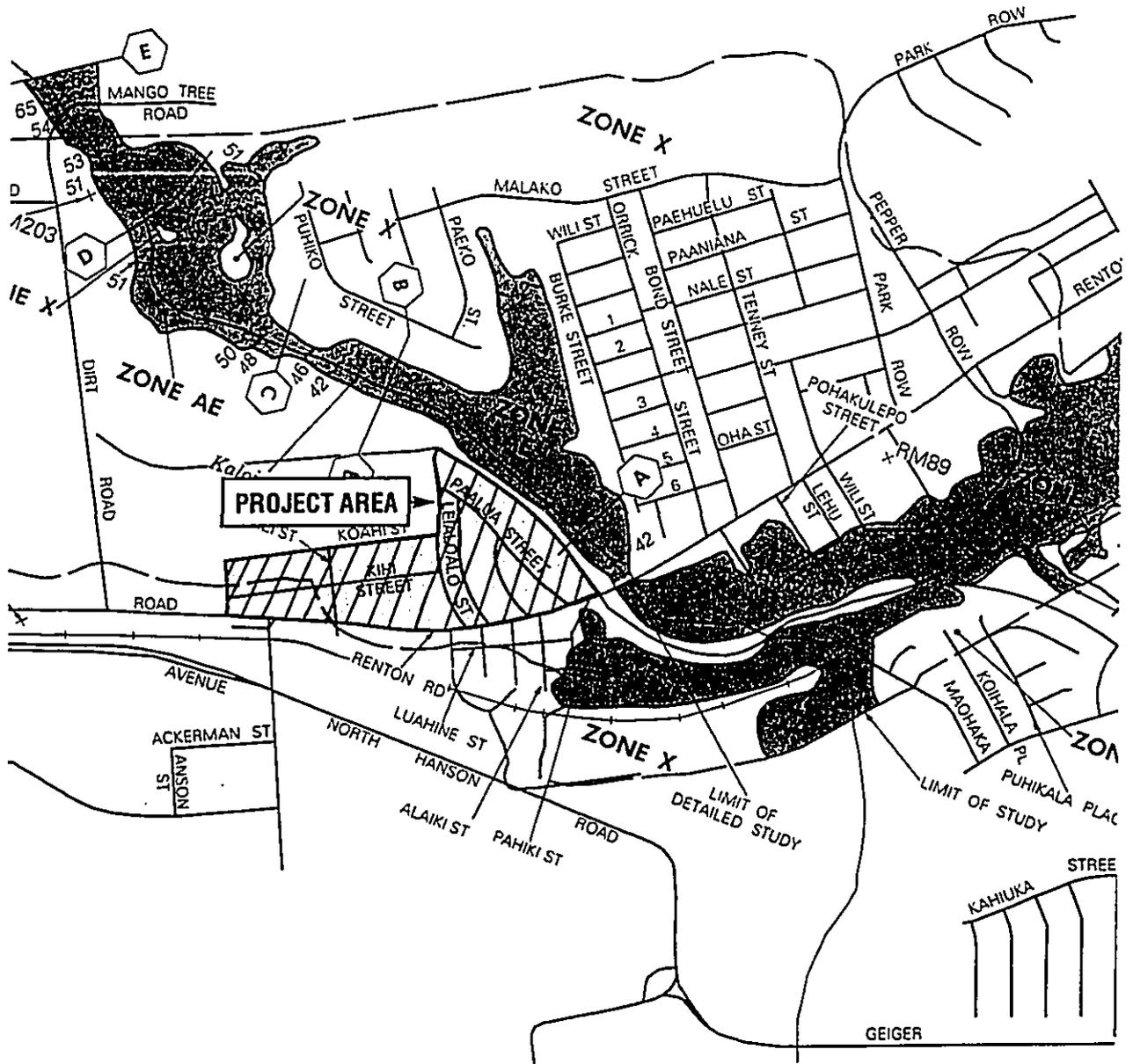
Hawai'i is one of the few states without a "Wild and Scenic River." There are no existing streams and drainage improvements within the project site. However, drainage improvements have been or may be installed in adjacent developments that will also benefit the project site. The 'Ewa Villages Golf Course serves as the major drainage component of the Villages, intercepting runoff from lands mauka of the Villages. Onsite runoff from portions of the Villages is also routed by underground drainage systems to the golf course for disposal.

Downstream restrictions include the limited flow at the railroad bridge, and the lack of adequate conveyance capacity through Ocean Pointe. Currently the flow at the railroad bridge is purposely limited to less than its full capacity, however the bridge is designed to handle the maximum flow and will be opened in the future. Haseko, developer of Ocean Pointe, has objected to the discharge of runoff on to their property at a rate exceeding existing conditions. Ocean Pointe has agreed to accept additional runoff up to a limit when these improvements have been completed. Until such time that Ocean Pointe accepts additional runoff above existing condition rates, full improvement of Kalo'i channel through the Villages cannot be completed.

The proposed project is not within a wetland area nor will it have an adverse impact on an adjacent wetland area.

4.1.4.2 Flood Hazard

Prior to the golf course improvements, a significant portion of 'Ewa Villages was subject to inundation during moderate to heavy rainstorms and was identified as being within a flood plain by the Flood Insurance Rate Maps (FIRM) prepared by the Federal Emergency Management Administration (FEMA). Subsequent to construction of the golf course, the FIRM has been revised resulting in only the golf course remaining in the flood plain. (See Figure 9, Flood Insurance Rate Map Number 15003C0310). The remaining areas of the Villages have been removed from the flood



LEGEND

-  Project Area
-  No base flood elevations determined.
-  Base flood elevations determined.
-  Areas determined to be outside 500-year flood plain.

FIGURE 9
Flood Insurance Rate Map (FIRM)
VARONA VILLAGE



Source: Flood Insurance Rate Map, State of Hawaii, Ewa District

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plain, relieving the existing neighborhood of flooding and allowing development of the remaining vacant sites.

4.1.4.3 Runoff

Runoff for the site was calculated for existing conditions for both the 10-year and 50-year storms and are listed below. Calculations were based on a rainfall duration of one hour, and rainfall intensities of 1.75 inch/hour for the 10-year storm and 2.25 inch/hour for the 50-year storm.

Impacts and Recommendations

The proposed VVCS Project will alter the character of the 14 acre site. The vegetative cover (weeds, scrub brush) currently established on the site will be replaced with pavement, buildings, and landscaped yards typically found in urban developments.

As a result of the proposed improvements, the rate of peak runoff for the 10-year and 50-year storms will increase. Estimated peak runoff for the developed condition is given in the table below.

Estimated Stormwater Quantities

Storm	Pre-Development	Post Development	Increase
10 year	23.95 cfs	34.14 cfs	10.19 cfs
50 year	30.80 cfs	43.89 cfs	13.09 cfs

Peak runoff rates generated onsite are expected to increase by 1.4 to 1.5 times for the 10- and 50-year storms after development of the Project. This is due to the loss of open space as well as the effects of a more efficient drainage system. Drainage patterns in the onsite area proposed for development may be altered slightly from the existing conditions due to the alignment of the proposed roads, parking, walkways and structures.

In general, consideration has been given to future development of Varona Village in planning of downstream drainage facilities. Impacts on developments downstream of the project site should be nonexistent.

Stormwater runoff will be diverted to retention basins in the landscape areas. Retention basins will be sized to accommodate the increase in runoff generated by a 10 year storm. Overflow will be to the new drainage system in Renton Road.

A drainage report will be included when construction and grading plans are submitted to the Department of Planning and Permitting for review.

4.1.5 Water Source Hydrology

Groundwater in the vicinity of the subject property occurs in two aquifers, the deeper (and higher quality) Wai'anae volcanic aquifer and the overlying (mostly brackish to salt water) coral aquifer. Materials of low permeability including marine clay and silt sediments, alluvium and weathered

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volcanics, separate the two aquifers and form a "caprock". Because of its low permeability, the caprock retards the flow of water between the two aquifers. This barrier may be described as an "aquitard" since these soils and clays are permeable, and there is hydraulic continuity between the Wai'anae aquifer and the coral aquifer. The light density, high head Wai'anae aquifer water flows through the aquitard into the coral aquifer to be mixed with the high salinity salt water. Discharge to the sea from the coral aquifer is unrestricted by an aquiclude or aquitard.

The subject property lies within the 'Ewa Caprock Ground Water Management Area (GWMA), withdrawals from which are regulated by the State Commission on Water Resource Management (CWRM). In May of 1994, the CWRM divided the 'Ewa Caprock Aquifer into three sections. No sustainable yield for the aquifer has been established by the CWRM to date. The current guideline used for the sustainable yield is 16-21 million gallons per day (mgd). The existing residents of Varona Village is estimated to be using approximately 0.07 mgd.

The average daily demand for potable water for the proposed VVC\$ Project at full development is estimated to be 0.04 mgd.

The proposed project is located over an U.S. Environmental Protection Agency (EPA)-designated Sole Source Aquifer. According to the U.S. Department of Housing and Urban Development-EPA (Region IX) Sole Source Aquifer Memorandum of Understanding of 1990, the project need not be referred to EPA for evaluation because the project only involves "construction of (or addition to)...public facilities...which will be served by an existing and publicly owned and operated sewerage system and treatment plant..."

4.1.6 Flora

The subject property has historically been used for residential housing. In general, the weedy species associated with sugar cane cultivation include nutgrass (*Cyperus rotundus*), swollen fingergrass (*Chloris inflata*), red pualele (*Emilia fosbergii*), snowthistle (*Sonchus oleraceus*), and hairy spurge (*Euphorbia hirta*).

A biological survey conducted by Kenneth M. Nagata in May 1996 researched the vacant undeveloped area adjacent to the existing Varona Village. Although the project site was not included in this assessment, the areas surrounding the property were evaluated; the property just to the south being very similar in nature to the project site. Dr. Nagata found that site to consist almost exclusively of alien (non-native) species.

Areas in and around Varona Village where homes once stood include areas overgrown with buffelgrass (*Cenchrus ciliaris*), Chinese violet (*Asystasia gangetica*), Spanish needle (*Bidens pilosa*) and false mallow (*Calvastrum coromandelianum*). Spiny amaranth and koa-haole are also common. Landscape plants such as 'opiuma (*Pithecellobium dulce*), monkeypod (*Samanea saman*), *Bougainvillea* and *Carmona microphylla* can still be found as well as fruit trees such as tamarind (*Tamaridus indica*), mango (*Mangifera indica*), papaya (*Carica papaya*), pummelo (*Citrus grandis*) and star apple (*Chrysophyllum cainito*).

Of these species located, only one, the 'ilima, is native. In addition, three other plants are considered "possibly indigenous"; these are hoary abutilon (*Abutilon incanum*), black nightshade (*Solanum*

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americanum), and 'uhaloa. All are found in small to moderate numbers in the area. 'Ilima is common to the lowlands and foothills on all the main islands of Hawai'i. Thus, native plants represent a negligible component of the vegetation in the area. There are no rare and endangered plants in the site nor are there any native plant communities. The proposed action is not expected to affect any endangered species of plants, nor any critical habitat.

4.1.7 Fauna

For many years, the subject property has been urbanized and the surrounding property has been under sugar cane cultivation, which is not a suitable habitat for native birds. Various surveys of the 'Ewa area conclude that the entire region has been disturbed for over a hundred years, resulting in severe alteration of the native ecosystem. The only mammals known to inhabit this altered ecosystem are introduced species such as feral cats, dogs, rats, mice, and mongooses. The proposed action is not expected to affect any endangered species of animals, nor any critical habitat.

During the biological survey conducted May 1996, the most widespread species were the barred dove (*Geopelia striata*) and the red-vented bulbul (*Pycnonotus cafer*).

4.2 HUMAN ENVIRONMENT

4.2.1 Archeological and Historic Resources

An archaeological survey of the entire 'Ewa Villages, including the proposed project site was conducted in 1990 by Hallet H. Hammatt, David W. Shideler, and William H. Folk for the 'Ewa Villages Environmental Impact Statement (1990).

Due to the extensive grading and other modifications conducted on the property, no significant archaeological or Hawaiian cultural sites are known to exist on the subject property. The presence of any archaeological sites of any significance on the surface or subsurface of the subject property is unlikely because of the continuous residential use.

The earliest detailed map of the area shows no habitation closer than the western edge of West Loch in the vicinity of Papapahu Point. The Monsarrat survey map of 1878 documents substantial settlement at the "Honolulu Taro Lands" in the Papapahu Point area, which was the focus of the population of Honouliuli ahupua'a. The amenities of that area, such as fishponds, taro lo'i, shellfish collecting, and salt drying would have focused population there in prehistoric times, and the name of that place must have secondarily come to apply to the entire ahupua'a.

A search for Hawaiian Land Commission Awards (LCA) in the vicinity of the subject property similarly showed no evidence of small private land holdings in the vicinity. The only land commission award in the vicinity is Royal Patent 6071, LCA 11216, Apana 8 to Miriam Ke'ahi-Kuni Kekau'onohi who was granted the ahupua'a of Honouliuli, 'Ewa, O'ahu by Kamehameha II on January 28, 1848.

The earliest archaeological study in Honouliuli by McAllister (1933) documented Site 146, the 'Ewa Coral Plains. "The 'Ewa coral plains throughout which are remains of many sites. The greatest extent of old stone walls, particularly near the Pu'uoloa Salt Works, belongs to the ranching period

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of about 75 years ago [circa 1858]." The only other early documented site in the vicinity was a heiau on Pu'u Kapolei.

Should any human burials or historic sites such as artifacts, charcoal deposits, or stone platforms, pavings or walls be found, the developer and/or landowner shall stop work in the immediate vicinity and contact the State's Historic Preservation Division (and in the case of burials, the O'ahu Burial Council). The significance of these finds shall then be determined and approved by the Division, and an acceptable mitigation plan shall be approved by the Division (if needed). The Division must verify that the fieldwork portion of the mitigation plan has been successfully executed prior to work proceeding in the immediate vicinity of the find. Burials must be treated under specific provisions of Chapter 6E, Hawai'i Revised Statutes.

As shown on Figure 3A, the portion of 'Ewa Villages which was occupied with homes is located within the 'Ewa Villages Historic District. Most of the proposed project is located within this Historic District, as such, the Department of Community Services consults with the State Historic Preservation Division whenever an action is proposed within the Varona Village.

The State Historic Preservation Division concurred with the proposed demolition of two structures in the VVCS portion of the property: V-19, 1717 Paionia Street and V-27, Leialoalo Street. The Division suggested maintaining visual or implied remains of the original circulation patterns on the site. During the public review period, the Division expressed concern that the site plan shown on Figure 3 did not reflect the Division's suggestions about retaining the original circulation patterns visually. A revised site plan will be developed and submitted for review and comment to the Division before obtaining permits for the project. To the extent feasible, the revised plan will show walkways and/or landscaping defining the original roadways in Varona Village.

The proposed project will be subject to compliance with Section 106 of the National Preservation Act of 1966. Almost the entire project area is located within the 'Ewa Villages Historic District, which was the subject of a "Memorandum of Agreement Pursuant to Section 106." As stated in the Memorandum of Agreement, any modifications to the original structures on the site will follow the Secretary of the Interior's Standards for Rehabilitation. The Project will be developed in a historically sensitive manner in accordance with the Memorandum of Agreement dated February 10, 1995 concerning 'Ewa Villages.

4.2.2 Traffic and Circulation

Existing Conditions

The project site is located near the west end of Renton Road, which provides the only vehicular access to the site. An existing bridge carries traffic over the Kalo'i Gulch and future Kapolei Parkway near the east edge of the project site. Renton Road fronting the project site is an undivided two-lane roadway with unpaved shoulders; east of the bridge, Renton Road is a divided roadway with curb, gutter, and sidewalk improvements. In this area, Renton Road carries one to two lanes for traffic in each direction.

Renton Road intersects with Fort Weaver Road at a signalized intersection. A third lane is added on the eastbound Renton Road approach as a left turn only lane; the right lane serves right turns only

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lane and the middle lane is shared by left turns and the through movement. The opposite (westbound) approach consists of a lane shared by left turns and through movements and a right turn only lane. Separate signal phases are provided for traffic on the opposing approaches on Renton Road. On Fort Weaver Road, the southbound approach consists of four lanes: a left turn only lane, two through lanes, and a right turn only lane. The northbound approach has three lanes: a left turn lane and two through lanes; a short taper is provided for right turns from the second (right) through lane. Left turns from Fort Weaver Road are made in separate signal phases during which oncoming traffic is stopped. The traffic signal cycle is dependent on demand with a maximum cycle length of two minutes.

Improvements to the left turn lane from the northbound lanes of Fort Weaver Road were completed in the latter part of 2001. The left turn lane was lengthened and now is approximately 650 feet long, plus a taper of 120 feet. The existing left turn lane provides storage for 25 vehicles (at an average of 26 feet per vehicle). Based on the guidelines set forth in the State Design Manual, the existing left turn lane would be adequate for a left turning volume of between 375 and 500 vehicles per hour.

Traffic volumes on Renton Road just west of Fort Weaver Road are estimated to be 15,000 vehicles per day, with approximately 7 to 9 percent occurring during morning and afternoon peak hours. Peak traffic volume in one direction on Renton Road is estimated to be 900 vehicles per hour, and peak volume of left turns from Fort Weaver Road is estimated to be less than 200 vehicles per hour, well below the capacity of the turn lane.

Impacts and Recommendations

The proposed project will be developed in several phases. Initially, development will consist of new facilities for activities currently located along Renton Road between Varona Village and Fort Weaver Road. As such, the initial phase of development will have little effect on traffic conditions at the intersection of Fort Weaver Road and Renton Road.

The second phase of development would include expansion of the activities that were relocated in the initial phase. This expansion could include increased enrollment in schools or increased employment resulting from additional services. Much of the increased traffic that is a likely result of this development will be generated in the surrounding area; this traffic growth is not expected to add significantly to the increase in traffic already occurring on Fort Weaver Road (approximately 7% per year). Without any roadway improvements, the increases in traffic volumes on Renton Road, however, would result in longer delays at the intersection of Renton Road and Fort Weaver Road as turning volumes increase. Completion of a new roadway connection along the Kapolei Parkway alignment could provide an alternative route corridor between the 'Ewa Villages area and the 'Ewa Gentry project, reducing some of the traffic at the intersection. Additional traffic analysis may be required at the time a definitive project is being considered.

Within the project site, vehicular circulation will continue to occur on Koahi, Kihī, Manakuke and Ha'akei Streets. The orientation of Pa'alua Street may be slightly altered. Vehicular access to the VVCS Project will not be permitted from within Varona Village. All traffic will be diverted to Renton Road to both minimize the impact of the VVCS Project on village residents and to ensure safety of the children and elderly using the VVCS facilities. Within the project area the alley-ways will be replaced with pedestrian linkages to campus facilities.

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4.2.3 Air Quality

The impact on air quality was studied by Barry D. Neal as part of the FONSI for Varona Village Phase II in November of 1996 and is not significantly different than what is expected of the VVCS Project.

Existing Conditions

Regional and local climate together with the amount and type of human activity generally dictate the air quality of a given location. The climate of the project area is very much affected by its leeward and only slightly inland situation. Winds are predominantly trade winds which are deviated somewhat from the northeast toward the east by the local terrain. During winter, occasional storms may generate strong winds from the south (Kona winds) for brief periods. When the trade winds or Kona winds are weak or absent, landbreeze-seabreeze circulations may develop. Wind speeds typically vary between about 5 and 15 miles per hour providing relatively good ventilation much of the time. Temperatures in the leeward O'ahu area are generally very moderate with average daily temperatures ranging from about 65°F to 85°F. Extreme temperatures recorded for this area are a minimum of 47°F and a maximum of 93°F. Rainfall is relatively low with an average of about 21 inches per year.

The present air quality of the project area is relatively good and has probably improved recently with the discontinuation of sugar cane growing and burning in the 'Ewa Plain area. Air quality data from the nearest monitoring stations operated by the state Department of Health suggest that all national air quality standards are currently being met, although occasionally the more stringent state standards for ozone and for carbon monoxide may be exceeded. Per the U.S. Environmental Protection Agency website, the State of Hawai'i has no "non-attainment" sites. Thus, the project is located within an "attainment area."

The project site located at its nearest point, nearly a thousand feet (and upwind during predominant trade wind conditions) from the Honouliuli Wastewater Treatment Plant (WWTP).

Impacts and Recommendations

With the proposed VVCS Project, some short- and long-term impacts on air quality will unavoidably occur either directly or indirectly as a consequence of construction and use. Short-term impacts from fugitive dust will likely occur during the project construction phase. To a lesser extent, exhaust emissions from stationary and mobile construction equipment and from workers' vehicles may also affect air quality during the period of construction. State air pollution control regulations require that there be no visible fugitive dust emissions at the property line. Hence, an effective dust control plan should be implemented to ensure compliance with state regulations and to avoid complaints from residents adjacent to construction areas. Fugitive dust emissions can be controlled to a large extent by watering of active work areas, using wind screens, keeping adjacent paved roads clean, and by covering open-bodied trucks. Other dust control measures could include limiting the area that can be disturbed at any given time and/or mulching or chemically stabilizing inactive areas that have been worked. Paving and landscaping of project areas early in the construction schedule will also reduce dust emissions. Monitoring of dust emissions along the site boundary could be considered to evaluate the effectiveness of dust control measures. Exhaust emissions from traffic disruption can

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be mitigated by moving construction equipment and workers to and from the project site during off-peak traffic hours.

After construction, vehicles coming to and from the Project may result in a long-term increase in air pollution emissions in the project area, particularly along Renton Road. Options available to mitigate long-term, traffic-related air pollution are generally to further improve roadways, to reduce traffic or to reduce individual vehicular emissions. Aside from providing added roadway improvements, air pollution impacts from vehicular emissions could conceivably be additionally mitigated by reducing traffic volumes through the promotion of bus service and car pooling and/or by adjusting local school and business hours to begin and end during off-peak times.

During certain wind conditions, odor from the Honouliuli Wastewater Treatment Plant may be detectable. This impact is considered to be unavoidable but temporary in nature.

4.2.4 Water Quality

According to the State Department of Health, the project area is located above the State's Underground Injection Control line similar to most of the recent and planned development on the 'Ewa Plain. As such, the underlying groundwater could be considered as a potential source of potable water. Surface water quality will be maintained through a program of soil erosion control measures and implementation of best management practices during construction.

4.2.5 Ground Contamination

According to the U.S. Department of Housing and Urban Development (HUD), particular attention should be given to any site proposed for HUD assistance that is located on, or in the general proximity of, such areas as dumps, landfills, industrial sites or other locations that contain hazardous wastes. It is HUD policy that all property proposed for use in HUD programs be free of hazardous materials, contamination, toxic chemicals and gases, and radioactive substances, where a hazard could affect the health and safety of occupants or conflict with the intended utilization of the property.

A Phase I Environmental Site Assessment Report was prepared by R.M. Towill Corporation in July 1992. In 1993, Brewer Environmental Services was retained by the City and County of Honolulu to perform a Phase II Environmental Site Assessment of the 'Ewa Villages community (approximately 606 acres including Varona Village). The area included in the Phase II Environmental Site Assessment did not include Barbers Point Naval Air Station (now referred to as "Kalaeloa").

During the last several years, federal and state governments have developed legislation relating to environmental concerns. As a result of this legislation, laws and regulations have been promulgated that govern hazardous and toxic wastes and materials, and the manufacture, generation, use, storage, release, and disposal of such materials. In regard to toxic chemicals/radioactive materials, HUD Notice 79-33 states that the grantee must review the most recent notice of HUD's EPA Super Fund Program (CERCLIS). This listing identifies site locations of hazardous and toxic wastes. Of concern are sites within a mile radius of the project site. Similarly, HUD is concerned that both people and property are at significant risk to exposure from explosion and thermal radiation (fire)

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when projects are located too close to storage containers of hazardous gas and liquids or chemicals of a flammable or explosive nature. The concern is (a) above ground hazards (b) within one mile of the project site (c) in direct line of sight.

As a consequence of these laws and regulations, numerous agencies collect and disseminate information for use in evaluating recognized environmental conditions (RECs). As part of this study, PBR HAWAII used VISTA Information Solutions, Inc. to search major federal, state, and local regulatory agency lists. The VISTA database is consistent with ASTM standards. A VISTA report was ordered on April 11, 2001.

Hazardous and Toxic Wastes/CERCLIS

The Comprehensive Environmental Response Compensation and Liability Act Information System List (CERCLIS) database contains known or suspected uncontrolled or abandoned hazardous waste sites. These sites have been investigated, or are currently under investigation by the U.S. EPA for the release, or threatened release of hazardous substances. Once a site is placed in CERCLIS, it may be subjected to several levels of review and evaluation, and ultimately placed on the National Priorities List (NPL).

In general, the search of the VISTA database revealed that sites of concerns within a mile of Varona Village were concentrated in Naval Air Station Barbers Point, although there was one leaking UST (LUST) noted in Varona Village and one CERCLIS site in the former 'Ewa Sugar Mill area. The State of Hawai'i Department of Health (DOH) Solid and Hazardous Waste Branch was contacted regarding the LUST site in Varona Village and according to DOH's LUST database, the status of the site is "site cleanup completed" (as of August 27, 1999). The DOH's UST database notes that the status of tank is "permanently out of use."

According to the State Department of Health Hawai'i Evaluation and Emergency Office, it was learned that the project site should not be affected by any problems (CERCLIS) at the 'Ewa Sugar Mill site since Varona Village was used as plantation housing in the past. There has been no change in the use of the land and thus the site has not been used for hazardous substances. Within the Naval Air Station Barbers Point (Kalaeloa), there is one CERCLIS site within .17 mile of the Varona Village site. At this particular site either no contamination was found or contamination was removed quickly without need for the site to be placed on the NPL, or the contamination was not serious enough to require federal Superfund action or NPL consideration. In addition, there is still fencing between Kalaeloa and Varona Village which restricts access between the two areas. Furthermore, any proposed child care center will be secured.

Thermal and Explosive Hazards

As previously noted, during the preparation of the 1993 Phase II Environmental Site Assessment, BES identified a number of above ground storage tanks (ASTs) in 'Ewa Villages. As expected, the majority of these facilities (approximately 13 sites) were concentrated in the former Sugar Mill area. Two sites were located in Renton Village, and one was located in Tenney Village. According to the Department of Community Services, all of the ASTs identified in the 1993 Phase II Environmental Site Assessment have since been removed. Another facility of interest is the Chevron pipeline which runs along the OR&L railroad right-of-way. The Chevron pipeline is closest to the western end of

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Varona Village, and the farthest where the VVCS project is being proposed (200 to 600 feet, depending on the location within the VVCS project area). The project will not unnecessarily expose people or buildings to explosive or flammable fuels or chemicals containers.

4.2.6 Noise

General noise standards were attained from A Noise Assessment Study, prepared by Darby & Associates, Inc. for the Varona Village Phase II project FONSI in 1996.

Existing Conditions

The ambient noise levels throughout the area range from approximately 47 to 57 dBA (A-weighted decibels), which is typical for an urban residential area. Night-time ambient noise levels at the project site are estimated to be at least 10 dB (decibels) lower than daytime ambient noise levels.

The project area is located just beyond the northeast corner of the former Barbers Point Naval Air Station (BPNAS) boundary and approximately 6 miles west of the Honolulu International Airport (HIA). However, the project site is not located in or near a Clear Zone at a civil or military airfield nor in or near an Accident Potential Zone at a military airfield. Most of Varona Village is exposed to aircraft related noise levels in the range of 55 to 60 Ldn (Day-Night Equivalent Sound Level), with the remaining area exposed to average noise levels in the range of 60 to 65 Ldn. Although the Navy has vacated most of Barbers Point and noise levels have decreased, it is conceivable that civilian aircraft operations will occur at that location.

Also the Honouliuli Wastewater Treatment Plant (WWTP) is located at its nearest point nearly a thousand feet from the project site. This facility contains pumps, scrubbers, compressors, fans, and other noisy equipment. However, when ambient noise level measurements were conducted, no noise from the WWTP was audible at the nearest measurement location. During night-time hours, however, it is not unusual for ambient noise levels to be as much as 10 dB less than daytime levels and, thus, noise from the WWTP may be audible at night from the site. The Department of Health considers 70 dBA as allowable during daytime and night-time hours for Industrial uses such as the WWTP.

Impacts and Recommendations

Short term noise will be generated during construction. Proper mitigation measure (such as limiting construction to daylight hours) will be employed to minimize noise impacts. All work will be monitored to comply with State of Hawai'i Department of Health noise limits.

The project is not subject to current or projected noise levels that exceed 65 LDN. Long-term noise impacts will be generated through the operations at VVCS and by traffic on Renton Road and during pick-up and drop-off hours at the school and care facilities. This is an unavoidable impact. Noise levels generated by the VVCS Project are not expected to exceed the U.S. Department of Housing and Urban Development (HUD) recommended limit for acceptable sites.

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4.2.7 Visual Resources

The subject property is relatively flat and has been used for plantation housing for several decades. The average slope throughout the subject property is approximately one percent (1%). All of these adjoining lands are also flat. Because of these conditions, there are no ocean views. Distant views are of Makakilo and the Wai'anae Mountains, as well as the Ko'olau Mountain Range.

The visual appearance of the subject property will change from abandoned, rundown housing to something similar to what has occurred elsewhere in 'Ewa Villages (See Figures 10A, 10B, and 10C). The visual appearance of the proposed development will reflect the region's plantation heritage to be controlled during the design and review process.

The VVCS Project will be designed to integrate the proposed land uses into the established 'Ewa Villages community by organizing strong interrelationships with existing land forms and land use patterns. Some of the structures currently on the site will be rehabilitated and put into use as part of the VVCS Project. Opportunities exist for the enhancement of visual resources and transitions between land uses. The exterior design of the development will be guided by the City to ensure appropriate theme, materials, color, site design standards, and landscaping, are appropriate for the historical uses associated with the rest of 'Ewa Villages.

There is significant opportunity for aesthetic improvement of the property with development of the VVCS Project. Currently there is a stark contrast between the blighted and littered property in question and its neighboring revitalized properties in Tenney Village. Many of the structures in Tenney Village have been restored and re-landscaped. The project may spur the same type of activity in Varona Village.

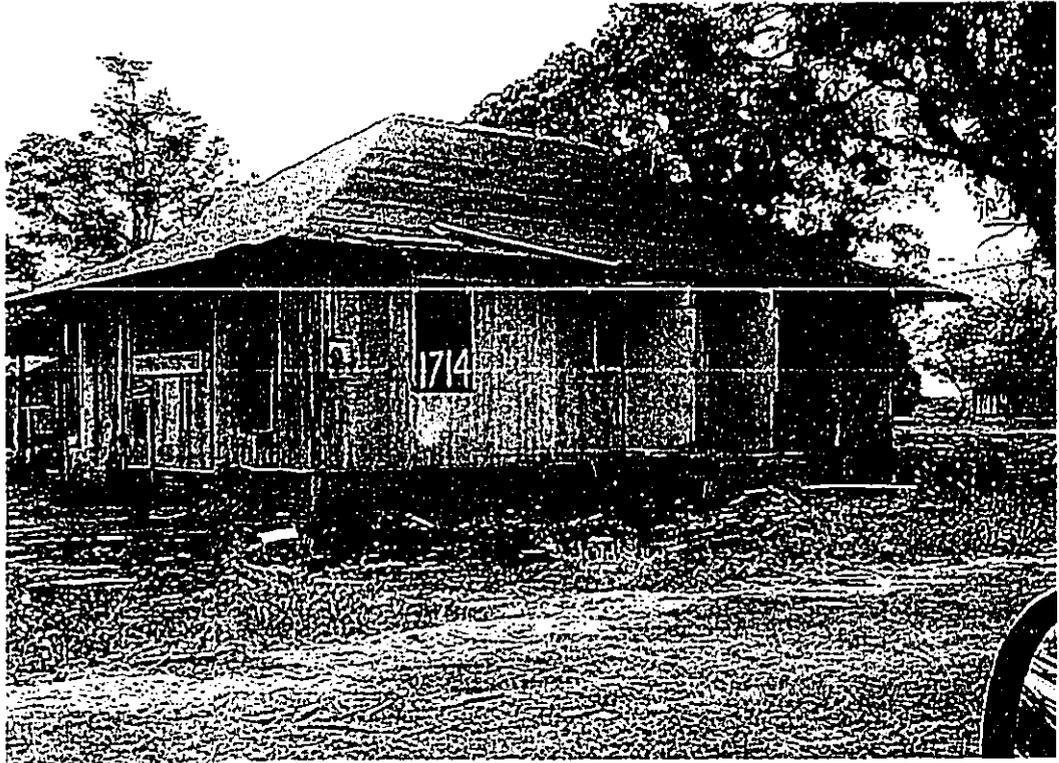
4.2.8 Social and Economic Impacts

4.2.8.1 Economic Characteristics

The O'ahu real estate market, generally, and the 'Ewa/Kapolei area, specifically, have strong long-term growth prospects, and the development of VVCS is a logical and consistent community service component of this process.

Employment

Presently there are no jobs available on the property. The proposed VVCS Project will generate increased short-term direct and indirect employment during construction and long-term employment once VVCS is in operation. Total construction-related employment, including jobs supported by construction firms' spending and construction workers' spending is in the range of 20 jobs (over the entire construction period).



1. Typical structure on project site. 1714 Paalua Street.



3. Rubbish like this covers much of the project site.



2. I
1





2. Looking mauka from Renton Road down Paalua Road. Much of the vegetation on the site, like this mango tree, has not been maintained.

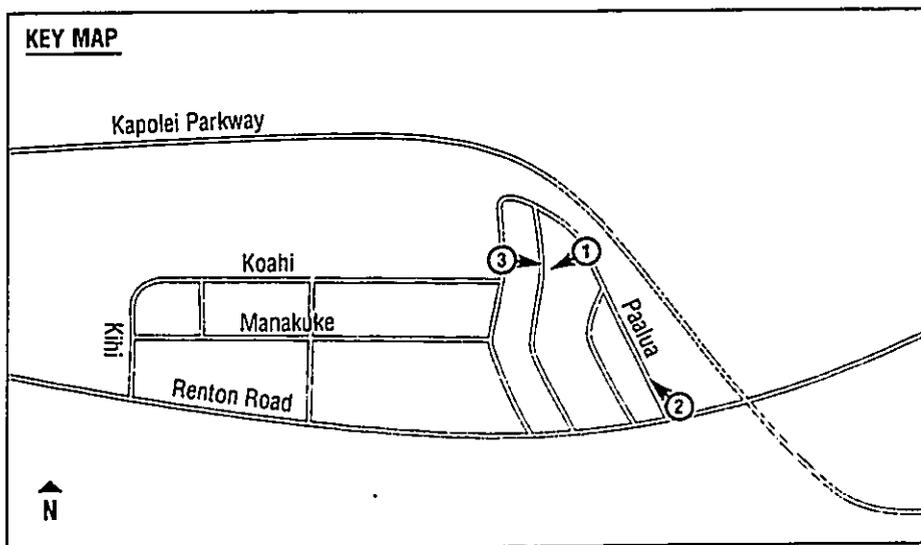
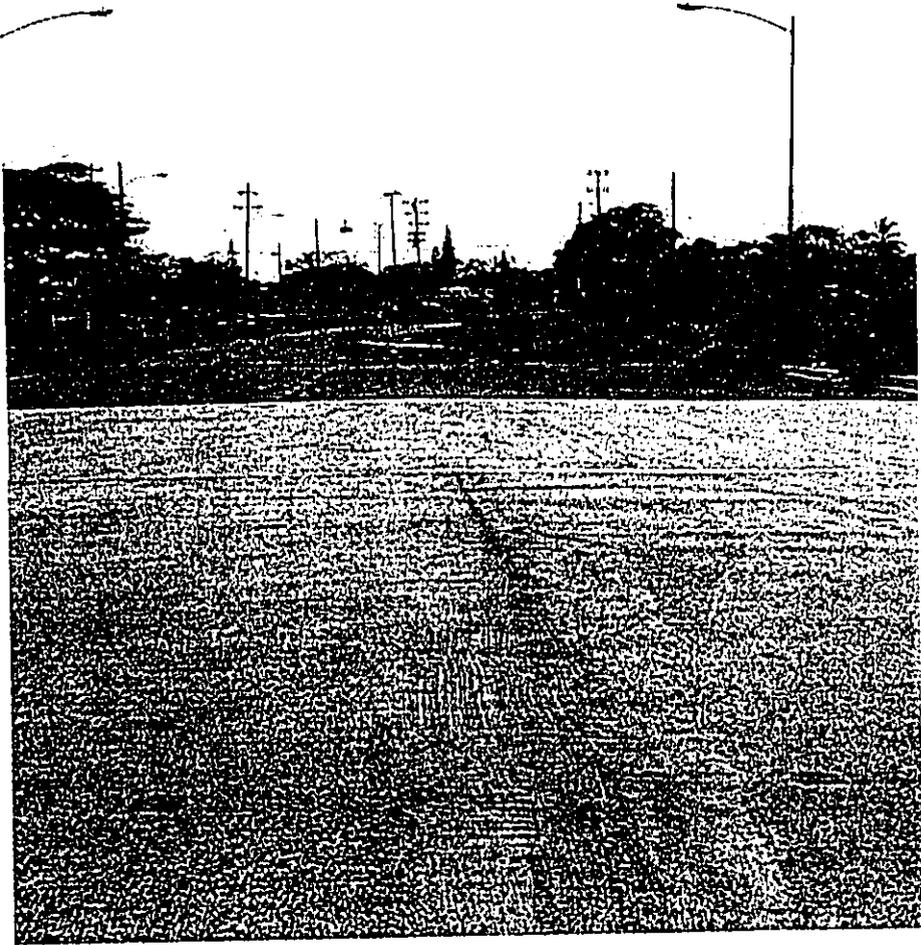
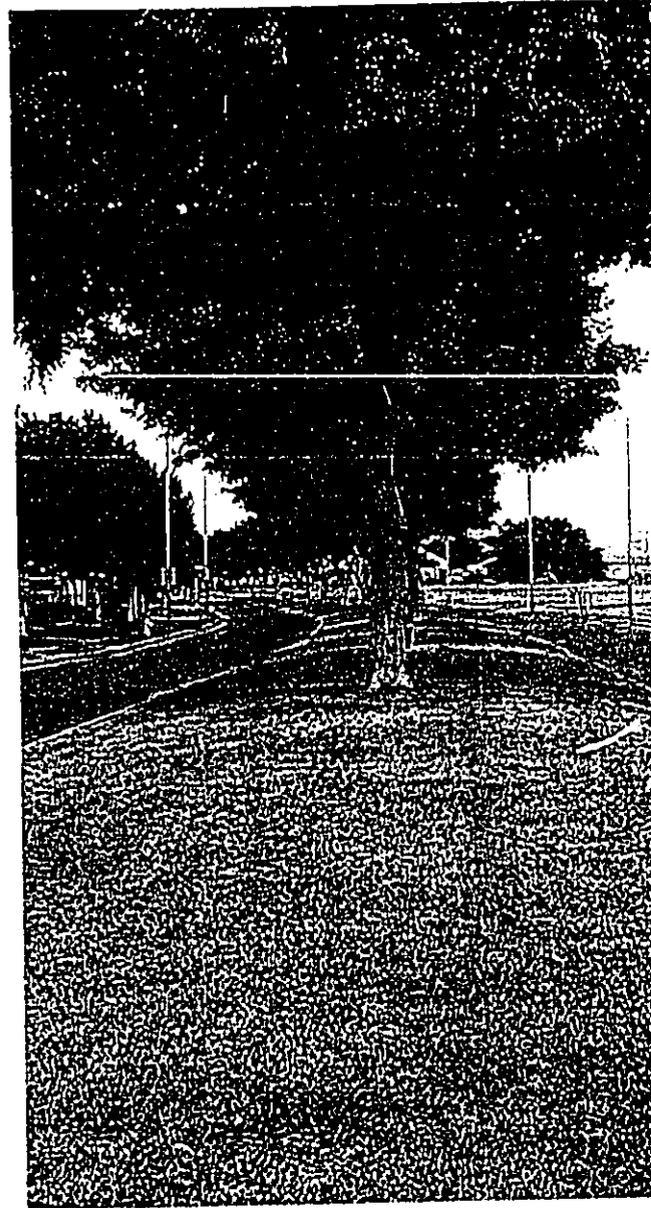


FIGURE 10A
Visual Impact Study
Existing Conditions

VARONA VILLAGE



1. Renton Road looking toward Varona Village.



2. Renton Road looking toward Tenney Village. These pictures are the exact same location just facing opposite directions.



illage. These pictures were taken from
osite directions.

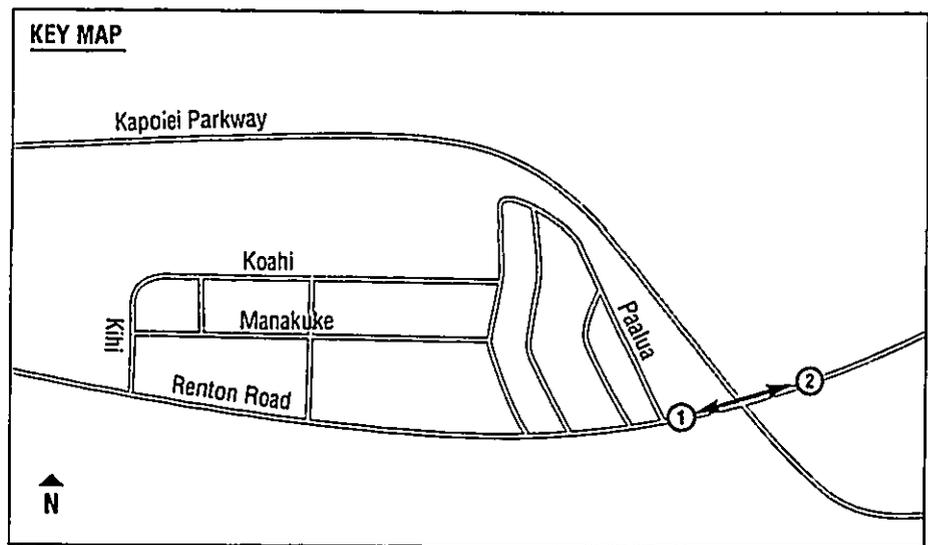


FIGURE 10B
Visual Impact Study
Existing Conditions

VARONA VILLAGE

November 2000





1. A restored building in 'Ewa Village used as a school.



2. T



2. This structure was an old community center built in the 1930's which has been restored and is now used as a church.

FIGURE 10C

Visual Impact Study

VARONA VILLAGE

November 2000



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4.2.8.2 Social Characteristics

Housing

According to the 1970 to 1990 census figures, household size on O'ahu is approximately three persons per unit. The number of housing units in 'Ewa is rapidly multiplying and so are the number of families moving to 'Ewa. The revitalized 'Ewa Villages and Kapolei are preferred locations for starter homes. A large population of young children is expected to be indicated in the 2000 Census evaluation of 'Ewa. The homes that will be eliminated or taken for use as something other than residences will not have a significant impact on housing availability. The majority of the lots within the project area are presently vacant or have vacant homes on them. (See Figure 11) There are approximately 26 existing dwellings in the proposed VVCS Project area (Figure 3) of which 5 dwellings contain renters. Of these renters, 3 have committed to relocating. All those who have committed to relocating were offered housing within 'Ewa Villages. These housing units will be available before the existing tenants are required to relocate. All of those relocating will be moving to a residence within 'Ewa Villages. The remaining 2 tenants will be permitted to remain within the proposed VVCS Project area.

With a small permanent workforce, the VVCS Project will not generate significant amounts of new housing demand. The varied 'Ewa region housing stock offerings are expected to fill the demand for housing for those new employees already residing in the region.

In terms of environmental justice, the project does not involve housing acquisition or housing construction.

Property Values of Existing Homes

According to the Real Property Tax Assessment Office, assessments are primarily based upon two broad factors: 1) the "neighborhood" in which the land is located; and 2) the fair market value of the land. Depending on the value of the homes in Varona (which are all currently rentals in various conditions), development on the VVCS site will likely have a positive effect over time on surrounding land values relative to the existing conditions of mostly abandoned homes and vacant lots.

Population

The development of the VVCS Project is not expected to change the population in Varona Village in any significant way.

4.2.8.3 Cultural Characteristics

During the original construction of Varona Village in the 1950s, the area was extensively modified and altered from its natural condition. As such, the property does not contain plants or animals of traditional Hawaiian gathering value, and is not currently used for Hawaiian cultural or religious practices. During the public review period, the Varona Camp Community Association provided a history of the camp and a description of the camp lifestyle and culture. This history is attached to the comment letter from the Association, which is included in this Final EA.

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'Ewa Villages, is one of the few areas in the 'Ewa Development Plan within the State Historic Preservation District. The plantation style architecture is a cultural resource that will be preserved throughout the development of the VVCS Project.

The State Historic Preservation Division concurred with the proposed demolition of two structures in the VVCS portion of the property: V-19, 1717 Paionia Street and V-27, Leialoalo Street. The Division suggested maintaining visual or implied remains of the original circulation patterns on the site. During the public review period, the Division expressed concern that the site plan shown on Figure 3 did not reflect the Division's suggestions about retaining the original circulation patterns visually. A revised site plan will be developed and submitted for review and comment to the Division before obtaining permits for the project. To the extent feasible, the revised plan will show walkways and/or landscaping defining the original roadways in Varona Village.

Modifications to the original structures on the site will follow the Secretary of the Interior's Standards for Rehabilitation. The Project will be developed in a historically sensitive manner in accordance with the Memorandum of Agreement dated February 10, 1995 concerning 'Ewa Villages.

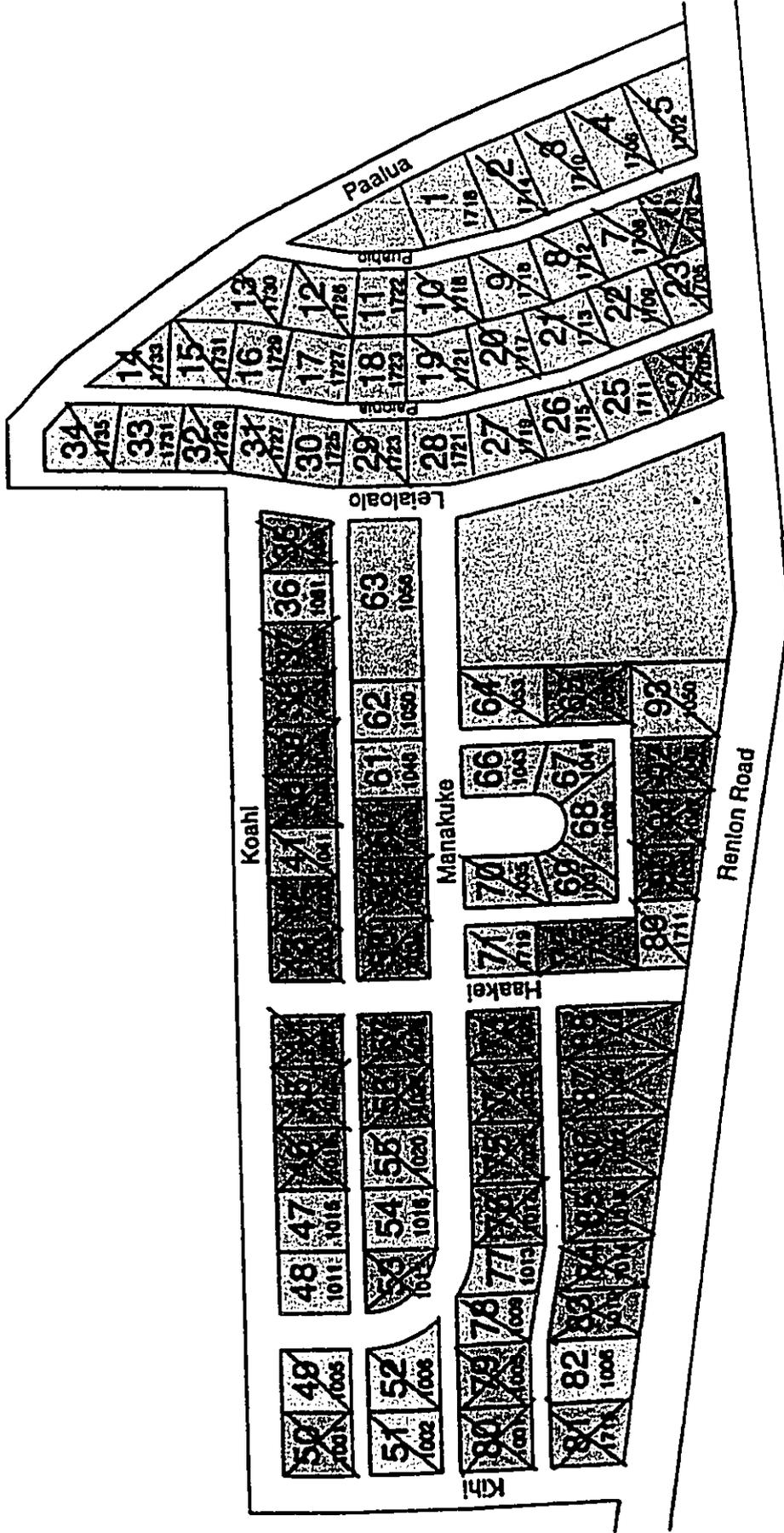
4.2.9 Infrastructure

All internal roadways, drainage, water, wastewater, electrical, and communication infrastructure in the VVCS site will be funded by a development entity. Off-site infrastructure improvements required for the VVCS Project will also be funded or arranged for by the City, the development entity, or through joint venture arrangements with the City.

Construction cost estimates for grading and infrastructure found below are based on a multi-service community facility for the site. The estimate identifies site preparation and earthwork, and roadway and utilities construction, and will need to be revised based on a final design.

Estimate of Possible Construction Costs

Earthwork	\$173,000
Sitework	\$194,300
Drainage System	\$264,500
Sanitary Sewer System	\$187,000
Domestic Water System	\$95,000
Fire Protection System	\$290,000
Landscape and Irrigation	\$200,000
Electrical System	\$225,000
Utility Charges	\$383,000
Subtotal	\$2,011,800
Contingency 10%	\$201,180
Total	\$2,212,980



-  Vacant Home
-  Occupied
-  Vacant Lots

FIGURE 11
Existing Property Status Map

VARONA VILLAGE





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Preliminary off-site and major on-site infrastructure improvement costs will be determined as agency comments are received and the plan is finalized.

4.2.9.1 Potable Water

In 1996, Engineering Concepts, Inc. studied the impact of the potential potable water demand of the area surrounding the project site. Hida Okamoto Associates, Inc. has reviewed this report and provided the following information relevant to the proposed VVCS Project based on a multi-service community facility for the site.

Existing Conditions

The Board of Water Supply (BWS) provides potable water to the 'Ewa Villages area from the 228' service system. Pressure to sustain the system is planned to be maintained by the Honouliuli and Kunia 228' tanks. Source for this system is from the BWS wells in Waipahu and Honouliuli.

The area is presently served by water. An existing 12-inch waterline is located in the proposed North-South Road corridor. Maximum day demand storage for 'Ewa Villages is planned to be obtained from reservoirs in Honouliuli. A 5.0 million gallon (mg) storage reservoir and a 1.0 mg head tank at the 440' elevation currently serve the system. Additional storage and transmissions facilities for this system have been planned and will be implemented as demand requires. Existing average daily demand from residents in Varona Village is estimated at 0.07 mgd.

Projected Water Demand

Additional water demands will be generated from the proposed VVCS development. The estimated average daily demand is 0.04 mgd. No increase in the current average daily demand from existing residents of Varona Village is expected. The water demands of the project area were estimated based on the Water System Standards of the Board of Water Supply.

Based on the above average daily demand, the maximum daily demand is estimated at 0.06 mgd for the proposed project, and 0.105 mgd for the remainder of Varona Village. Corresponding peak hour demands is estimated at 0.121 mgd and 0.209 mgd, for the proposed project and the remainder of Varona Village, respectively.

Impacts and Recommendations

Development of the project site will require additional water lines to be constructed. The project site will be served by water systems connecting to the stubouts from the existing Varona Village. Eight-inch waterlines in the project site will also be installed in roadways serving the project. Connections will be provided to new on-site fire hydrants. All water system improvements will be designed in accordance with the Water System Standards and Approved Materials List and Standard Details for Water System Construction of the Board of Water Supply. If a three-inch or larger water meter is required, construction drawings showing the installation of the meter will be submitted to the Board of Water Supply for review and approval. On-site Fire protection requirements will be coordinated with the Fire Prevention Bureau of the Fire Department (refer to Section 4.2.11.3).

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Development of the VVCS Project will result in additional demands being placed on the existing water system. However, consideration has been given to future development of Varona Village in the planning of adjacent water system facilities. Offsite water facilities required by the VVCS Project are being planned and coordinated by the City. In their public review comments, it was the Board of Water Supply's assessment that the existing off-site water system as being presently adequate to accommodate the proposed project. However, the availability of water will be determined when the building permit applications are submitted to the Board of Water Supply for review and approval. If water is made available, the Board of Water Supply's Water System Facilities Charges for resource development, transmission and daily storage will be assessed to the Project.

4.2.9.2 Wastewater

Hida Okamoto & Associates, Inc. provided the following information relevant to the VVCS Project based on a multi-service community facility for the site.

Existing Conditions

Wastewater generated from the 'Ewa Villages is conveyed by gravity sewer through the 'Ewa by Gentry development to Geiger Road and the Honouliuli Wastewater Treatment Plant (WWTP).

The Honouliuli WWTP is located approximately one-half mile southeast of the proposed development. The WWTP presently operates as a primary treatment facility with design capacity of 38 mgd. The plant was upgraded to design capacity and to achieve secondary treatment. The present wastewater flows to the WWTP are in excess of 25 mgd, but well below the 38 mgd design capacity. The average flow from existing residents of Varona Village is estimated at 0.044 mgd.

Projected Wastewater Flows

Wastewater will be generated from the proposed VVCS Project. The estimated average wastewater design flow is based on the City and County Department of Environmental Services Design Standards.

For planning purposes, the total average wastewater design flow rate for the VVCS Project is 0.024 mgd, while average flow from the remainder of Varona Village is expected to remain at 0.044 mgd. Wastewater generated at the project site is expected to be of typical domestic composition.

Impacts and Recommendations

Improvements to the Varona Village area were addressed in the 'Ewa Villages Sewerage Master Plan, prepared by R.M. Towill Corp. in November 1995. The sewerage master plan identified the following offsite improvements in the vicinity of Varona Village area:

- Construction of an 8-inch gravity sewer along the proposed North-South Road, extending from the golf course maintenance building to Renton Road.

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- Construction of 8-, 10-, and 12-inch gravity sewers along Renton Road fronting the existing Varona Village and extending to the intersection with the proposed North-South Road.
- Construction of 8-inch gravity sewers within the existing Varona Village extending from the proposed Varona Village Phase II to Renton Road to convey wastewater from the expansion area to the proposed Renton Road sewer.

In addition, the following sewers are planned to be constructed in the future to serve other phases of the 'Ewa Villages development, including the VVCS Project.

- Construction of 12-, 18-, and 21-inch gravity sewers along Renton Road extending from the North-South Road intersection, fronting Tenney Village, to Park Row Extension.
- Construction of a 24-inch gravity sewer along Park Row Extension from Renton Road to North-South Road.
- Construction of a 36-inch gravity sewer along North-South Road from Park Row Extension to an existing sewer manhole in 'Ewa by Gentry.

The proposed wastewater system improvements will be designed and constructed in accordance with Department of Environmental Services Design Standards and will require their review and final approval.

The 'Ewa Villages Sewerage Master Plan references the 'Ewa by Gentry-West, Utilities Master Plan which indicates excess capacity in the receiving sewer. Therefore, negative impacts to the existing collection system are not anticipated.

Due to the excess capacity at the Honouliuli WWTP and Barbers Point Ocean Outfall, it is anticipated that wastewater generated by the proposed VVCS Project can be accommodated by the existing City and County treatment and disposal facilities.

4.2.9.3 Power and Communication Systems

Electric power to the 'Ewa Plain area, including the vicinity of the subject property, is provided by Hawaiian Electric Company (HECO). The Kahe and Waiau power plants service the area surrounding the project site.

Communications facilities for the area surrounding the project site is provided by Verizon Hawaii, Inc.

Existing Conditions

There is existing electrical, telephone or CATV service within the project site.

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Impacts and Recommendations

It has been proposed that electric and telephone service for the proposed VVCS Project be derived from the underground duct system in Renton Road (HECO request P214752). HECO has determined that the proposed 12.47 kV overhead system will have sufficient capacity to provide service to the VVCS Project and that an auto-transfer switching vault site will not be required. In addition, Verizon Hawaii, Inc. has determined that the existing duct system has sufficient capacity to provide service to the VVCS Project. During the public review period, Verizon Hawaii, Inc. commented that it "does not foresee any problems in providing telecommunication services to the proposed project. Nor does Verizon Hawaii foresee any conflicts with the existing telecommunication facilities in the area. However, Verizon Hawaii requires further review during the design stages of the project." Any electrical and communication system improvements will be constructed and maintained in accordance with current utility standards.

4.2.9.4 Drainage

Total off-site runoff will be similar to the current condition through the development of on-site and/or off-site improvements as applicable. Information relevant to the VVCS Project has been provided by Hida, Okamoto & Associates, Inc. based on a multi-service community facility for the site in Section 4.1.4.3.

4.2.10 Solid Waste Disposal

On O'ahu, residential and commercial wastes are hauled to landfills, the incinerator, or transfer stations. A waste-to-energy combustor, H-POWER (Honolulu Program of Waste Energy Recovery) located at the Campbell Industrial Park incinerates about 1,800 tons of combustible waste per day. The electricity generated is bought by Hawaiian Electric Company. Currently the H-POWER facility receives all residential and commercial packer truck wastes on the island.

The site will need to be cleared of rubbish before construction can take place. The proposed VVCS Project will result in the generation of solid wastes during construction and after development. Construction waste will primarily consist of combustible wastes. During construction all solid waste will be disposed of in compliance with all state and county laws and ordinances. After construction, the roadway and landscaping shall be maintained in accordance with all State Department of Health and City and County of Honolulu Department of Environmental Services requirements to ensure that all aspects of the VVCS Project conform to the program goals and objectives of the Integrated Waste Management Act, Chapter 342G, Hawai'i Revised Statutes, and the City's approved integrated solid waste management plans in accordance with a schedule and time frame satisfactory to the Department of Health.

In regards to the Resources Conservation and Recovery Act, the project does not involve the disposal of hazardous materials nor siting of sanitary landfills or closing of open dumps.

Impacts and Recommendations

It is anticipated that refuse generated by the proposed VVCS Project will be collected by the City of Honolulu. It is estimated that municipal refuse collection from the site will necessitate less than

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one truck trip per collection day. This estimate is based on a manually loaded, 20 cubic yard compactor truck capable of achieving a typical compaction density of 500 pounds per cubic yard and twice a week collection service.

The proposed development will be a new generator of solid waste. Generation of construction wastes will be a short term impact. The contractor will be required to remove all debris from the project site to mitigate the impact of rubbish.

Refuse generated from the proposed VVCS development is not expected to have a significant impact on the leeward O'ahu solid waste disposal facilities. The City currently operates the H-POWER waste energy recovery facility and a landfill site at Waimānalo Gulch in leeward O'ahu.

4.2.11 Public Services

4.2.11.1 Schools and Libraries

Public schools in the vicinity of the subject property are 'Ewa Beach Elementary, 'Ewa Elementary, Pōhākea Elementary, Holomua Elementary, 'Ilima Intermediate and Campbell High School. Other schools in the 'Ewa District include Barbers Point, Mauka Lani Elementary, Makakilo, and Kapolei Elementary, Kapolei Middle and Kapolei High School.

Based on already anticipated residential growth, two elementary schools are proposed for Kapolei Village and one each at Ocean Pointe, and in the Laulani development. In addition, a regional library is under construction at the City of Kapolei. The proposed VVCS Project does not involve housing development, therefore no impact on DOE school facilities are anticipated. During the public review period, the DOE wrote that it had "no comment on the subject draft environmental assessment."

4.2.11.2 Recreational Facilities

Recreational facilities in the 'Ewa area are designated as regional parks, community parks, neighborhood parks, and beach/shoreline parks. Regional parks are large recreational complexes. Community parks serve an approximate population of 10,000 people and normally include playfields, courts, and a recreation building. Neighborhood parks serve an approximately population of 5,000 people and normally include playfields, courts, and a comfort station. Beach/Shoreline parks are day use parks primarily for swimming, sunbathing, and picnicking. Approximately 200 acres of park lands serve the 'Ewa Plain now with new parks developing in Makakilo, Kapolei and the 'Ewa Villages. The closest park is the 'Ewa Mahiko District Park within the 'Ewa Villages. The VVCS Project will include the construction of new play courts which will be open to the public during off-hours. During the public review period, the Department of Parks and Recreation sent a memorandum stating that it "has no comments."

4.2.11.3 Police, Fire and Emergency Services

The subject property is located in the Police Department's District 8, which covers the Wai'anae Coast and the 'Ewa Plain. A new police station opened in 2000 in Kapolei. This station is staffed with 210 police officers. During the public review period, the Police Department sent a

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memorandum stating that it had "no objection to this project. It should have minimal impact on the services and facilities of the Honolulu Police Department." Fire stations serving the 'Ewa Plain are Waipahu, 'Ewa Beach, Makakilo and Kapolei. A new facility is planned for Ko Olina. As recommended by the Fire Department in their public review comments, a water system will be provided where all appurtenances, hydrant spacing, and fire flow requirements will meet Board of Water Supply standards. Access for Fire Department vehicles within 150 feet of the first floor will be provided for the most remote structure on the site from Renton Road. Finally, per Fire Department recommendations, civil drawings will be submitted to the Fire Department for review and approval.

St. Francis Medical Center-West is the nearest hospital facility to the subject property. Approximately five minutes from the project site, St. Francis provides 24-hour emergency services. Ambulance service is coordinated with the City and County, and the hospital has a helipad. The medical center offers general hospital services including emergency care, outpatient care lab and imaging services, and medical offices.

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5.0 ALTERNATIVES TO THE PROPOSED ACTION

In compliance with the provisions of Title 11, Department of Health, Chapter 200, Environmental Impact Statement Rules, Section 11-200-17(f), the "known feasible" alternatives to the proposed VVCS Project are limited to those that would allow the objectives of the Project to be met, while minimizing potential adverse environmental impacts. To summarize, the Department of Community Services objective that guided the master planning of the VVCS Project are as follows:

To offer new or expanded community services for low-income residents and especially to existing residents and families of Varona Village (and the greater 'Ewa Villages).

5.1 THE SELECTED ALTERNATIVE

The selected alternative will provide social services and educational opportunities to residents of the 'Ewa area. Environmental impacts will be minimal since this is a redevelopment project in an urbanized area which is now mostly vacant and "abandoned". Those environmental impacts that do occur can be mitigated by the installation of appropriate infrastructure improvements and implementation of best management practices during construction. Use of appropriate architectural design and physical buffers (i.e. landscaping, etc.) will also integrate the VVCS Project into the surrounding community's land uses.

5.2 "NO-ACTION ALTERNATIVE"

The "no-action" alternative would not be consistent with stated governmental policies of establishing social service and educational opportunities for the residents of the area, City, and State that the selected alternative would provide.

The "no-action" alternative would leave the site as primarily vacant with a few dilapidated houses and an unofficial dump site. Consequently, the overall negative environmental impacts to the area, health (vectors), fire (rubbish as fuel for fires), and aesthetic (overgrown weeds and rubbish), would also continue. In addition, the site would remain under-utilized in terms of meeting the demand for services as residential development continues in the 'Ewa region.

5.3 RESIDENTIAL ALTERNATIVE

While residential use of the property may not meet the objectives of the VVCS Project for this site, it would be generally consistent with both the 'Ewa Villages Revitalization Master Plan and the 'Ewa Development Plan. Generally, impacts associated with residential development would be similar to those anticipated for the proposed action.

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5.4 SUMMARY OF IMPACTS

The impacts associated with development of the VVCS Project are not unique to this project, but are typical of community services centers involving school and care facilities. Higher intensity land uses will likely result in greater impacts, thereby requiring additional or more extensive mitigative measures. Traffic patterns will be altered, air and noise impacts will occur, and additional demands on existing water and wastewater infrastructure systems within this area will result.

While the project will not require residents to relocate, if residents wish to move assistance will be provided to locate residents in other areas in the 'Ewa Villages. In the past, squatters have inhabited a few of the abandoned properties. Presently five of the properties in the VVCS Project area are being leased by the City to tenants. Three of those tenants have expressed an interest to relocate to Varona.

Implementation of the proposed VVCS Project will place an occasional and unavoidable demand on police and fire protection services. New property tax revenues from the subject property is expected to be minimal and likewise will have minimal effect in offsetting the costs of these government services. However, the proposed project will provide social services to low and moderate-income persons and new outdoor recreational opportunities that will supplement those currently being provided by the government. Additionally, the development will provide employment during construction and operation of the VVCS Project.

It should be noted that the major environmental impacts related to the VVCS Project can be mitigated by the implementation of best management practices during construction, through the development of new infrastructure and public service facilities and proper attention to design. The necessary improvements will likely be provided by the development entity and/or the City. Consequently, no significant environmental effects will result from the development of the subject property provided appropriate mitigation measures are employed throughout the development period and during operation.

While predominant winds are from the northeast, during certain wind conditions, odor from the Honouliuli WWTP may be detectable. This impact is considered to be unavoidable but temporary in nature.

The completion of the VVCS Project will also help to complete the master planned 'Ewa Villages Revitalization Project. Also, the VVCS Project helps to achieve the State and County land use goals of creating the Second City in 'Ewa.

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6.0 PROPOSED MITIGATION MEASURES

As indicated above, few potential adverse impacts to the area are expected to result from implementation of the proposed VVCS Project. Short-term impacts will result in the initial construction phase which will require removal of rubbish, on-site grading and movement of vehicles within the project site. These activities will generate localized noise and dust during construction periods. Mitigation measures to minimize adverse air quality would include frequent watering of unpaved roads and construction areas, dust screens, and mulching and planting of ground cover and other vegetation as soon as possible after construction. Construction activities would comply with all applicable noise control regulations of the City and Department of Health.

Long-term development of the VVCS Project is expected to produce minimal impacts to the adjacent residential tenants. The proposed VVCS Project is not expected to have any impact on the micro-climate of the project area or region. Planned structures would not be tall enough to significantly affect existing wind patterns; and new landscaping will not significantly effect temperature, although some localized cooling can be expected to result from the establishment of landscaping. No specific or predominant natural feature is visually associated with the project site.

Recommended mitigation measures include the following:

Short term:

- Removal of existing remnant house foundations and waste in accordance with applicable State and Federal requirements.
- Frequent watering during construction and demolition activities to maintain dust control and attempt to rejuvenate mature vegetation.
- Grassing of swales and sodding as soon as practicable once grading has been completed.
- Wind screening as appropriate to limit fugitive dust.
- Development of public facilities appropriate to the early phases of development.
- Restrict use of construction equipment to daylight hours.

Long term:

- Establishment of extensive landscaping to maintain long-term air quality and aesthetically integrate the VVCS development into the surrounding neighborhood. During the public review period, the Office of Hawaiian Affairs recommended that "the selection of landscaping materials should be guided by consideration of vegetation that existed in the area prior to sugar cane cultivation." Also during the public review period, the State Office of Environmental Quality Control asked that the use of native, indigenous and polynesian introduced plants be considered in the

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project landscaping. To address these comments, if no record of the previous vegetation can be found, native dryland plants will be used in the selection of landscaping materials.

- Where appropriate, create landscape buffers between the project and existing residences to reduce noise.
- Use of appropriate engineering, design and construction measures to ensure adequate drainage and irrigation of the site.
- Construct transportation improvements to mitigate traffic generated by the VVCS Project.

All future construction activity in the subject property will maintain strict compliance with State of Hawai'i Air Pollution Control regulations. A combination of such measures as dust-watering, disturbed area limitation and wind screens should be implemented as appropriate. Impacts from exhaust emissions of construction vehicles will usually be mitigated by the dissipative effect of the winds. Particular care in implementing dust control should be taken when construction activities take place near existing homes, or other sensitive uses.

7.0 ANTICIPATED DETERMINATION, FINDINGS AND REASONS FOR SUPPORTING DETERMINATION

To determine whether the proposed action may have a significant impact on the environment, every phase and expected consequences, both primary and secondary, and the cumulative as well as short- and long-term effects have been evaluated. Based on the studies performed and research evaluated, a finding of no significant impact is anticipated as summarized in this section.

7.1 SIGNIFICANCE CRITERIA

According to the Department of Health Rules (11-200-12), an applicant or agency must determine whether an action may have a significant impact on the environment, including all phases of the VVCS Project, its expected consequences both *primary and secondary*, its cumulative impact with other projects, and its short-term and long-term effects. In making the determination, the Rules establish "Significance Criteria" to be used as a basis for identifying whether significant environmental impact will occur. According to the Rules, an action shall be determined to have a significant impact on the environment if it meets any one of the following criteria:

- Involves a loss or destruction of any natural or cultural resources

Comment: The proposed VVCS Project will not impact scenic views of the ocean or any ridgelines from the H-1 Freeway or other heavily traveled roadways in the area. The visual character of the project site will change from vacant unkept land to landscaped, community uses compatible with surrounding residential land uses. Presently, the subject property is not consistently landscaped and is aesthetically unpleasant.

The property is not subject to coastal-related flooding. Development of drainage systems will follow design standards of the City to ensure the safe conveyance and discharge of storm runoff. In addition, the subject property is located outside of the City's Special Management Area (SMA).

As previously noted, no significant archaeological or historical sites are known to exist on the subject property. Should any archaeologically significant artifacts, bones, or other indicators of prehistoric activity be uncovered during the construction phases of development, their treatment will be conducted in strict compliance with the requirements of the Department of Land and Natural Resources.

- Curtails the range of beneficial uses of the environment

Comment: Because the subject property has been significantly altered by residential construction, the beneficial use of the natural environment has already been curtailed. To return the site to a natural environmental condition is not practical from both an environmental and economic perspective.

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- Conflicts with the State's long-term goals or guidelines as expressed in Chapter 344, HRS

Comment: The proposed VVCS Project is consistent with the Environmental Policies established in Chapter 344, HRS.

- Substantially affects the economic or social welfare of the community or state

Comment: The proposed VVCS Project will provide a significant contribution to the community by providing quality social services, educational programs and community-type facilities. Surrounding land use patterns will not be negatively or significantly altered, nor will unplanned population growth or its distribution be stimulated. The community's long-time residents will be welcome to participate in the programs.

- Substantially affects public health

Comment: Although the public health may be impacted by air, noise, and water quality impacts, any impacts will be insignificant or not detectable when mitigated, especially when weighed against the positive economic, social, and quality of life implications associated with the VVCS Project.

- Involves substantial secondary effects, such as population changes or effects on public facilities

Comment: Existing and planned large-scale housing development projects within the 'Ewa Development Plan area, will contribute to a future population growth rate that will require expansion of public and private facilities and services. These improvements will become necessary as the overall population of O'ahu grows and settlement patterns shift to 'Ewa. However, the proposed VVCS Project will not in itself generate new population growth, but respond to the Development Plan area's present and future population growth, which would occur with or without the VVCS Project, as a result of implementing State and County policies to direct growth to 'Ewa.

As part of the VVCS Project, infrastructure improvements will include water distribution, collection of wastewater and solid waste, and management of storm runoff from the project site. Needed infrastructure will not burden existing city systems, yet residents of O'ahu will benefit from the expanded social service opportunities afforded by the proposed VVCS Project.

The proposed VVCS Project will provide both temporary and long-term employment opportunities during the construction period. Indirect employment in a wide range of service related industries will also be created from construction.

- Involves a substantial degradation of environmental quality

Comment: The proposed development will replace the mostly vacant property (which results in ongoing soil erosion), with urban landscaping (resulting in reduced soil erosion). Architecturally-sensitive designs and new landscaping will mitigate the visual impact of the

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development as viewed from outside the site, while the overall design will complement background vistas and plantation lifestyles of the past.

- Is individually limited but cumulatively has considerable effect on the environment, or involves a commitment to larger actions

Comment: By planning now to meet the future needs of the community, the VVCS Project is compatible with the existing residential character of the larger 'Ewa Villages Revitalization project. None of the proposed uses will obstruct existing views of the mountain ranges or be visually incompatible with the surrounding low-rise character of existing development. Cumulative impacts on the 'Ewa Plain have been addressed by the 'Ewa Development Plan, and other regional infrastructural studies.

- Substantially affects a rare, threatened or endangered species or its habitat

Comment: There are no known rare, threatened or endangered species or its habitats that would be affected by the implementation of the proposed VVCS Project.

- Detrimentially affects air or water quality or ambient noise levels

Comment: There will be an increase in ambient noise levels from increased use of the now mostly vacant project site and vehicular exhaust from traffic during pick-up and drop-off times for the school. It is anticipated that these impacts will be of a short duration and will not have a detrimental effect on the environment. Occasional odors from Honouliuli WWTP during unusual wind conditions are not considered to be detrimental.

- Affects or is likely to suffer damage by being located in an environmentally sensitive area, such as a flood plain, tsunami zone, beach erosion prone area, geologically hazardous land, estuary, freshwater area, or coastal waters

Comment: Development of the property is compatible with the above criteria by establishing a master planned development well within an existing urban area and away from any environmentally sensitive zone. The physical character of the subject property has been previously disturbed by agricultural and residential activities. As such, the property no longer reflects a "natural environment".

- Substantially affects scenic vistas and viewplanes identified in county or state plans or studies

Comment: Development of the proposed VVCS Project would not substantially affect any view planes identified in county or state plans or studies. Shoreline, valleys, or ridges will not be impacted by the VVCS Project.

- Requires substantial energy consumption

Comment: The annual electrical demand of the VVCS Project when fully developed is expected to reach approximately 27,200 kilowatt-hours per month. This is based on an

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average estimated electrical power demand of 800 kilowatt-hours per month per unit. Electrical power for the VVCS Project will most probably be provided mainly by oil-fired generating facilities located on O'ahu. However, with H-Power and the AES coal-fired power plant now online at Campbell Industrial Park, power could also come from sources burning other fuels.

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**8.0 AGENCIES THAT WERE CONSULTED
IN THE PREPARATION OF
THE FINAL ENVIRONMENTAL ASSESSMENT**

The following agencies and organizations were given a copy of the Draft EA to review:

Federal

Army Corps of Engineers
Department of Housing and Urban Development
Department of the Interior, U.S. Fish and Wildlife Service

State

Department of Agriculture
Department of Education
Department of Education, 'Ewa Beach Library
Office of Environmental Quality Control
Office of Hawaiian Affairs
Department of Health
Department of Land and Natural Resources
Department of Land and Natural Resources, State Historic Preservation Division
Office of State Planning
Department of Transportation
University of Hawai'i, Environmental Center

City and County of Honolulu

Board of Water Supply
City Council Member John DeSoto
Department of Community Services
Department of Design and Construction
Department of Environmental Services, Wastewater Treatment and Disposal Division
'Ewa Neighborhood Board No. 23
Fire Department
Department of Parks and Recreation
Department of Planning and Permitting
Police Department
Department of Transportation Services

Others

Building Industry Association Hawai'i
'Ewa Beach Community Association
Hawaiian Electric Company
Historic 'Ewa
Varona Camp Community Improvement Association
Verizon

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**9.0 COMMENTS RECEIVED DURING
THE PUBLIC REVIEW PERIOD**

The following agencies and organization provided comments during public review period. Their comments and written responses from the Department of Community Services follow.

Federal

Department of Housing and Urban Development

State

Department of Education

Office of Environmental Quality Control

Office of Hawaiian Affairs

Department of Land and Natural Resources, State Historic Preservation Division

Department of Transportation

City and County of Honolulu

Board of Water Supply

Fire Department

Department of Parks and Recreation

Department of Planning and Permitting

Police Department

Others

Building Industry Association Hawai'i

Varona Camp Community Improvement Association

Verizon

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U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT

Hawaii State Office
500 Ala Moana Boulevard, Suite 3A
Honolulu, Hawaii 96813-4918
HUD Web Site: <http://www.hud.gov>

August 14, 2001

Ms. Carol Takahashi
Director
Department of Budget and Fiscal Services
City and County of Honolulu
530 South King Street, Room #208
Honolulu, HI 96813

DEPT. OF COMMUNITY SERVICES

01 AUG 16 AM 10:44

RECEIVED

Dear Ms. Takahashi:

**SUBJECT: Draft Environmental Assessment
Friendship Community Services
Varona Village Project**

On June 28, 2001, we received a copy of the Draft Environmental Assessment (DEA) dated June 2001 for the subject project. We note that this document appears to meet only the requirements of State laws as cited on page 3, paragraph 1.7. The DEA notes on page 1, that the funding source for this project is Federal Community Development Block Grant (CDBG) funds. However, there is no indication in the DEA that it is intended to meet Federal environmental requirements. We are concerned that someone reading the report may believe the language on page 28 of the report is intended to represent compliance with the federal environmental requirements.

Overall, we find page 28 confusing in that there are inappropriate references to the Code of Federal Regulations as well as references to Federal programs which are not involved in the subject project. For example, to our knowledge, we have found no reference by the City that it intends to use funds from the Housing Opportunities for People with AIDS (HOPWA) and mortgage insurance for multifamily and nonresidential properties programs. Therefore, we recommend that the DEA be revised where necessary (pages 1, 3, and 28 at a minimum) to clarify the intent of DEA. If the DEA is intended to meet Federal environmental requirements, substantial additional information is required.

More specifically, the DEA was not explicit in addressing Federal environmental requirements, we reviewed the DEA to determine if there was sufficient information provided to meet Federal environmental review standards

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as specified by 24 CFR 58. We have determined that there is insufficient information provided to meet Federal environmental review standards. Key items that are missing include: (1) FIRM panel number for the flood map; (2) Copy of correspondence with State Historic Preservation Officer; (3) Discussion and reporting of a current Phase 1 study (the study cited is almost 10 years old and is outdated); (4) Lack of explanation why the consultant is relying on old studies with no discussion of any changes that may have occurred in either the underlying assumptions of the studies or current and anticipated land use.

Please be advised, on or about July, 3, 2001, Richard Knight, Community Planning and Development (CPD) Representative, discussed the above issues with Mr. Randy Wong, Division Chief, Community Based Development Division, Department of Community Services. During the conversation the above issues were raised in an effort to keep the City informed of our concerns and the need to ensure the DEA complied with the Federal requirements.

Additionally, on July 29, 2001, Mr. Knight was drove by the proposed site for the subject project. He observed clear evidence that earth-moving equipment had been used to scrape the surface of the site. Bare earth was in evidence over a large area and there were several piles of debris including old abandoned cars, trash and brush. He also noticed several truckloads of fill material had been dumped in the area. When he returned to the office on Monday, July 30, 2001 and reviewed the site drawings and project description in the subject DEA, he advised me that it appeared clearance work had begun on the project site in violation of Federal environmental regulations.

As a result, our Office immediately contacted Ms. Jean Tanji, of your staff and Randy Wong regarding the observations. Mr. Wong confirmed that a community cleanup involving the City had been held at the site on Saturday, July 28, 2001 and that this cleanup included the use of City equipment to remove old buildings and pick up debris. We advised Mr. Wong that the removal/demolition of buildings and earth movement on project sites identified for federal funding before an environment review is complete violated Federal environmental regulations. He was also advised to immediately cease any further demolition and clearance activity until we obtained guidance from our Regional Environmental Officer on the proper handling of the City's environmental violation.

After consulting with our Regional Environmental Officer, we remind the City that because the Varona Villages project was on the City's action plan at the time that the clearance activities occurred, the clearance and construction qualify as "contemplated actions" under the aggregation principle. This principle at 58.32 basically states that a responsible entity must aggregate into a single project environmental review all contemplated actions, which are functionally or geographically, closely related. HUD has determined that that the Varona

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Village Project land clearance for construction on the same parcel, by the same entity, are closely related actions, which should be aggregated as a single proposal. For example, we have consistently stated that acquisition must be aggregated with construction for environmental review purposes.

Generally, a recipient of HUD funds may not expend any funds (Federal, State, local or private) on proposed non-exempt activities before completion of environmental responsibilities according to 58.22. In this case, the recipient is the City and the City undertook the clearance actions with Varona Village and the programs sub-recipient or future sub-recipient.

Therefore, we have determined that the expenditure of city funds through the use of City equipment and staff for land clearance and demolition prior to approval of a RROF constitutes a violation of 58.22 with regards to the City's proposed use of CDBG funds for construction on the same parcel. Although it is not a statutory violation because federal funds have not been committed, it is a regulatory violation for HUD to release funds unless a regulatory waiver was obtained. As a result, the City will need to request a waiver of the regulation to proceed with the project. The City may request the waiver by addressing the request to our Office. Upon receipt of the request, our Office will process the request and forward it to the appropriate office for final processing. Should you have any questions regarding our comments please call me at 808-522-8180, extension 261.

Sincerely,



Mark A. Chandler, Acting Director
Community Planning and
Development Division
Hawaii State Office

cc:
Randy Wong
Division Chief
Community Based
Development Division
Department of Community Services
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Standard Finance Building
715 South King Street, Suite #311
Honolulu, HI 96813

Ms. Jean Tanji
Federal Grants Coordinator
Department of Budget and Fiscal Services
City and County of Honolulu
530 South King Street, Room #208
Honolulu, HI 96813

MJO FILE

DEPARTMENT OF BUDGET & FISCAL SERVICES
CITY AND COUNTY OF HONOLULU

530 S. KING STREET, #208 HONOLULU, HAWAII 96813
PHONE: (808) 523-4616 / FAX: (808) 523-4771

JEREMY HARRIS
MAYOR



CAROLL TAKAHASHI
DIRECTOR
BENJAMIN Y.L. DIMOND
DEPUTY DIRECTOR

September 4, 2001

Mr. Mark A. Chandler
Acting Director
Community Planning and Development Division
U.S. Department of Housing and Urban Development
Seven Waterfront Plaza, Suite #500
500 Ala Moana Boulevard
Honolulu, Hawaii 96813

Dear Mr. Chandler:

Subject: Draft Environmental Assessment
Friendship Community Services
Varona Village Project

Thank you for your letter of August 14, 2001 regarding the Draft Environmental Assessment (DEA) dated June 2001 for the subject project. The City has noted your concerns and has taken action to resolve the issues.

The City's Department of Community Services is currently working with a consultant to address the DEA issues that are mentioned in your letter.

The City also acknowledges that some of the community clean up activities could have been interpreted as land clearance and demolition activities not permitted until the environmental review is completed. We will work with the community to ensure that any future community clean up activities involving City equipment and staff will not constitute land clearance and demolition activities. Accordingly, we now request a waiver of CFR 58.22 (Limitations on Activities Pending Clearance) in order for the project to proceed.

We anticipate your favorable consideration of our request and appreciate your assistance in this area. Should you have any questions or require any additional information, please call Holly Kawano (527- 5062) or Jean Tanji (527-5067).

Sincerely,

CAROLL TAKAHASHI
Director

CT/HK:ll

cc: Department of Community Services - Randy Wong

BENJAMIN J. CAYetano
GOVERNOR



STATE OF HAWAII
DEPARTMENT OF EDUCATION
P.O. BOX 2380
HONOLULU, HAWAII 96804

PAUL G. LEMAHIEU, Ph.D.
SUPERINTENDENT

'01 JUL 20 PM 2 48
DEPT. OF PLANNING
and PERMITTING
CITY & COUNTY OF HONOLULU

OFFICE OF THE SUPERINTENDENT

July 17, 2001

Mr. Randall K. Fujiki, AIA, Director
Department of Planning and Permitting
City and County of Honolulu
650 South King Street
Honolulu, Hawai'i 96813

Dear Mr. Fujiki:

Subject: Friendship Community Services - Draft EA

The Department of Education has no comment on the subject draft environmental assessment.

Thank you for the opportunity to respond.

Very truly yours,

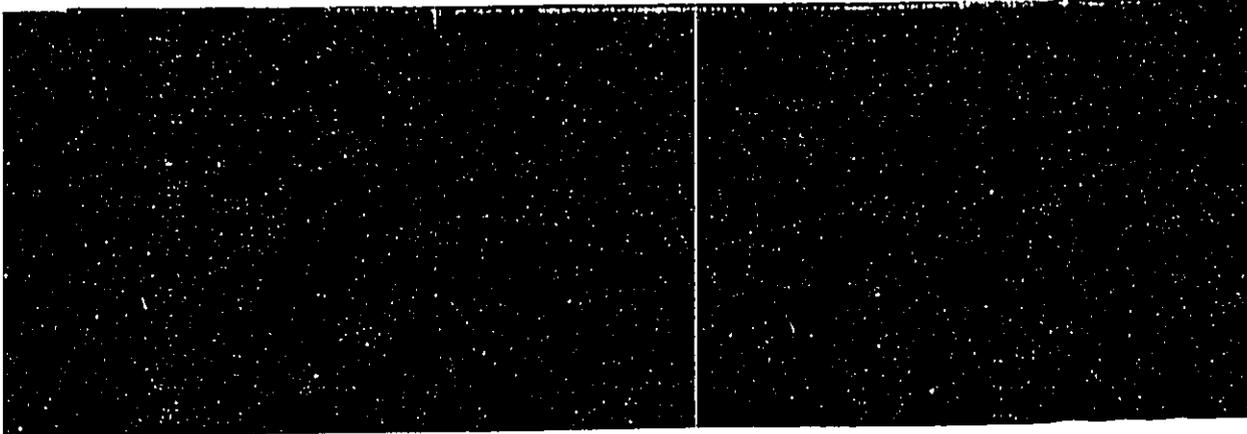
A handwritten signature in cursive script that reads "Paul G. LeMahieu".

Paul G. LeMahieu, Ph.D.
Superintendent of Education

PLcM:hy

cc: A. Suga, DAS

AN AFFIRMATIVE ACTION AND EQUAL OPPORTUNITY EMPLOYER



DEPARTMENT OF COMMUNITY SERVICES
CITY AND COUNTY OF HONOLULU

715 SOUTH KING STREET, SUITE 311 • HONOLULU, HAWAII 96813
TELEPHONE: (808) 527-5311 • FAX: (808) 527-5498 • INTERNET: www.co.honolulu.hi.us

JUL 30 2001

JEREMY HARRIS
MAYOR



MICHAEL T. AMII
DIRECTOR

JOHN R. SABAS
DEPUTY DIRECTOR

July 25, 2001

Paul G. LeMahieu, Ph.D., Superintendent
Department of Education
P.O. Box 2380
Honolulu, Hawaii 96804

Dear Dr. LeMahieu:

**Subject: Draft Environmental Assessment for the Proposed
Friendship Community Services Varona Village Project**

We have reviewed your letter dated July 17, 2001, regarding the Draft Environmental Assessment (DEA) for the proposed Friendship Community Services Varona Village Project. We acknowledge that you have no comments.

Thank you for participating in the environmental review process. If you have any other questions or comments, please do not hesitate to call me.

Sincerely,

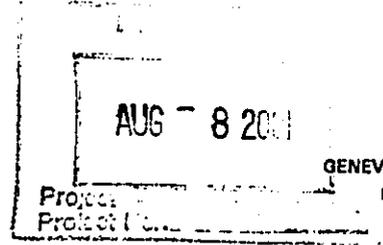
A handwritten signature in black ink, appearing to read "Michael T. Amii", with a long horizontal line extending to the right.

MICHAEL T. AMII
Director

MTA:dk

cc: Department of Planning and Permitting
Office of Environment Quality Control
Friendship Community Services
PBR Hawaii

BENJAMIN J. CAYETANO
GOVERNOR



STATE OF HAWAII

OFFICE OF ENVIRONMENTAL QUALITY CONTROL
236 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4186
FACSIMILE (808) 586-4186

August 6, 2001

Mr. Michael Amii,
Department of Community Services
City and County of Honolulu
715 South King Street, Suite 311
Honolulu, Hawai'i 96813

Mr. Randall Fujiki
Department of Planning and Permitting
City and County of Honolulu
650 South King Street
Honolulu, Hawai'i 96813

Mr. Vincent Shigekuni
PBR Hawai'i
1001 Bishop Street, Pacific Tower, Suite 650
Honolulu, Hawai'i 96813

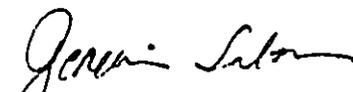
Dear Messrs. Amii, Fujiki and Shigekuni:

Having reviewed the draft environmental assessment for the City's proposed Friendship Community Services Varona Village Project in 'Ewa, we offer the following comments for your consideration.

1. **CULTURAL IMPACTS.** Section 4.2.8.3. is entitled "Cultural Characteristics" and the paragraph only makes states that there are no cultural or religious practices. Please substantiate this by consultation with residents and persons knowledgeable of cultural resources and practices of the region. Include the results of this consultation and identify and cultural resources and practices in the region and impacts the project may have on these resources or practices. Chapter 343, Hawai'i Revised Statutes now requires that these cultural impacts be assessed (see enclosed copy of Act 50, SLH 2000). A copy of the Environmental Council's guidelines for assessing cultural impacts is enclosed for your use.
2. **GUIDELINES FOR SUSTAINABLE BUILDING DESIGN IN HAWAII:** We ask that you consider implementing some of the techniques discussed in the enclosed guidelines for sustainable building design.
3. **USE OF RECYCLED GLASS IN CONSTRUCTION PROJECTS.** To promote the use of recycled materials in-state, section 103D-407, Hawai'i Revised Statutes recommends that county agencies purchase materials with minimum recycled glass content. We ask that you consider this in the design of your station.
4. **INDIGENOUS AND POLYNESIAN INTRODUCED PLANTS FOR USE IN PUBLIC LANDSCAPING:** We ask that you consider the use of native, indigenous and polynesian introduced plants in your landscaping.

If there are any questions, please call Leslie Segundo of my staff at (808) 586-4185. Thank you for the opportunity to comment.

Sincerely,


GENEVIEVE SALMONSON
Director

Enclosures

State of Hawaii
OFFICE OF ENVIRONMENTAL QUALITY CONTROL
Guidelines for Assessing Cultural Impacts

Adopted by the Environmental Council, State of Hawaii
November 19, 1997

I. INTRODUCTION

It is the policy of the State of Hawaii under Chapter 343, HRS, to alert decision makers, through the environmental assessment process, about significant environmental effects which may result from the implementation of certain actions. An environmental assessment of cultural impacts gathers information about cultural practices and cultural features that may be affected by actions subject to Chapter 343, and promotes responsible decision making.

Articles IX and XII of the State Constitution, other state laws, and the courts of the state require government agencies to promote and preserve cultural beliefs, practices, and resources of native Hawaiians and other ethnic groups. Chapter 343 also requires environmental assessment of cultural resources, in determining the significance of a proposed project.

The Environmental Council encourages preparers of environmental assessments and environmental impact statements to analyze the impact of a proposed action on cultural practices and features associated with the project area. The Council provides the following methodology and content protocol as guidance for any assessment of a project that may significantly affect cultural resources.

II. CULTURAL IMPACT ASSESSMENT METHODOLOGY

Cultural impacts differ from other types of impacts assessed in environmental assessments or environmental impact statements. A cultural impact assessment includes information relating to the practices and beliefs of a particular cultural or ethnic group or groups.

Such information may be obtained through scoping, community meetings, ethnographic interviews and oral histories. Information provided by knowledgeable informants, including traditional cultural practitioners, can be applied to the analysis of cultural impacts in conjunction with information concerning cultural practices and features obtained through consultation and from documentary research.

In scoping the cultural portion of an environmental assessment, the geographical extent of the inquiry should, in most instances, be greater than the area over which the proposed action will take place. This is to ensure that cultural practices which may not occur within the boundaries of the project area, but which may nonetheless be affected, are included in the assessment. Thus, for example, a proposed action that may not physically alter gathering practices, but may affect access

to gathering areas would be included in the assessment. An ahupua'a is usually the appropriate geographical unit to begin an assessment of cultural impacts of a proposed action, particularly if it includes all of the types of cultural practices associated with the project area. In some cases, cultural practices are likely to extend beyond the ahupua'a and the geographical extent of the study area should take into account those cultural practices.

The historical period studied in a cultural impact assessment should commence with the initial presence in the area of the particular group whose cultural practices and features are being assessed. The types of cultural practices and beliefs subject to assessment may include subsistence, commercial, residential, agricultural, access-related, recreational, and religious and spiritual customs.

The types of cultural resources subject to assessment may include traditional cultural properties or other types of historic sites, both man made and natural, including submerged cultural resources, which support such cultural practices and beliefs.

If the subject area is in a developed urban setting, cultural impacts must still be assessed. Many incorrectly assume that the presence of urban infrastructure effectively precludes consideration of current cultural factors. For example, persons are known to gather kauna'oa, "ilima, "uhaloa, noni or ki on the grassy slopes and ramps of the H-1 freeway and some state highways on the neighbor islands. Certain landmarks and physical features are used by Hawaiian navigators for sailing, and the lines of sight from landmarks to the coast by fisherman to locate certain fishing spots. Blocking these features by the construction of buildings or tanks may constitute an adverse cultural impact.

The Environmental Council recommends that preparers of assessments analyzing cultural impacts adopt the following protocol:

- (1) identify and consult with individuals and organizations with expertise concerning the types of cultural resources, practices and beliefs found within the broad geographical area, e.g., district or ahupua'a;
- (2) identify and consult with individuals and organizations with knowledge of the area potentially affected by the proposed action;
- (3) receive information from or conduct ethnographic interviews and oral histories with persons having knowledge of the potentially affected area;
- (4) conduct ethnographic, historical, anthropological, sociological, and other culturally related documentary research;
- (5) identify and describe the cultural resources, practices and beliefs located within the potentially affected area; and
- (6) assess the impact of the proposed action, alternatives to the proposed action, and mitigation measures, on the cultural resources, practices and beliefs identified.

Interviews and oral histories with knowledgeable individuals may be recorded, if consent is given, and field visits by preparers accompanied by informants are encouraged. Persons interviewed

should be afforded an opportunity to review the record of the interview, and consent to publish the record should be obtained whenever possible. For example, the precise location of human burials are likely to be withheld from a cultural impact assessment, but it is important that the document identify the impact a project would have on the burials. At times an informant may provide information only on the condition that it remain in confidence. The wishes of the informant should be respected.

Primary source materials reviewed and analyzed may include, as appropriate: Mahele, land court, census and tax records, including testimonies; vital statistics records; family histories and genealogies; previously published or recorded ethnographic interviews and oral histories; community studies, old maps and photographs; and other archival documents, including correspondence, newspaper or almanac articles, and visitor journals. Secondary source materials such as historical, sociological, and anthropological texts, manuscripts, and similar materials, published and unpublished, should also be consulted. Other materials which should be examined include prior land use proposals, decisions, and rulings which pertain to the study area.

III. CULTURAL IMPACT ASSESSMENT CONTENTS

In addition to the content requirements for environmental assessments and environmental impact statements, which are set out in HAR §§§§ 11-200-10 and 16 through 18, the portion of the assessment concerning cultural impacts should address, but not necessarily be limited to, the following matters:

1. A discussion of the methods applied and results of consultation with individuals and organizations identified by the preparer as being familiar with cultural practices and features associated with the project area, including any constraints or limitations which might have affected the quality of the information obtained.
2. A description of methods adopted by the preparer to identify, locate, and select the persons interviewed, including a discussion of the level of effort undertaken.
3. Ethnographic and oral history interview procedures, including the circumstances under which the interviews were conducted, and any constraints or limitations which might have affected the quality of the information obtained.
4. Biographical information concerning the individuals and organizations consulted, their particular expertise, and their historical and genealogical relationship to the project area, as well as information concerning the persons submitting information or interviewed, their particular knowledge and cultural expertise, if any, and their historical and genealogical relationship to the project area.
5. A discussion concerning historical and cultural source materials consulted, the institutions and repositories searched, and the level of effort undertaken. This discussion should include, if appropriate, the particular perspective of the authors, any opposing views, and any other relevant constraints, limitations or biases.
6. A discussion concerning the cultural resources, practices and beliefs identified, and, for resources and practices, their location within the broad geographical area in which the

proposed action is located, as well as their direct or indirect significance or connection to the project site.

7. A discussion concerning the nature of the cultural practices and beliefs, and the significance of the cultural resources within the project area, affected directly or indirectly by the proposed project.

8. An explanation of confidential information that has been withheld from public disclosure in the assessment.

9. A discussion concerning any conflicting information in regard to identified cultural resources, practices and beliefs.

10. An analysis of the potential effect of any proposed physical alteration on cultural resources, practices or beliefs; the potential of the proposed action to isolate cultural resources, practices or beliefs from their setting; and the potential of the proposed action to introduce elements which may alter the setting in which cultural practices take place.

11. A bibliography of references, and attached records of interviews which were allowed to be disclosed.

The inclusion of this information will help make environmental assessments and environmental impact statements complete and meet the requirements of Chapter 343, HRS. If you have any questions, please call 586-4185.

Guidelines for Sustainable Building Design in Hawai'i

A planner's checklist

(Adopted by the Environmental Council on October 13, 1999)

Introduction

Hawai'i law calls for efforts to conserve natural resources, promote efficient use of water and energy and encourage recycling of waste products. Planning a project from the very beginning to include sustainable design concepts can be a critical step toward meeting these goals.

The purpose of the state's environmental review law (HRS Ch. 343) is to encourage a full, accurate and complete analysis of proposed actions, promote public participation and support enlightened decision making by public officials. The Office of Environmental Quality Control offers the following guidelines for preparers of environmental reviews under the authority of HRS 343 to assist agencies and applicants in meeting these goals.

These guidelines do not constitute rules or law. They have been refined by staff and peer review to provide a checklist of items that will help the design team create projects that will have a minimal impact on Hawai'i's environment and make wise use of our natural resources. In a word, projects that are *sustainable*.

A sustainable building is built to minimize energy use, expense, waste, and impact on the environment. It seeks to improve the region's sustainability by meeting the needs of Hawai'i's residents and visitors today without compromising the needs of future generations. Compared to conventional projects, a resource-efficient building project will:

- I. Use less energy for operation and maintenance
- II. Contain less *embodied* energy (e.g. locally produced building products often contain less *embodied* energy than imported products because they require less energy-consuming transportation.)
- III. Protect the environment by preserving/conserving water and other natural resources and by minimizing impact on the site and ecosystems
- IV. Minimize health risks to those who construct, maintain, and occupy the building
- V. Minimize construction waste
- VI. Recycle and reuse generated construction wastes

- VII. Use resource-efficient building materials (e.g. materials with recycled content and low embodied energy, and materials that are recyclable, renewable, environmentally benign, non-toxic, low VOC (Volatile Organic Compound) emitting, durable, and that give high life cycle value for the cost.)
- VIII. Provide the highest quality product practical at competitive (affordable) first and life cycle costs.

In order to avoid excessive overlapping of items, the checklist is designed to be read in totality, not just as individual sections. This checklist tries to address a range of project types, large scale as well as small scale. Please use items that are appropriate to the type and scale of the project.

Although this list will help promote careful and sensitive planning, mere compliance with this checklist does not confirm sustainability. Compliance with and knowledge of current building codes by users of this checklist is also required.

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I. Pre Design

- ___ 1. Hold programming team meeting with client representative, Project Manager, planning consultant, architectural consultant, civil engineer, mechanical, electrical, plumbing (MEP) engineer, structural engineer, landscape architect, interior designer, sustainability consultant and other consultants as required by the project. Identify project and sustainability goals. Client representatives and consultants need to work together to ensure that project and environmental goals are met.
- ___ 2. Develop sustainable guideline goals to insert into outline specifications as part of the Schematic Design documents. Select goals from the following sections that are appropriate for the project.
- ___ 3. Use Cost-Benefit Method for economic analysis of the sustainability measures chosen. (Cost-Benefit Method is a method of evaluating project choices and investments by comparing the present and life cycle value of expected benefits to the present and life cycle value of expected costs.)
- ___ 4. Include "Commissioning" in the project budget and schedule. (Building "Commissioning" is the process of ensuring that systems are designed, installed, functionally tested, and capable of being operated and maintained in accordance with specifications that meet the owner's needs, and recognize the owner's financial and operational capacity. It improves the performance of the building systems, resulting in energy efficiency and conservation, improved air quality and lower operation costs. *Refer to Section IX.*)

II. Site Selection & Site Design

A. Site Selection

- ___ 1. Analyze and assess site characteristics such as vegetation, topography, geology, climate, natural access, solar orientation patterns, water and drainage, and existing utility and transportation infrastructure to determine the appropriate use of the site.
- ___ 2. Whenever possible, select a site in a neighborhood where the project can have a positive social, economic and/or environmental impact.
- ___ 3. Select a site with short connections to existing municipal infrastructure (sewer lines, water, waste water treatment plant, roads, gas, electricity, telephone, data communication lines and services). Select a site close to mass transportation, bicycle routes and pedestrian access.

B. Site Preparation and Design

- ___ 1. Prepare a thorough existing conditions topographic site plan depicting topography, natural and built features, vegetation, location of site utilities and include solar information,

rainfall data and direction of prevailing winds. Preserve existing resources and natural features to enhance the design and add aesthetic, economic and practical value. Design to minimize the environmental impact of the development on vegetation and topography.

- ___ 2. Site building(s) to take advantage of natural features and maximize their beneficial effects. Provide for solar access, daylighting and natural cooling. Design ways to integrate the building(s) with the site that maximizes and preserves positive site characteristics, enhances human comfort, safety and health, and achieves operational efficiencies.
- ___ 3. Locate building(s) to encourage bicycle and pedestrian access and pedestrian oriented uses. Provide bicycle and pedestrian paths, bicycle racks, etc. Racks should be visible and accessible to promote and encourage bicycle commuting.
- ___ 4. Retain existing topsoil and maintain soil health by clearing only the areas reserved for the construction of streets, driveways, parking areas, and building foundations. Replant exposed soil areas as soon as possible. Reuse excavated soils for fill and cut vegetation for mulch.
- ___ 5. Grade slopes to a ratio of less than 2 : 1 (run to rise). Balance cut and fill to eliminate hauling. Check grading frequently to prevent accidental over excavation.
- ___ 6. Minimize the disruption of site drainage patterns. Provide erosion and dust controls, positive site drainage, and siltation basins as required to protect the site during and after construction, especially, in the event of a major storm.
- ___ 7. Minimize the area required for the building footprint. Consolidate utility and infrastructure in common corridors to minimize site degradation, and cost, improve efficiency, and reduce impermeable surfaces.
- ___ 8. For termite protection, use non toxic alternatives to pesticides and herbicides, such as Borate treated lumber, Basaltic Termite Barrier, stainless steel termite barrier mesh, and termite resistant materials.

III. Building Design

- ___ 1. Consider adaptive re-use of existing structures instead of demolishing and/or constructing a new building. Consult the State Historic Preservation Officer for possible existing historic sites that may meet the project needs.
- ___ 2. Plan for high flexibility while designing building shell and interior spaces to accommodate changing needs of the occupants, and thereby extend the life span of the building.
- ___ 3. Design for re-use and/or disassembly. (For recyclable and reusable building products, see Section VII).
- ___ 4. Design space for recycling and waste diversion opportunities during occupancy.
- ___ 5. Provide facilities for bicycle and pedestrian commuters (showers, lockers, bike racks, etc.) in commercial areas and other suitable locations.
- ___ 6. Plan for a comfortable and healthy work environment. Include inviting outdoor spaces, wherever possible. (Refer to Section VIII.)

- ___7. Provide an Integrated Pest Management approach. The use of products such as Termi-mesh, Basaltic Termite Barrier and the Sentricon "bait" system can provide long term protection from termite damage and reduce environmental pollution.
- ___8. Design a building that is energy efficient and resource efficient. (See Sections IV, V, VII.) Determine building operation by-products such as heat gain and build up, waste/gray-water and energy consumption, and plan to minimize them or find alternate uses for them.
- ___9. For natural cooling, use
 - a. Reflective or light colored roofing, radiant barrier and/or insulation, roof vents
 - b. Light colored paving (concrete) and building surfaces
 - c. Tree Planting to shade buildings and paved areas
 - d. Building orientation and design that captures trade winds and/or provides for convective cooling of interior spaces when there is no wind.

IV. Energy Use

- ___1. Obtain a copy of the State of Hawai'i Model Energy Code (available through the Hawai'i State Energy Division, at Tel. 587-3811). Exceed its requirements. (Contact local utility companies for information on tax credits and utility-sponsored programs offering rebates and incentives to businesses for installing qualifying energy efficient technologies.)
- ___2. Use site sensitive orientation to :
 - a. Minimize cooling loads through site shading and carefully planned east-west orientation.
 - b. Incorporate natural ventilation by channeling trade winds.
 - c. Maximize daylighting.
- ___3. Design south, east and west shading devices to minimize solar heat gain.
- ___4. Use spectrally selective tints or spectrally selective low-e glazing with a Solar Heat Gain Coefficient (SHGC) of 0.4 or less.
- ___5. Minimize effects of thermal bridging in walls, roofs and window systems.
- ___6. Maximize efficiencies for lighting, Heating, Ventilation, Air Conditioning (HVAC) systems and other equipment. Use insulation and/or radiant barriers, natural ventilation, ceiling fans and shading to avoid the use of air conditioning whenever appropriate.
- ___7. Eliminate hot water in restrooms when possible.
- ___8. Provide tenant sub-metering to encourage utility use accountability.
- ___9. Use renewable energy. Use solar water heaters and consider the use of photovoltaics and Building Integrated Photovoltaics (BIPV).
- ___10. Use available energy resources such as waste heat recovery, when feasible.

A. Lighting

1. Design for at least 15% lower interior lighting power allowance than the Energy Code.
2. Select lamps and ballasts with the highest efficiency, compatible with the desired level of illumination and color rendering specifications. Examples that combine improved color rendering with efficient energy use include compact fluorescents and T8 fluorescents that use tri-phosphor gases.
3. Select lighting fixtures which maximize system efficacy and which have heat removal capabilities
4. Reduce light absorption on surfaces by selecting colors and finishes that provide high reflectance values without glare.
5. Use task lighting with low ambient light levels.
6. Maximize daylighting through the use of vertical fenestration, light shelves, skylights, clerestories, building form and orientation as well as through translucent or transparent interior partitions. Coordinate daylighting with electrical lighting for maximum electrical efficiency.
7. Incorporate daylighting controls and/or motion activated light controls in low or intermittent use areas.
8. Avoid light spillage in exterior lighting by using directional fixtures.
9. Minimize light overlap in exterior lighting schemes.
10. Use lumen maintenance procedures and controls.

B. Mechanical Systems

1. Design to comply with the Energy Code and to exceed its efficiency requirements.
2. Use "Smart Building" monitor/control systems when appropriate.
3. Utilize thermal storage for reduction of peak energy usage.
4. Use Variable air volume systems to save fan power.
5. Use variable speed drives on pumping systems and fans for cooling towers and air handlers.
6. Use air-cooled refrigeration equipment or use cooling towers designed to reduce drift.
7. Specify premium efficiency motors.
8. Reduce the need for mechanical ventilation by reducing sources of indoor air pollution. Use high efficiency air filters and ultraviolet lamps in air handling units. Provide for regular maintenance of filtration systems. Use ASHRAE standards as minimum.
9. Locate fresh air intakes away from polluted or overheated areas. Locate on roof where possible. Separate air intake from air exhausts by at least 40 ft.
10. Use separate HVAC systems to serve areas that operate on widely differing schedules and/or design conditions.
11. Use shut off or set back controls on HVAC system when areas are not occupied.
12. Use condenser heat, waste heat or solar energy. (Contact local utility companies for information on the utility-sponsored Commercial and Industrial Energy Efficiency

Programs which offer incentives to businesses for installing qualifying energy efficient technologies.)

- ___13. Evaluate plug-in loads for energy efficiency and power saving features.
- ___14. Improve comfort and save energy by reducing the relative humidity by waste reheat, heat pipes or solar heat.
- ___15. Minimize heat gain from equipment and appliances by using:
 - a. Environmental Protection Agency (EPA) Energy Star rated appliances.
 - b. Hoods and exhaust fans to remove heat from concentrated sources.
 - c. High performance water heating that exceeds the Energy Code requirements.
- ___16. Specify HVAC system "commissioning" period to reduce occupant exposure to Indoor Air Quality (IAQ) contaminants and to maximize system efficiency.

V. Water Use

A. Building Water

- ___1. Install water conserving, low flow fixtures as required by the Uniform Plumbing Code.
- ___2. If practical, eliminate hot water in restrooms.
- ___3. Use self closing faucets (infrared sensors or spring loaded faucets) for lavatories and sinks.

B. Landscaping and Irrigation

(See Section VI.)

VI. Landscape and Irrigation

- ___1. Incorporate water efficient landscaping (xeriscaping) using the following principles:
 - a. Planning, Efficient irrigation: Create watering zones for different conditions. Separate vegetation types by watering requirements. Install moisture sensors to prevent operation of the irrigation system in the rain or if the soil has adequate moisture. Use appropriate sprinkler heads.
 - b. Soil analysis/improvement: Use (locally made) soil amendments and compost for plant nourishment, improved water absorption and holding capacity.
 - c. Appropriate plant selection: Use drought tolerant and/or slow growing hardy grasses, native and indigenous plants, shrubs, ground covers, trees, appropriate for local conditions, to minimize the need for irrigation.
 - d. Practical turf areas: Turf only in areas where it provides functional benefits.

- e. Mulches: Use mulches to minimize evaporation, reduce weed growth and retard erosion.

Contact the local Board of Water Supply for additional information on xeriscaping such as efficient irrigation, soil improvements, mulching, lists of low water-demand plants, tours of xeriscaped facilities, and xeriscape classes.

- ___ 2. Protect existing beneficial site features and save trees to prevent erosion. Establish and carefully mark tree protection areas well before construction.
- ___ 3. Limit staging areas and prevent unnecessary grading of the site to protect existing, especially native, vegetation.
- ___ 4. Use top soil from the graded areas, stockpiled on the site and protected with a silt fence to reduce the need for imported top soil.
- ___ 5. Irrigate with non-potable water or reclaimed water when feasible. Collect rainwater from the roof for irrigation.
- ___ 6. Sub-meter the irrigation system to reduce water consumption and consequently water and sewer fees. Contact the local county agency to obtain irrigation sub-metering requirements and procedures. Locate irrigation controls within sight of the irrigated areas to verify that the system is operating properly.
- ___ 7. Use pervious paving instead of concrete or asphalt paving. Use natural and man-made berms, hills and swales to control water runoff.
- ___ 8. Avoid the use of solvents that contain or leach out pollutants that can contaminate the water resources and runoff. Contact the State of Hawai'i Clean Water Branch at 586-4309 to determine whether a NPDES (National Pollutant Discharge Elimination System) permit is required.
- ___ 9. Use Integrated Pest Management (IPM) techniques. IPM involves a carefully managed use of biological and chemical pest control tactics. It emphasizes minimizing the use of pesticides and maximizing the use of natural process
- ___ 10. Use trees and bushes that are felled at the building site (i.e. mulch, fence posts). Leave grass trimmings on the lawn to reduce green waste and enhance the natural health of lawns.
- ___ 11. Use recycled content, decay and weather resistant landscape materials such as plastic lumber for planters, benches and decks.

VII. Building Materials & Solid Waste Management

A. Material Selection and Design

- ___ 1. Use durable products.
- ___ 2. Specify and use natural products or products with low embodied energy and/or high recycled content. Products with recycled content include steel, concrete with glass,

drywall, carpet, etc. Use ground recycled concrete, graded glass cullet or asphalt as base or fill material.

- ___ 3. Specify low toxic or non-toxic materials whenever possible, such as low VOC (Volatile Organic Compounds) paints, sealers and adhesives and low or formaldehyde-free materials. Do not use products with CFCs (Chloro-fluoro-carbons).
- ___ 4. Use locally produced products such as plastic lumber, insulation, hydro-mulch, glass tiles, compost.
- ___ 5. Use advanced framing systems that reduce waste, two stud corners, engineered structural products and prefabricated panel systems.
- ___ 6. Use materials which require limited or no application of finishing or surface preparation. (i.e. finished concrete floor surface, glass block and glazing materials, concrete block masonry, etc.).
- ___ 7. Use re-milled salvaged lumber where appropriate and as available. Avoid the use of old growth timber.
- ___ 8. Use sustainably harvested timber.
- ___ 9. Commit to a material selection program that emphasizes efficient and environmentally sensitive use of building materials, and that uses locally available building materials. (A list of Earth friendly products and materials is available through the Green House Hawai'i Project. Call Clean Hawai'i Center, Tel. 587-3802 for the list.)

B. Solid Waste Management, Recycling and Diversion Plan

- ___ 1. Prepare a job-site recycling plan and post it at the job-site office.
- ___ 2. Conduct pre-construction waste minimization and recycling training for employees and sub-contractors.
- ___ 3. Use a central area for all cutting.
- ___ 4. Establish a dedicated waste separation/diversion area. Include Waste/Compost/Recycling collection areas and systems for use during construction process and during the operational life cycle of the building.
- ___ 5. Separate and divert all unused or waste cardboard, ferrous scrap, construction materials and fixtures for recycling and/or forwarding to a salvage exchange facility. Information on "Minimizing C&D (construction and demolition) waste in Hawai'i" is available through Department of Health, Office of Solid Waste Management, Tel. 586-4240.
- ___ 6. Use all green waste, untreated wood and clean drywall on site as soil amendments or divert to offsite recycling facilities.
- ___ 7. Use concrete and asphalt rubble on-site or forward the material for offsite recycling.
- ___ 8. Carefully manage and control waste solvents, paints, sealants, and their used containers. Separate these materials from C&D (construction and demolition) waste and store and dispose them of them carefully.
- ___ 9. Donate unused paint, solvents, sealants to non-profit organizations or list on HIMEX (Hawai'i Materials Exchange). HIMEX is a free service operated by Maui Recycling

Group, that offers an alternative to landfill disposal of usable materials, and facilitates no-cost trades. See web site, www.himex.org.

- ___10. Use suppliers that re-use or recycle packaging material whenever possible.

VIII. Indoor Air Quality

- ___1. Design an HVAC system with adequate supply of outdoor air, good ventilation rates, even air distribution, sufficient exhaust ventilation and appropriate air cleaners.
- ___2. Develop and specify Indoor Air Quality (IAQ) requirements during design and contract document phases of the project. Monitor compliance in order to minimize or contain IAQ contaminant sources during construction, renovation and remodeling.
- ___3. Notify occupants of any type of construction, renovation and remodeling and the effects on IAQ.
- ___4. Inspect existing buildings to determine if asbestos and lead paint are present and arrange for removal or abatement as needed.
- ___5. Supply workers with, and ensure the use of VOC (Volatile Organic Compounds)-safe masks where required.
- ___6. Ensure that HVAC systems are installed, operated and maintained in a manner consistent with their design. Use UV lamps in Air Handling Units to eliminate mold and mildew growth. An improperly functioning HVAC system can harbor biological contaminants such as viruses, bacteria, molds, fungi and pollen, and can cause Sick Building Syndrome (SBS).
- ___7. Install separate exhaust fans in rooms where air polluting office equipment is used, and exhaust directly to the exterior of the building, at sufficient distance from the air intake vents.
- ___8. Place bird guards over air intakes to prevent pollution of shafts and HVAC ducts.
- ___9. Control indoor air pollution by selecting products and finishes that are low or non-toxic and low VOC emitting. Common sources of indoor chemical contaminants are adhesives, carpeting, upholstery, manufactured wood products, copy machines, pesticides and cleaning agents.
- ___10. Schedule finish application work to minimize absorption of VOCs into surrounding materials e.g. allow sufficient time for paint and clear finishes to dry before installing carpet and upholstered furniture. Increase ventilation rates during periods of increased pollution.
- ___11. Allow a flush-out period after construction, renovation, remodeling or pesticide application to minimize occupant exposure to chemicals and contaminants.

IX. Commissioning & Construction Project Closeout

1. Appoint a Commissioning Authority to develop and implement a commissioning plan and a preventative maintenance plan. Project Manager's responsibilities must include coordination of commissioning activities during project closeout.
2. Commissioning team should successfully demonstrate all systems and perform operator training before final acceptance.
3. Provide flush-out period to remove air borne contaminants from the building and systems.
4. Provide as-built drawings and documentation for all systems. Provide data on equipment maintenance and their control strategies as well as maintenance and cleaning instructions for finish materials.

X. Occupancy and Operation

A. General Objectives

1. Develop a User's Manual for building occupants that emphasizes the need for Owner/Management commitment to efficient sustainable operations.
2. Management's responsibilities must include ensuring that sustainability policies are carried out.

B. Energy

1. Purchase EPA rated, Energy Star, energy-efficient office equipment, appliances, computers, and copiers. (Energy Star is a program sponsored by U.S. Dep. Of Energy. Use of these products will contribute to reduced energy costs for buildings and reduce air pollution.)
2. Institute an employee education program about the efficient use of building systems and appliances, occupants impact on and responsibility for water use, energy use, waste generation, waste recycling programs, etc.
3. Re-commission systems and update performance documentation periodically per recommendations of the Commissioning Authority, or whenever modifications are made to the systems.

C. Water

1. Start the watering cycle in the early morning in order to minimize evaporation.
2. Manage the chemical treatment of cooling tower water to reduce water consumption.

D. Air

1. Provide incentives which encourage building occupants to use alternatives to and to reduce the use of single occupancy vehicles.

- ___ 2. Provide a location map of services within walking distance of the place of employment (child care, restaurants, gyms, shopping).
- ___ 3. Periodically monitor or check for indoor pollutants in building.
- ___ 4. Provide an IAQ plan for tenants, staff and management that establishes policies and documentation procedures for controlling and reporting indoor air pollution. This helps tenants and staff understand their responsibility to protect the air quality of the facility.

E. Materials and Products

- ___ 1. Purchase business products with recycled content such as paper, toners, etc.
- ___ 2. Purchase Furniture made with sustainably harvested wood, or with recycled and recycled content materials, which will not off gas VOC's.
- ___ 3. Remodeling and painting should comply with or improve on original sustainable design intent.
- ___ 4. Use low VOC, non-toxic, phosphate and chlorine free, biodegradable cleaning products.

F. Solid Waste

- ___ 1. Collect recyclable business waste such as paper, cardboard boxes, and soda cans.
- ___ 2. Avoid single use items such as paper or Styrofoam cups and plates, and plastic utensils.

XI. Resources

Financing: Energy Efficiency in Buildings. U.S. Department of Energy, DOE/EE-0152, May, 1998 (Call Tel. 1-800-DOE-EREC or visit local office)

Building Commissioning: The Key to Quality Assurance. U.S. Department of Energy, DOE/EE-0153, May, 1998 (Call Tel. 1-800-DOE-EREC or visit local office)

Guide to Resource-Efficient Building in Hawaii. University of Hawai'i at Manoa, School of Architecture and Energy, Resources and Technology Division, Department of Business, Economic Development and Tourism, October 1998. (Call Tel. 587-3804 for publication)

Hawaii Model Energy Code. Energy, Resources and Technology Division, Department of Business, Economic Development and Tourism, November 1997 (Call Tel. 587-3810 for publication)

Photovoltaics in the Built Environment: A Design Guide for Architects and Engineers. NREL Publications, DOE/GO #10097-436, September 1997 (Call Tel. 1-800-DOE-EREC or visit local office)

Building Integrated Photovoltaics: A Case Study. NREL Publications #TP-472-7574, March 1995 (Call Tel. 1-800-DOE-EREC or visit local office)

Solar Electric Applications: An overview of Today's Applications. NREL Publications, DOE/GO #10097-357, Revised February, 1997 (Call Tel. 1-800-DOE-EREC or visit local office)

Green Lights: An Enlightened Approach to Energy Efficiency and Pollution Prevention. U.S. Environmental Protection Agency, Pacific Island Contact Office (Call Tel. 541-2710 for publication.)

Healthy Lawn, Healthy Environment. U.S. Environmental Protection Agency, Pacific Island Contact Office. (Call Tel. 541-2710 for this and related publications)

How to Plant a Native Hawaiian Garden. Office of Environmental Quality Control (OEQC), Department of Health, State of Hawai'i (Call Tel. 586-4185 for publication)

Buy Recycled in Hawai'i. Clean Hawai'i Center, Energy, Resources and Technology Division, Department of Business, Economic Development and Tourism, November 1997. (Call Tel. 587-3802 for publication)

Hawai'i Recycling Industry Guide and other recycling and reuse related fact sheets. Clean Hawai'i Center, Energy, Resources and Technology Division, Department of Business, Economic Development and Tourism, July 1999. (Call Tel. 587-3802 for publication)

Minimizing Construction and Demolition Waste. Office of Solid Waste Management, Department of Health and Clean Hawai'i Center, Energy, Resources and Technology Division, Department of Business, Economic Development and Tourism, February 1998. (Call Tel. 586-4240 for publication)

Contractor's Waste Management Guide and Construction and demolition Waste Management Facilities Directory. Clean Hawai'i Center, Energy, Resources and Technology Division, Department of Business, Economic Development and Tourism, 1999. (Call Tel. 587-3802 for publication)

Waste Management and Action: Construction Industry. Department of Health, Solid and Hazardous Waste Branch (Call Tel. 586-7496 for publication)

Business Guide For reducing Solid Waste. U.S. Environmental Protection Agency, Pacific Island Contact Office, Tel. 541-2710 (Call for publication.)

The Inside Story: A Guide to Indoor Air Quality. U.S. Environmental Protection Agency, Pacific Island Contact Office, Tel. 541-2710 (Call for this and related publications.) Additional information is available from the American Lung Association, Hawai'i, Tel. 537-5966

Selecting Healthier Flooring Materials. American Lung Association and Clean Hawai'i Center, February 1999. (Call Tel. 537-5966 x307)

Office Paper Recycling: An Implementation Manual. U.S. Environmental Protection Agency, Pacific Island Contact Office, Tel. 541-2710 (Call for publication.)

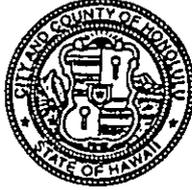
Acknowledgments

OEQC and the Environmental Council would like to thank Allison Beale, Gary Gill, Nick H. Huddleston, Gail Suzuki-Jones, Purnima McCutcheon, Virginia B. MacDonald, Steve Meder, Ramona Mullahey, Thomas P. Papandrew, Victor Olgay, Howard Tanaka, and Howard Wiig for their assistance with this project.

DEPARTMENT OF COMMUNITY SERVICES
CITY AND COUNTY OF HONOLULU

715 SOUTH KING STREET, SUITE 311 • HONOLULU, HAWAII 96813
TELEPHONE: (808) 527-5311 • FAX: (808) 527-5498 • INTERNET: www.co.honolulu.hi.us

JEREMY HARRIS
MAYOR



MICHAEL T. AMII
DIRECTOR

JOHN R. SABAS
DEPUTY DIRECTOR

September 6, 2001

Ms. Genevieve Salmonson, Director
State of Hawaii
Office of Environmental Quality Control
236 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

Dear Ms. Salmonson:

**SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED
FRIENDSHIP COMMUNITY SERVICES VARONA VILLAGE
PROJECT**

We have reviewed your letter dated August 6, 2001, regarding the Draft Environmental Assessment (DEA) for the proposed Friendship Community Services Varona Village Project. We thank you for your review and comments and offer the following responses:

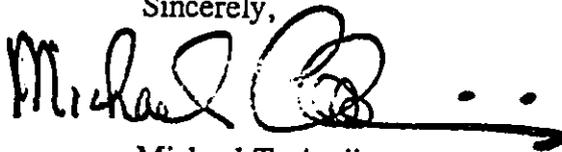
1. During the Public Review period, we received a letter from the Varona Camp Community Improvement Association, which included, as an attachment, a history of the camp and a description of the camp lifestyle and culture. This attachment will be included in Final EA. During the Public Review period we also received a letter from the State Historic Preservation Division (SHPD) that expressed concern that the site plan shown in the Draft EA did not reflect SHPD's previously stated comments about retaining the original circulation patterns visually. A revised site plan will be developed and submitted for review and comment to SHPD before obtaining permits for the project. To the extent feasible, the revised plan will show walkways and/or landscaping defining the original roadways in Varona Village.
2. Friendship Community Services, Inc. (FCS) has been forwarded a copy of OEQC's "Guidelines for Sustainable Building Design in Hawaii," so that they can direct their architects to consider implementing some of the techniques discussed in the guidelines in designing any new structures.

Letter to Genevieve Salmonson, Director, OEQC
September 6, 2001
Page 2

3. FCS will also be asked to consider purchasing materials with minimum recycled glass content.
4. In addition, FCS will be asked to direct their landscape architect to consider the use of native, indigenous and Polynesian introduced plants in the project landscaping.

If you have any other questions or comments, please do not hesitate to call me at 527-5311.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael T. Amii", with a long horizontal line extending to the right that ends in an arrowhead.

Michael T. Amii
Director

cc: Department of Planning & Permitting
Office of Environmental Quality Control
Friendship Community Services
✓ PBR HAWAII

PHONE (808) 594-1888



STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAII 96813

FAX (808) 594-1865

July 2, 2001

Mr. Randall Fujiki
Department of Planning and
Permitting
City and County of Honolulu
650 South King Street
Honolulu, HI 96813

Subject: Friendship Community Services Varona Village Project – Draft
Environmental Assessment

Dear Mr. Fujiki:

Thank you for the opportunity to comment on the above referenced project. The Office of Hawaiian Affairs has the following concerns about the DEA. Item 4.2.1 requires the applicant to stop work if any human burials or historic sites are discovered and contact the State Historic Preservation Division. This item should be revised to include the Oahu Island Burial Council.

In Item 6.0 the DEA mentions the "establishment of extensive landscaping to maintain long-term air quality" (page 41). The selection of landscaping materials should be guided by consideration of vegetation that existed in the area prior to sugar cane cultivation.

If you have any questions, please contact Jerry B. Norris at 594-1847 or email him at jnorris@oha.org.

Sincerely,

A handwritten signature in black ink, appearing to read "Colin C. Kippen, Jr.".

Colin C. Kippen, Jr.
Deputy Administrator

Mr. Randall Fujiki

July 2, 2001

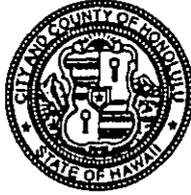
Page Two

cc: OHA Board of Trustees
Ron Mun, Acting OHA Administrator
Genevieve Salmonson, OEQC
Vincent Shigekuni, PBD Hawaii

DEPARTMENT OF COMMUNITY SERVICES
CITY AND COUNTY OF HONOLULU

715 SOUTH KING STREET, SUITE 311 • HONOLULU, HAWAII 96813
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JEREMY HARRIS
MAYOR



MICHAEL T. AMII
DIRECTOR

JOHN R. SABAS
DEPUTY DIRECTOR

July 25, 2001

Mr. Colin C. Kippen, Jr.
State of Hawaii
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, Hawaii 96813

Dear Mr. Kippen:

Subject: Draft Environmental Assessment for the Proposed
Friendship Community Services Varona Village Project

We have reviewed your letter dated July 2, 2001, regarding the Draft Environmental Assessment (DEA) for the proposed Friendship Community Services Varona Village Project. We thank you for review and comments and offer the following responses:

1. As recommended, the following will be added to the first sentence of the sixth paragraph of Section 4.2.1: "(and in the case of burials, the Oahu Burial Council)".
2. Friendship Community Services will be informed (by copy of this letter) that the selection of landscaping materials should be guided by consideration of vegetation that existed in the area prior to sugar cane cultivation. If no record of the previous vegetation can be found, it will be suggested that Friendship Community Services include native dryland plants in the selection of landscaping materials.

If you have any other questions or comments, please do not hesitate to call me.

Sincerely,


MICHAEL T. AMII
Director

MTA:dk

cc: Department of Planning and Permitting
Office of Environment Quality Control
Friendship Community Services
PBR Hawaii

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



GILBERT S. COLOMA-AGARAN, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

AUG 7 8 2001

DEPUTIES
JANET E. KAWALO
LINNEL NISHIOKA

STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
Kakuhikewe Building, Room 555
601 Kamokila Boulevard
Kapolei, Hawaii 96707

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
COMMISSION ON WATER RESOURCE
MANAGEMENT
CONSERVATION AND RESOURCES
ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND
STATE PARKS

August 7, 2001

Department of Planning and Permitting
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Attention: Mr. Randall Fujiki

Dear Mr. Fujiki:

SUBJECT: Draft Environmental Assessment (DEA)
Friendship Community Services
Varona Village Project
TMK: 9-1-017:069 (Portion), Ewa Villages, Oahu

LOG NO: 27980
DOC NO: 0108tm04
Architecture

Thank you for transmitting the Draft Environmental Assessment (DEA) for the proposed community project in Varona Village, part of the Ewa Villages Historic District. The DEA indicates previous consultation with our office and mentions our concerns over retaining the original circulation patterns visually. However, the site plan does not reflect this concern. We would like to see walkways or landscaping to define the original roadways on the site plan before we can concur with the project. Also, please be advised that since this project may be funded through CDBG funds, the project would require compliance with Section 106 of the National Historic Preservation Act. Since the project will most likely have no adverse affect on historic properties, this may involve a simple letter. Please have your consultants include compliance with Section 106 in the Final EA.

If in the unlikely event that historic sites, including human burials, are uncovered during routine construction activities, all work in the vicinity must stop and the State Historic Preservation Division must be contacted at 692-8015. Thank you for the opportunity to comment. Should you have further questions, please feel free to call Tonia Moy at (808)692-8030.

Aloha,

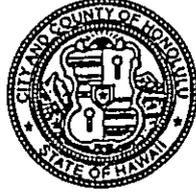
Carol Ojaha
for DON HIBBARD, Administrator
State Historic Preservation Division

TM:jk

c: Office of Environmental Quality Control
Vincent Shigekuni, PBR Hawaii

DEPARTMENT OF COMMUNITY SERVICES
CITY AND COUNTY OF HONOLULU

715 SOUTH KING STREET, SUITE 311 • HONOLULU, HAWAII 96813
TELEPHONE: (808) 527-5311 • FAX: (808) 527-5498 • INTERNET: www.co.honolulu.hi.us



JEREMY HARRIS
MAYOR

SEP 10 2001

MICHAEL T. AMII
DIRECTOR

JOHN R. SABAS
DEPUTY DIRECTOR

September 6, 2001

Mr. Don Hibbard, Administrator
State of Hawaii Department of Land and Natural Resources
Historic Preservation Division
Kakuhihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, Hawaii 96707

Dear Mr. Hibbard:

**SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT FOR THE PROPOSED
FRIENDSHIP COMMUNITY SERVICES VARONA VILLAGE PROJECT**

We have reviewed your letter dated August 7, 2001, regarding the Draft Environmental Assessment (DEA) for the proposed Friendship Community Services Varona Village Project. We thank you for your review and comments and offer the following responses:

1. A revised site plan will be developed and submitted for review and comment to SHPD before permitting for the project. To the extent possible, the revised plan will show walkways and/or landscaping defining the original roadways in Varona Village.
2. Please be assured that the Final EA will include mention that the proposed project will require compliance with Section 106 of the National Historic Preservation Act as noted in your comment letter of August 7, 2001.

If you have any other questions or comments, please do not hesitate to call me at 527-5311.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael T. Amii", with a long horizontal line extending to the right.

Michael T. Amii
Director

cc: Department of Planning & Permitting
Office of Environmental Quality Control
Friendship Community Services
✓ PBR HAWAII

BENJAMIN J. CAYETANO
GOVERNOR



Aug 13 2001

BRIAN K. MINAAI
DIRECTOR

DEPUTY DIRECTORS
GLENN M. OKIMOTO
JADINE Y. URASAKI

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

IN REPLY REFER TO:

STP 8.9983

August 8, 2001

Mr. Randall K. Fujiki
Director
Department of Planning and Permitting
City and County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Fujiki:

Subject: Friendship Community Services, Varona Village Project
Draft Environmental Assessment
TMK: 9-1-017: 069 (por)

Thank you for your transmittal requesting our review of the subject project. We have concerns with the potential traffic impacts the proposed project will have on the State highway system.

On July 17, 2001 we met with the applicant and their consultant to discuss these concerns. The applicant agreed to conduct additional traffic analyses and to provide additional information. We will defer comment on the subject application until we have had the opportunity to review the supplemental information to be provided.

We appreciate the opportunity to provide comments.

Very truly yours,


BRIAN K. MINAAI
Director of Transportation

c: Ms. Genevieve Salmonson, OEQC
Mr. Vincent Shigekuni, PBR Hawaii

DEPARTMENT OF COMMUNITY SERVICES
CITY AND COUNTY OF HONOLULU

715 SOUTH KING STREET, SUITE 311 • HONOLULU, HAWAII 96813
TELEPHONE: (808) 527-5311 • FAX: (808) 527-5498 • INTERNET: www.co.honolulu.hi.us



JEREMY HARRIS
MAYOR

MICHAEL T. AMII
DIRECTOR

JOHN R. SABAS
DEPUTY DIRECTOR

October 5, 2001

Mr. Brian K. Minaai, Director
State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, HI 96813-5097

Dear Mr. Minaai:

Subject: Draft Environmental Assessment for the Proposed Friendship Community
Services Varona Village Project

We have reviewed your letter dated August 8, 2001 (your reference number STP 8.9983), regarding the Draft Environmental Assessment (DEA) for the proposed Friendship Community Services Varona Village Project. As noted in your letter, we had the opportunity of meeting with your helpful staff. We are presently in the process of conducting the additional traffic analyses and obtaining the additional information requested by DOT staff. We understand that DOT will defer comment on the subject project until it has had the opportunity to review the supplemental information to be provided.

Thank you for participating in the environmental review process. If you have any other questions or comments, please do not hesitate to call me.

Sincerely,
Handwritten signature of Michael T. Amii in black ink, with a long horizontal line extending to the right.

MICHAEL T. AMII
Director

MTA:dk

cc: Department of Planning & Permitting
Office of Environmental Quality Control
Friendship Community Services
PBR HAWAII ✓

BOARD OF WATER SUPPLY

CITY AND COUNTY OF HONOLULU
530 SOUTH BERETANIA STREET
HONOLULU, HI 96843

AUG - 6 2001



August 2, 2001

JEREMY HARRIS, Mayor

EDDIE FLORES, J.K., Chairman
CHARLES A. STED, Vice-Chairman
JAN M.L.Y. AMII
HERBERT S.K. KAOPUA, SR.
BARBARA KIM STANTON

BRIAN K. MINAAI, Ex-Officio
ROSS S. SASAMURA, Ex-Officio

CLIFFORD S. JAMILE
Manager and Chief Engineer

COPY

TO: RANDALL FUJIKI, DIRECTOR
DEPARTMENT OF PLANNING AND PERMITTING

FROM: ^{BU}_{for} CLIFFORD S. JAMILE, MANAGER AND CHIEF ENGINEER

SUBJECT: YOUR TRANSMITTAL OF JULY 8, 2001 OF THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE VARONA VILLAGE FRIENDSHIP COMMUNITY SERVICES PROJECT, EWA, OAHU, TMK: 9-1-17: PORTION 69

Thank you for the opportunity to review the subject document for the proposed community center.

We have the following comments to offer:

1. The existing off-site water system is presently adequate to accommodate the proposed project.
2. The availability of water will be determined when the building permit applications are submitted for our review and approval. If water is made available, the applicant will be required to pay our Water System Facilities Charges for resource development, transmission, and daily storage.
3. There are six existing water services currently serving the project site.
4. If a three-inch or larger water meter is required, the construction drawings showing the installation of the meter should be submitted for our review and approval.
5. The on-site fire protection requirements should be coordinated with the Fire Prevention Bureau of the Honolulu Fire Department.
6. The proposed project is subject to Board of Water Supply cross-connection control requirements prior to the issuance of the Building Permit Applications.

If you have any questions, please contact Scot Muraoka at 527-5221.

cc: Office of Environmental Quality Control
PBR Hawaii

RECEIVED
BD OF WATER SUPPLY
JUN 27 1 11 PM '01

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cc

July 8, 2001

Dear Participant:

Attached for your review is a Draft Environmental Assessment (EA) which was prepared pursuant to the EIS Law (Hawaii Revised Statutes, Chapter 343) and the EIS rules (Administrative Rules, Title 11, Chapter 200).

Title of Project: Friendship Community Services, Varona Village Project

Location: Island: Oahu District: Ewa

Tax Map Keys: 9-1-017: 069 (por)

Agency Action: X **Applicant Action:**

Your comments must be received or postmarked by August 7, 2001.

Please address your comments to:

Agency/Approving Agency: Department of Planning and Permitting
City and County of Honolulu
650 South King St.
Honolulu, Hawaii 96813

Contact: Mr. Randall Fujiki **Phone:** 523-4817

Copies of your comments should also be sent to the following:
Office of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, Hawaii 96813

Consultant: PBR Hawaii
Pacific Tower, Suite 650
1001 Bishop Street
Honolulu, Hawaii 96813

Contact: Mr. Vincent Shigekuni **Phone:** 521-5631

Thank you for participating in the environmental assessment review process.

JUN 32 8 57 AM '01

DEPARTMENT OF COMMUNITY SERVICES
CITY AND COUNTY OF HONOLULU

715 SOUTH KING STREET, SUITE 311 • HONOLULU, HAWAII 96813
TELEPHONE: (808) 527-5311 • FAX: (808) 527-5498 • INTERNET: www.co.honolulu.hi.us

AUG 13 2001

JEREMY HARRIS
MAYOR



MICHAEL T. AMII
DIRECTOR

JOHN R. SABAS
DEPUTY DIRECTOR

August 9, 2001

Mr. Clifford S. Jamile, Manager and Chief Engineer
Board of Water Supply
City and County of Honolulu
630 South Beretania Street
Honolulu, Hawaii 96813

Dear Mr. Jamile:

Subject: Draft Environmental Assessment for the Proposed
Friendship Community Services Varona Village Project

We have reviewed your memorandum dated August 2, 2001, regarding the Draft Environmental Assessment (DEA) for the proposed Friendship Community Services (FCS) Varona Village Project and offer the following responses:

1. We note the Board of Water Supply's (BWS) assessment of the existing off-site water system as being presently adequate to accommodate the proposed project.
2. FCS understands that the availability of water will be determined when the building permit applications are submitted to BWS for review and approval. FCS also understands that if water is made available, FCS will be required to pay BWS's Water System Facilities Charges for resource development, transmission and daily storage.
3. If FCS proposes a three-inch or larger water meter, FCS will submit construction drawings showing the installation of the meter to BWS for review and approval.
4. FCS will coordinate on-site fire protection requirements with the Fire Prevention Bureau of the Fire Department.

Mr. Clifford S. Jamile
August 9, 2001
Page 2

5. FCS understands that the proposed project is subject to BWS cross-connection requirements prior to the issuance of the Building Permit Applications.

Thank you for participating in the environmental review process. If you have any other questions or comments, please do not hesitate to call me.

Sincerely,


MICHAEL T. AMII
Director

MTA:dk

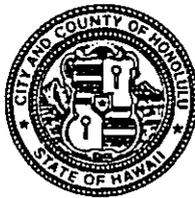
cc: Department of Planning and Permitting
Office of Environment Quality Control
Friendship Community Services
PBR Hawaii

FIRE DEPARTMENT
CITY AND COUNTY OF HONOLULU

3375 KOAPAKA STREET, SUITE H425 • HONOLULU, HAWAII 96819-1869
TELEPHONE: (808) 831-7761 • FAX: (808) 831-7750 • INTERNET: www.cc.honolulu.hi.us

110 - 22

JEREMY HARRIS
MAYOR



ATTILIO K. LEONARDI
FIRE CHIEF

JOHN CLARK
DEPUTY FIRE CHIEF

July 25, 2001

TO: RANDALL K. FUJIKI, AIA, DIRECTOR
DEPARTMENT OF PLANNING AND PERMITTING

FROM: ATTILIO K. LEONARDI, FIRE CHIEF

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT
FRIENDSHIP COMMUNITY SERVICES
VARONA VILLAGE PROJECT
TAX MAP KEY: 9-1-017: PORTION OF 069

We are commenting on a letter from PBR Hawaii dated July 8, 2001, regarding the above-mentioned project.

The Honolulu Fire Department (HFD) requests that the following be complied with for the proposed Friendship Community Services project:

1. Provide a private water system where all appurtenances, hydrant spacing, and fire flow requirements meet Board of Water Supply standards.
2. Provide a fire department access road within 150 feet of the first floor of the most remote structure. Such access shall have a minimum vertical clearance of 13 feet 6 inches, be constructed of an all-weather driving surface complying with Department of Transportation Services (DTS) standards, capable of supporting the minimum 60,000 pound weight of our fire apparatus, and with a gradient not to exceed 20%. The unobstructed width of the fire apparatus access road shall meet the requirements of the appropriate county jurisdiction. All dead-end fire apparatus access roads in excess of 150 feet in length shall be provided with an approved turnaround having a radius complying with DTS standards.
3. Submit civil drawings to the HFD for review and approval.

Randall K. Fujiki, AIA, Director
Page 2
July 25, 2001

Should you have any questions, please call Battalion Chief Kenneth Silva of our Fire Prevention Bureau at 831-7778.



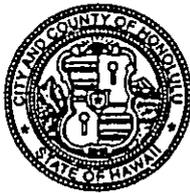
ATTILIO K. LEONARDI
Fire Chief

AKL/KS:jo

cc: Office of Environmental Quality Control
Vincent Shigekuni, PBR Hawaii

DEPARTMENT OF COMMUNITY SERVICES
CITY AND COUNTY OF HONOLULU

715 SOUTH KING STREET, SUITE 311 • HONOLULU, HAWAII 96813
TELEPHONE: (808) 527-5311 • FAX: (808) 527-5498 • INTERNET: www.cc.honolulu.hi.us



JEREMY HARRIS
MAYOR

MICHAEL T. AMII
DIRECTOR

JOHN R. SABAS
DEPUTY DIRECTOR

August 27, 2001

Mr. Attilio K. Leonardi, Fire Chief
Fire Department
City and County of Honolulu
3375 Koapaka Street, Suite H425
Honolulu, Hawaii 96819-1869

Dear Chief Leonardi:

Subject: Draft Environmental Assessment for the Proposed
Friendship Community Services Varona Village Project

We have reviewed your memorandum dated July 25, 2001, regarding the Draft Environmental Assessment (DEA) for the proposed Friendship Community Services Varona Village Project and offer the following responses:

1. Friendship Community Services (FCS) will provide a private water system where all appurtenances, hydrant spacing, and fire flow requirements meet Board of Water Supply standards.
2. FCS will provide for access for fire department vehicles within 150 feet of the first floor of the most remote structure on the site from Renton Road (per the standards mentioned in item 2 of the memorandum).
3. FCS will submit civil drawing to the HFD for review and approval.

Thank you for participating in the environmental review process. If you have any other questions or comments, please do not hesitate to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael T. Amii", with a long horizontal stroke extending to the right.

MICHAEL T. AMII
Director

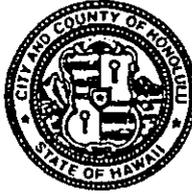
MTA:dk

cc: Department of Planning and Permitting
Office of Environment Quality Control
Friendship Community Services
PBR Hawaii

DEPARTMENT OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET, 10TH FLOOR • HONOLULU, HAWAII 96813
PHONE: (808) 523-4182 • FAX: 527-5725 • INTERNET: www.co.honolulu.hi.us

JEREMY HARRIS
MAYOR



WILLIAM D. BALFOUR, JR.
DIRECTOR

EDWARD T. "SKIPPA" DIAZ
DEPUTY DIRECTOR

July 25, 2001

MEMORANDUM

TO: RANDALL K. FUJIKI, DIRECTOR
DEPARTMENT OF PLANNING AND PERMITTING

FROM: WILLIAM D. BALFOUR, JR., DIRECTOR

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT
FRIENDSHIP COMMUNITY SERVICES VARONA VILLAGE PROJECT

Thank you for the opportunity to review and comment on the Draft Environmental Assessment relating to the Friendship Community Services Varona Village Project.

The Department of Parks and Recreation has no comments in regard to this Draft Environmental Assessment.

Should you have any questions, please contact Mr. John Reid, Planner, at 547-7396.

W.D. Balfour Jr.

WILLIAM D. BALFOUR, JR.
Director

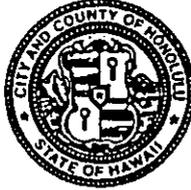
WDB:cu
(2052JR)

cc: Office of Environmental Quality Control
✓ Mr. Vincent Shigekuni, PBR Hawaii
Mr. Don Griffin, Department of Design and Construction

DEPARTMENT OF COMMUNITY SERVICES
CITY AND COUNTY OF HONOLULU

715 SOUTH KING STREET, SUITE 311 ● HONOLULU, HAWAII 96813 ● AREA CODE 808 ● PHONE: 527-5311 ● FAX: 527-5498
www.co.honolulu.hi.us

JEREMY HARRIS
MAYOR



August 1, 2001

MICHAEL T. AMII
DIRECTOR

JOHN R. SABAS
DEPUTY DIRECTOR

MEMORANDUM

TO: WILLIAM D. BALFOUR, JR., DIRECTOR
DEPARTMENT OF PARKS AND RECREATION

FROM: MICHAEL T. AMII, DIRECTOR

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT
FRIENDSHIP COMMUNITY SERVICES VARONA VILLAGE
PROJECT

We have reviewed your memorandum dated July 25, 2001 regarding the Draft Environmental Assessment (DEA) for the proposed Friendship Community Services Varona Village Project. We acknowledge that you have no comments

Thank you for participating in the environmental review process. If you have any other questions or comments, please call Avis Kamimura at x4435.

A handwritten signature in black ink, appearing to read "Michael T. Amii", with a long horizontal line extending to the right.

MICHAEL T. AMII
Director

MTA:dk

cc: Department of Planning and Permitting
Office of Environmental Quality Control
Friendship Community Services
PBR Hawaii

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU

650 SOUTH KING STREET • HONOLULU, HAWAII 96813
TELEPHONE: (808) 523-4414 • FAX: (808) 527-6743 • INTERNET: www.co.honolulu.hi.us

AUG 16 2001

JEREMY HARRIS
MAYOR



RANDALL K. FUJIKI, AIA
DIRECTOR

LORETTA K.C. CHEE
DEPUTY DIRECTOR

2001/ED-16(RY)

August 15, 2001

Mr. Vincent Shigekuni
PBR Hawaii
Pacific Tower, Suite 650
1001 Bishop Street
Honolulu, Hawaii 96813

Dear Mr. Shigekuni:

Draft Environmental Assessment (DEA) for the Friendship Community Services
Varona Village Project, Varona Village, Ewa, Oahu, Tax Map Key 9-1-17: Portion 69

We have reviewed the document and have the following comments:

Ewa Development Plan

The Ewa Development Plan Maps have been adopted by City Council in 1997.

The Final Environmental Assessment (FEA) should include a discussion of how the project is consistent with Section 3.6.1.3 of the Ewa Development Plan (DP) Guidelines, particularly with the Urban Form guidelines which state that:

“The current grid development pattern should be maintained in the existing villages and replicated in new infill developments”, and

“New structures on vacant lots in existing villages should complement the exterior design of adjacent homes”.

The FEA should include a discussion of how the project is consistent with the Ewa Development Plan Section 3.6.1.1 relating to Policies on existing village structures and how the project ensures that the Ewa Villages remain “a living example of Hawaii’s plantation heritage.”

Mr. Vincent Shigekuni
PBR Hawaii
Page 2
August 15, 2001

With respect to the land use maps found in the Appendix of the Ewa DP, these are conceptual illustrations of the text of the Development Plan, and should be interpreted as only providing a broad view of land use information for respective localities within the DP area. Accordingly, the text of the DP takes precedence over any map interpretations. Thus, when comparing the proposed project with the Ewa DP, the development of a low-medium density residential community is appropriate for Varona Village and adjacent areas.

Land Use Approvals

A zone change from AG-1 Restricted Agricultural District to an appropriate zoning district would be required, since meeting and day-care facilities are not permitted in the AG-1 Restricted Agricultural District, unless supporting documentation, i.e., resolutions, ordinances, etc., can be produced that shows that the project is exempt from this land use approval.

A State Land Use Boundary Amendment to the Urban District or a Special Use Permit for the portion of the project within the State Agricultural District is required unless it is shown that this was an exempt item.

The FEA should provide an estimated timetable of development from acquiring all necessary approvals to project occupancy.

Ewa Historic District

The FEA should expand on the project as it relates to the Ewa Historic District and if the State Historic Preservation Division of the Department of Land and Natural Resources concurs with the proposal.

Wastewater Disposal

The FEA should address the impacts and recommendations of noise and odor from the Honouliuli Wastewater Treatment Plant (WWTP) on the subject project. The City's Department of Environmental Services who operates and maintains the Honouliuli WWTP should also be asked to review and comment on the draft environmental assessment.

The sewer system for the Varona Village section of the Ewa Sewer Master Plan, dated November 1995, was originally sized for residential use. However, the project contains additional uses including park, community center, training center, and child and adult care facilities. Since detailed information to support the projected wastewater design flow rate of 0.023 million gallons per day is not available, we could not verify that the project's estimated wastewater flow

Mr. Vincent Shigekuni
PBR Hawaii
Page 3
August 15, 2001

into the municipal sewer system and are concerned that project wastewater could exceed design capacity. Thus, it is possible that approval for connections to the municipal sewer system may be withheld for phases of the project that exceeds the sewer system design capacity.

Civil Engineering

A drainage report will be required at the time construction and grading plans are submitted to the Department of Planning and Permitting for review.

Overall

The EA should provide a clearer description of the parcels or lots involved with the project. For instance, the DEA refers to Lots 1 and 2 as shown on Figure 3. However, in the description of the project, the DEA refers to 3 parcels. Apparently Parcel 1 is Lot 2 and Parcel 2 is Lot 1; and, Parcel 3 is the remaining portion of Varona Village not included in the proposed project. More information should be provided (Page 9) in describing Varona Village. Specifically, include information as shown on Figure 1.1 about the number of dwellings affected by the project and how many are occupied.

Under the discussion of housing impacts, the FEA should include a description of the tenants that will be required to relocate as a result of this project. The FEA should included an analysis of relocation impacts on these existing tenants or whether they will be permitted to remain on the project site; whether adequate funds are available for relocation; what housing is available in the remaining portion of Varona Village; and, whether these housing units will be available before the existing tenants are required to relocate.

If you have any questions, please call Raymond Young of our staff at 527-5839.

Sincerely yours,


RANDALL K. FUJIKI, AIA
Director of Planning and Permitting

RKF:lh
doc: 108045

cc: Randy Wong, Department of Community Services

DEPARTMENT OF COMMUNITY SERVICES
CITY AND COUNTY OF HONOLULU

715 SOUTH KING STREET, SUITE 311 • HONOLULU, HAWAII 96813
TELEPHONE: (808) 527-5311 • FAX: (808) 527-5498 • INTERNET: www.co.honolulu.hi.us



JEREMY HARRIS
MAYOR

MICHAEL T. AMII
DIRECTOR

JOHN R. SABAS
DEPUTY DIRECTOR

October 5, 2001

Mr. Randall K. Fujiki, AIA
Director
Department of Planning and Permitting
City and County of Honolulu
650 South King Street
Honolulu, HI 96813

Dear Mr. Fujiki:

Subject: Draft Environmental Assessment for the Proposed Friendship
Community Services Varona Village Project

We have reviewed your letter dated August 15, 2001, regarding the Draft Environmental Assessment (DEA) for the proposed Friendship Community Services Varona Village Project and offer the following responses:

Ewa Development Plan - The Final EA will include a discussion of how the project is consistent with Sections 3.6.1.1 and 3.6.1.3 of the Ewa Development Plan Guidelines.

Land Use Approvals - We appreciate the information provided on the approvals and permits required. The Final EA will incorporate this information and will include an estimated timetable of development.

Ewa Villages Historic District - The relationship of the project to the Ewa Villages Historic District will be included in the Final EA.

Wastewater Disposal - The Final EA will address the impacts of noise and odor from the Honouliuli Wastewater Treatment Plant. A copy of the Draft EA was transmitted to the City's Department of Environmental Services for their review and comment.

Mr. Randall K. Fujiki, AIA
October 5, 2001
Page 2

Civil Engineering - A drainage report will be submitted when the applications for construction and grading permits are submitted.

Overall - The information that was requested on parcels, existing dwellings and existing tenants will be included in the Final EA.

Thank you for participating in the environmental review process. If you have any other questions or comments, please do not hesitate to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael T. Amii", with a long horizontal line extending to the right and ending in an arrowhead.

MICHAEL T. AMII
Director

MTA:dk

cc: Office of Environmental Quality Control
Friendship Community Services
PBR HAWAII ✓

POLICE DEPARTMENT
CITY AND COUNTY OF HONOLULU

801 SOUTH BERETANIA STREET
HONOLULU, HAWAII 96813 - AREA CODE (808) 529-3111
<http://www.honoluluupd.org>
www.co.honolulu.hi.us

JUL 31 2001

JEREMY HARRIS
MAYOR



LEE D. DONOHUE
CHIEF

MICHAEL CARVALHO
ROBERT AU
DEPUTY CHIEFS

OUR REFERENCE CS-KP

July 26, 2001

TO: RANDALL K. FUJIKI, AIA, DIRECTOR
DEPARTMENT OF PLANNING AND PERMITTING

FROM: LEE D. DONOHUE, CHIEF OF POLICE
HONOLULU POLICE DEPARTMENT

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT
FRIENDSHIP COMMUNITY SERVICES, VARONA VILLAGE PROJECT
TMKs: 9-1-017:069 (POR)

Thank you for the opportunity to review and comment on the subject project.

We have no objection to this project. It should have minimal impact on the services and facilities of the Honolulu Police Department.

If there are any questions, please call Ms. Carol Sodevani of the Support Services Bureau at 529-3658.

LEE D. DONOHUE
Chief of Police

By *Eugene Uemura*
EUGENE UEMURA
Assistant Chief of Police
Support Services Bureau

cc: OEQC
Mr. Vincent Shigekuni, PBR Hawaii ✓

Serving and Protecting with Aloha

July 8, 2001

Dear Participant:

Attached for your review is a Draft Environmental Assessment (EA) which was prepared pursuant to the EIS Law (Hawaii Revised Statutes, Chapter 343) and the EIS rules (Administrative Rules, Title 11, Chapter 200).

Title of Project: Friendship Community Services, Varona Village Project

Location: Island: Oahu District: Ewa

Tax Map Keys: 9-1-017: 069 (por)

Agency Action: X **Applicant Action:** _____

Your comments must be received or postmarked by August 7, 2001.

Please address your comments to:

Agency/Approving Agency: Department of Planning and Permitting
City and County of Honolulu
650 South King St.
Honolulu, Hawaii 96813

Contact: Mr. Randall Fujiki Phone: 523-4817

Copies of your comments should also be sent to the following:

Office of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, Hawaii 96813

Consultant: PBR Hawaii
Pacific Tower, Suite 650
1001 Bishop Street
Honolulu, Hawaii 96813

Contact: Mr. Vincent Shigekuni Phone: 521-5631

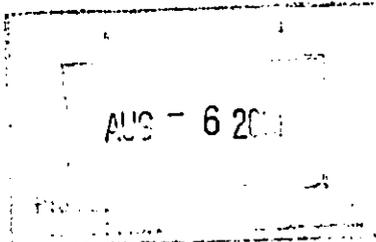
Thank you for participating in the environmental assessment review process.

DEPARTMENT OF COMMUNITY SERVICES
CITY AND COUNTY OF HONOLULU
715 SOUTH KING STREET, SUITE 311 ● HONOLULU, HAWAII 96813 ● AREA CODE 808 ● PHONE: 527-5311 ● FAX: 527-5498
www.co.honolulu.hi.us

JEREMY HARRIS
MAYOR



August 1, 2001



MICHAEL T. AMII
DIRECTOR

JOHN R. SABAS
DEPUTY DIRECTOR

MEMORANDUM

TO: LEE D. DONOHUE, CHIEF OF POLICE
HONOLULU POLICE DEPARTMENT

FROM: MICHAEL T. AMII, DIRECTOR

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT
FRIENDSHIP COMMUNITY SERVICES VARONA VILLAGE
PROJECT

We have reviewed your memorandum dated July 26, 2001 regarding the Draft Environmental Assessment (DEA) for the proposed Friendship Community Services Varona Village Project. We acknowledge that you have no comments

Thank you for participating in the environmental review process. If you have any other questions or comments, please call Avis Kamimura at x4435.

A handwritten signature in black ink, appearing to read "Michael T. Amii", with a long horizontal line extending to the right.

MICHAEL T. AMII
Director

MTA:dk

cc: Department of Planning and Permitting
Office of Environmental Quality Control
Friendship Community Services
PBR Hawaii \$

BIA-HAWAII

BUILDING INDUSTRY ASSOCIATION

2001 Officers

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Randall Lau
Designer Built Systems

President-Elect
Craig Watase
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Fred Moore
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Financial Architects of HI, Inc.

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Hawaii, Inc.

Tom Ziemer
Bank of Hawaii

August 2, 2001

Michael T. Amii, Director
Department of Community Services
City and County of Honolulu
Attention Randy Wong
715 S. King Street Suite 311
Honolulu Hawaii 96813

Facsimile 527-5498

Dear Mr. Amii:

Subject: Comments on Draft Environmental Assessment Friendship Community Services Varona Village Project

My name is Craig Watase, Building Industry Association of Hawaii Government Affairs Committee Chair, and I would like to take this opportunity to offer my comments on the Draft Environmental Assessment Friendship Community Services Varona Village Project.

The Building Industry Association of Hawaii (BIA), one of Hawaii's largest trade associations, serves about 500 member companies, employing approximately 15,000 people. Its membership includes general contractors, specialty contractors, developers, suppliers, realtors, architects, financial institutions, attorneys and numerous other businesses, all related to the building industry.

The Varona Village Project would provide for redevelopment of the Varona Village area in Ewa Villages by Friendship Community Services.

Although the project would bring improvement to an area that has great need for renewal, we do have questions and concerns about some aspects of the proposal, particularly about the use of Community Development Block Grant (CDBG) funds.

1. What is the cost of the "first parcel" that is being fully funded by CDBG monies?
2. Was an appraisal done on the property being sold? If so, what is the appraised value and is the report available for review?
3. Site work is estimated at \$2.2 million. How will this cost be paid?
4. What is the estimated cost of construction for structures being renovated and built? How will this cost be financed?
5. What will be the tuition or fees charged for day care?

1727 Dillingham Boulevard, Honolulu, Hawaii 96818
Telephone (808) 847-4686 Fax (808) 842-0129 E-mail: bia@bia-hawaii.com
www.bia-hawaii.com

Comments on Draft Environmental Assessment
August 2, 2001
Page 2

6. Will the day care give preference to families of low and moderate income? Is it affordable to such low/mod income families?
7. The statement that recreational facilities and play courts will be available for public use after school hours seems to indicate that those facilities and courts are being developed for use by the church and school exclusively during those hours of operation. With the status of the operation as a religious organization and the inclusion of the facilities in the first parcel, this might raise concerns about violation of the provision that "no proselytizing may occur on that parcel." Should the courts and other facilities reserved for the school be part of the privately funded second parcel?
8. How many direct construction jobs will be created? (4.2.8.1)
9. The primary objective of the Housing and Community Development Act is "the development of viable urban communities, by providing decent housing and a suitable living environment and expanding economic opportunities, principally for persons of low and moderate income." Could the applicant please provide a more detailed description of the job training, infant and elder care services (regarding elderly and job training) and how will they be delivered? What is the demand for such services? How and why are other agencies such as HCAP not meeting those needs or is there a duplication in services? How much will it cost to operate and how will those operating costs be paid (is it viable)?
10. Will the park and other facilities proposed for public use be insured and maintained privately?
11. The draft EA 5.4 indicates that there will be new property tax revenues to offset cost of government services. It seems like the form of ownership and use of this property may cause it to be exempt from property taxes. Was this considered under 5.4?
12. This is a good idea for the use of the land, but we do have concerns about whether this is the most efficient and effective use of CDBG monies and need more of the project's financial details to determine this. Does this large amount of CDBG money need to be spent to deliver such services? Also, were other agencies such as HCAP/Headstart offered the opportunity to bid on the purchase of this property?

The Building Industry Association of Hawaii urges further action to address the concerns before the project proceed further. Thank you for this opportunity to offer our comments.

Sincerely,

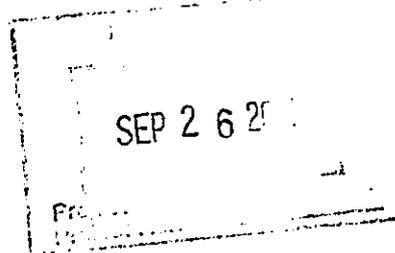


Craig Watase
Chair
Government Affairs

DEPARTMENT OF COMMUNITY SERVICES
CITY AND COUNTY OF HONOLULU

715 SOUTH KING STREET, SUITE 311 • HONOLULU, HAWAII 96813
TELEPHONE: (808) 527-5311 • FAX: (808) 527-5498 • INTERNET: www.cc.honolulu.hi.us

JEREMY HARRIS
MAYOR



MICHAEL T. AMI
DIRECTOR

JOHN R. SABAS
DEPUTY DIRECTOR

September 24, 2001

Mr. Craig Watase, Chair
Government Affairs
Building Industry Association
1727 Dillingham Boulevard
Honolulu, Hawaii 96819

Dear Mr. Watase:

Subject: Draft Environmental Assessment for Friendship Community Services
Varona Village Project

Thank you for your letter dated August 2, 2001 transmitting comments to the draft environmental assessment for the Friendship Community Services Varona Village project. The following are responses to your questions which are reiterated below:

1. What is the cost of the "first parcel" that is being fully funded by CDBG monies?
 - The cost of the parcel that is to be funded with Community Development Block Grant (CDBG) monies is approximately \$2,800,000.
2. Was an appraisal done on the property being sold? If so, what is the appraised value and is the report available for review?
 - An appraisal is currently being completed on the property. A copy will be available for review when a request is received in writing however, copies will not be disseminated.
3. Site work is estimated at \$2.2 million. How will this cost be paid?
 - The site work will be funded privately by Friendship Community Services (FCS). The nonprofit is engaging in a capital fundraising campaign to seek contributions and is exploring other avenues of financing.

4. What is the estimated cost of construction for structures being renovated and built? How will this cost be financed?
 - Planning and engineering has commenced but has not proceeded to a level of detail that can identify any costs for renovation or new construction at this time. Again, the costs will be financed privately by FCS.
5. What will be the tuition or fees charged for day care?
 - The tuition/fees will be similar to the current rate of \$322.67 per month. This is an approximation and may be adjusted when the facilities are operational.
6. Will day care give preference to families of low and moderate-income? Is it affordable to such low/mod income families?
 - Preference will be given to families of low and moderate-income and the tuition will be affordable for these families.
7. Should the courts and other facilities reserved for the school be part of the privately funded second parcel?
 - In the same way that public schools in the State Department of Education are available for community use after school hours, the FCS facilities will be open to the public after the normal hours of operation. FCS is fully aware of the non-proselytizing restriction on the use of federal funds and does not intend to engage in such action on the parcel purchased with CDBG monies. Facilities on the federally funded parcel will be open for use to the public.
8. How many direct construction jobs will be created? (4.2.8.1)
 - While the exact number of direct construction jobs is unknown, the commonly used methodology is to multiply 8.0 jobs for every million dollars spent in construction. In 1996, SMS prepared an economic impact assessment for another project near Varona Village and used the same methodology to estimate the employment generated during construction. SMS cited the Bank of Hawaii as the source for this methodology. At this time, FCS has not completed enough design studies to estimate the cost of construction (and thus we cannot estimate the number of direct construction jobs that would be created).
9. (1) Could the applicant please provide a more detailed description of the job

training, infant and elder care programs? (2) Will these programs be limited to use by low/mod income persons? What specific services (regarding elderly and job training) and how will they be delivered? (3) What is the demand for such services? How and why are other agencies such as HCAP not meeting those needs or is there a duplication in services? (4) How much will it cost to operate and how will those operating costs be paid (is it viable)?

- (1) At the present time, FCS is not able to provide you with a more detailed description of the job training, infant and elder care programs. If you would like to speak with Pastor Dave Parker of Friendship Bible Church, he would be glad to share what has been envisioned. He can be reached at 687-3638. (2) The target population for these programs is low and moderate-income persons. Specific services for the elderly include respite and day care programs while job training services will be provided to those individuals who are unemployed and who are at risk with social and/or other problems that might deter employment. Services will be delivered through a partnership with nonprofit service providers. (3) Presently, FCS does not possess any demographic data for elderly or job training programs but sees a need for them in the Ewa Villages community. Similar programs may be located at the closest proximity in Waipahu. With the development of the immediate Ewa Villages community and the continued growth in neighboring areas, services provided by FCS have expanded in response to the increased need. (4) The tuitions and fees charged for services will be used to operate the facilities and programs. The project will also receive a subsidy from the Friendship Bible Church.

10. Will the park and other facilities proposed for public use be insured and maintained privately?

- FCS will insure and maintain these park areas.

11. It seems like the form of ownership and use of this property may cause it to be exempt from property taxes. Was this considered under 5.4?

- Property tax revenues from this project will be minimal.

12. (1) Does this large amount of CDBG money need to be spent to deliver such services? (2) Also, were other agencies such as HCAP/Headstart offered the opportunity to bid on the purchase of this property?

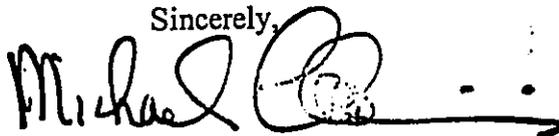
- The amount of CDBG funds to be expended for the acquisition of the

Mr. Craig Watase
September 24, 2001
Page 4

land for this project is a small portion of the investment of private funding that will be required to build the facilities and maintain the programs in the future. CDBG funds used for the purchase will not exceed the appraised value of the land. (2) FCS submitted a proposal to the City for the use of the land in the manner contemplated. Due to the historic nature of the property and the requirement to maintain the existing buildings through renovation, the project is a difficult and complex undertaking. FCS was willing to abide by the parameters of the property. The sale of the land must be authorized by the City Council. Without this approval, the transaction cannot be completed.

If you have any questions, please call Avis Kamimura at 523-4437.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael T. Amii", with a long horizontal line extending to the right.

MICHAEL T. AMII
Director

MTA:dk

cc: Vince Shigekuni, PBR Hawai'i
Dave Parker, Friendship Community Services

**Varona Camp Community Improvement Association
91-1024 Manakuke Street
Ewa, Hawaii 96706**

AUG - 7 2001
Proc
Per

August 3, 2001

Mr. Michael Amii
City and County of Honolulu
Department of Community Services
715 S. King Street, Suite 311
Honolulu, Hawaii 96813

Avis Kamimura
City and County of Honolulu
Department of Planning and Permitting
650 South King Street
Honolulu, Hawaii 96813

Genevieve Salmonson
Office of Environmental Quality Control
235 S. Beretania Street, Suite 702
Honolulu, Hawaii 96813

Vincent Shigekuni
PBR Hawaii
1001 Bishop Street
Pacific Tower, Suite 650
Honolulu, Hawaii 96813

Mr. Amii, Avis Kamimura, Genevieve Salmonson and Vincent Shigekuni:

We are members of the Varona Camp Community Improvement Association. Our membership is comprised of residents and friends of the Varona Village in Ewa. We feel it necessary to comment on the Draft Environmental Assessment for the Friendship Community Services Varona Village Project as it directly impacts the historical and cultural resources we reside in.

Initially, the residents of Varona were informed through the Final Environmental Impact Statement for the Ewa Villages Master Plan dated February 1991, Section 2.2.1.3 that, "Redevelopment of Varona Village will take place after the redevelopment of Tenney and Renton Villages at which time a separate EIS will be prepared." To date, no proposed plans to ensure the preservation of this designated Historical Preservation Site is being considered.

The Draft EA does not follow the recommended protocol as provided in the State of Hawaii OEQC Guidelines for Assessing Impacts, Section II, Chapter 343, HRS. In fact, the proposing agency did not conduct any community meetings where the residents of the village were free to provide input on the proposed development. Nor did the proposing agency attempt to secure pertinent information about the Varona Village and its unique beginnings which is in direct conflict to NHPA, Section 1 (16 U.S.C.470) (b) (1) through (6). From a historic sense and as part of the over 100 year-old Historical Preservation District, it is important to note that Varona Village was a huge undertaking for the Sugar Company. It was the first and last time that the Company would ever utilize their own carpenters, plumbers and electricians, to build homes for their employees. Every other village was built by contractors. See attachment (1).

Additionally, because Varona Village is part of the Historical Preservation District and CDBG Federal funds are associated with the project, an Environmental Impact Statement should be a minimum requirement to ensure all issues relating to historic preservation have been fully identified, evaluated and documented. This federal involvement automatically triggers the applicability of Section 106 of the National Historic Preservation Act, 16 U.S.C. Section 4321 et seq, 24CFR58.40 and other federal laws. The Section 106 and NEPA processes would identify fully the impact of the project on the Ewa Community. The draft EA contains information that benefits the Friendship Community Services versus the impact to the villagers.

On July 10, 2001 an informative meeting was held at the Ewa Elementary School Cafeteria. Friendship Bible Church a.k.a. non-profit organization, Friendship Community Services (FSC), and its members along with the City and County (C&C) Representatives were present to provide information on the proposed project after the completion of the Draft Environmental Assessment with the comment period still open. The C&C Reps along with Mr. Parker, immediately relayed to the audience that this project was being proposed. No discussions on the pros and cons or the impact to this village took place. In fact, there was no attempt to gather information from the residents on their concerns leading the villagers to believe that no matter what was said, no one would listen.

Moreover, actions in Varona Village to clear the proposed project area have already begun. Residents of Varona complained of the dust and noise problems but were told that "time" was of the essence and actions needed to take place immediately. In the presence of the C&C's representatives, Mr. Parker explained that funds for the project had not been dedicated as yet and that the EA was not approved, however, he needed to quickly get things done, i.e., getting free truck loads of dirt and filling the area with it while creating a dust bowl. No dust screens were erected to protect the residents' homes or property. Mr. Parker was also allowed the use of water from C&C fire hydrants for these actions. Additionally, two roads into the area have been blocked off without any notice to the residents. Without the benefit of a completed and accepted EA, these actions constitute non-compliance to HRS 343, NHPA, NEPA, Section 106 and 24CFR58.40.

In section 3.1.4, State Recreational Function Plan, the project proposes to develop recreational amenities that will be open to the general public after school hours. Further, it states the public will be involved with the planning, development and operation of recreational facilities and programs through the environmental review process. **This has never happened as far as the impacted community of Varona is concerned!** This false statement constitutes non-compliance to HRS 343, NHPA, NEPA, Section 106 and 24CFR58.40. Further, how can the recreational amenities be community oriented if it is open only during after school hours. The recreational amenities will primarily serve a religious program, not the community with federal funds.

Section 3.2.1, City and County of Honolulu General Plan, it states that the City proposes to install drainage structures for the project area to manage on-site and off-site runoff. Pursuant to the NHPA (16 U.S.C. 470), the City as landowner of the Historic Preservation District, Varona Village, is responsible to plan and execute federally assisted projects to ensure the preservation of a significant historic site. There is no mention of installing drainage structures within the Varona Village site, only to the FCS project. This is not in keeping with the intent of the NHPA. Preservation goals and objectives to preserve and upgrade utilities necessary for the continued existence of Varona Village are nil. It seems that the C&C is purposely allowing the deterioration of the village by sheer neglect and non-maintenance. In the ACHP 106, Archive of Prominent Section 106 Cases: April 1999, the report states:

“In addition, the Council requested that the city examine possible cost-saving measures for making infrastructure improvements in Varona that would allow for adequate facilities while reducing costs to a minimum. The Council suggested that the city formulate a proposal to amend the 1995 MOA for the revitalization of Ewa Villages and is awaiting a response from the City. And,

“While limited RDA (Rural Development Administration) funds continue to be used in the project, the majority of Federal assistance now comes from Community Development Block Grant (CDBG) funds, thus making the City the delegated “Federal agency” for Section 106 purposes. This raises interesting issues regarding management of historic properties. The use of CDBG dollars to purchase or demolish city-owned historic properties results in expectations regarding planning for such structures that are similar to those for property-managing Federal agencies. However, local political and economic realities mean that such planning is often played out in a very different context.”

Therefore, the City should be concentrating on the development and rehabilitation of Varona Village versus a project proposal by the FCS.

In section 3.2.2, City and County Honolulu Development Plan, in discussion following Principle 4 it states, “The Project will be an expansion of church and school. It will offer new programs that include community services not currently provided in the area. Recreational facilities and play courts will be available for public use after school hours.” Religious activities take place in a private-religious-affiliated church and school. Again, this is not in concert with HRS 343, NHPA and 24CFR.

Section 4.2.7, Visual Resources. The EA continually refers to the historic property as abandoned and rundown. That is not the fault of the residents, the City as landowner has neglected the property. The FSC proposed project will have a direct visual impact on Varona Village. It will encompass the area that is part of the original village and future plans indicate that the historic site will be surrounded entirely by this project. Varona Village will be hidden from the outside community and will not be fully appreciated for its cultural and historic values. The FSC project will overshadow this significant site.

The isolation of all the villages within the historic preservation district was in direct consequence to the separation of immigrants and the preservation of prime sugar lands. Most of the villages except for Tenney were completely surrounded by sugar cane fields but definitely retained an open landscape. In accordance with the Secretary of the Interior's Standards for Rehabilitation it states:

Standard 1: A property shall be used for its historic purpose or be placed in a new use that requires minimal change to the defining characteristics of the building and its site and environment.

Standard 2: The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.

Standard 6: Deteriorated historic features shall be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature shall match the old in design, color, texture, and other visual qualities and, where possible, materials. Replacement of missing features shall be substantiated by documentary, physical or pictorial evidence.

Standard 9: New additions, exterior alteration, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.

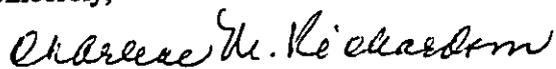
The FSC project encroaches on what was the original village site and will definitely change the character of the historic district. The project area will be perimeter fenced and will impact on the once "open" environment. The village will decrease in original size and lose three public access roads which will be dedicated to this project. What was once an open landscape will be gated and open only after religious school hours at the convenience of FSC. This is not in keeping with the NHPA, NEPA and 24CFR.

The community of Varona Village is disappointed to find that the proposed project will essentially destroy the historical significance of Varona, the way of life and the open environment that was afforded to us as employees of the Sugar Company. The EA is incomplete because the impacted community has never been invited to provide historic or cultural inputs and the impacts to this community have not been fully explored. We see

the project's underlying theme as an opportunity to expand church and school by the acquisition of lands. Mr. Parker of the FSC once said, "I'm going to go ahead with my project and if my project is not approved, I'm moving my church out of here, livestock and barrel." And added, "the City will not listen or budge for anyone associated with the Old Ewa Villages Community Association, it will hold its heels in the sand. You need to consider changing your name." (The OEVCA is comprised of members from all villages in the Ewa area, many of whom are also members of the Varona Camp Improvement Association).

Finally, this EA does not fulfill all of the requirements of HRS 343, NHPA, NEPA and 24CFR especially when federal CDBG funds are involved. We feel that a full blown Environmental Impact Statement is necessary for this project because significant impacts are downplayed in this document.

Sincerely,



Charlene M. Richardson
Advisor for the Varona Camp Community Improvement Association

Attachment (1)

Copy to:

HUD

ACHP

SHPD

WE, THE UNDERSIGNED, AS RESIDENTS AND FRIENDS OF VARONA VILLAGE SUPPORT AND AGREE WITH THE COMMENTS TO THE DRAFT ENVIRONMENTAL ASSESSMENT FOR THE FRIENDSHIP COMMUNITY SERVICES VARONA VILLAGES PROJECT AS PROVIDED IN THE LETTER FROM THE VARONA CAMP COMMUNITY IMPROVEMENT ASSOCIATION.

Crescencia R. Malate	Crescencia R. Malate
Priscilla Lucena	Priscilla Lucena
SANTIAGO BLUE	Santiago Blue
SEGUNDINO CORPUZ	Segundino Corpuz
AVELINA D. CORPUZ	Avelina D. Corpuz
FIDILINO SUNIGA	Fidilino Suniga
DEMETRIA S. BAKALA	Demetria S. Bakala
Abelardo N. Bakala	Abelardo Bakala
Rosita Cadez	Rosita P. Cadez
Lustriano Batalan	Lustriano Batalan
Eusebia Batalan	Eusebia Batalan
MACARIO TAPAOAN	Macario Tapaoan
LUZENA TAPAOAN	Luzena Tapaoan
Phillip A. Calamcan	PHILLIP A. CALAMCAN
PEDRO D. PEREZ SA.	Pedro D. Perez SA.
ISABEL SANIATAN	Isabel Saniatan
Arsenio Duldulgo	Arsenio M. Duldulgo
Braulio Selga	Braulio Selga
Simon Discapel	Simon Discapel
Benito Lize	Benito Lize
MARIA PASOHA	Maria Pasoha
MONA M. HICKS	Mona M. Hicks
SION ESQUIBIL	Sion Esquibel
ALBERTO V. PITA	Alberto V. Pita
Alberto V. Pita	Alberto V. Pita

**WE, THE UNDERSIGNED, AS RESIDENTS AND FRIENDS OF
VARONA VILLAGE SUPPORT AND AGREE WITH THE
COMMENTS TO THE DRAFT ENVIRONMENTAL ASSESSMENT
FOR THE FRIENDSHIP COMMUNITY SERVICES VARONA
VILLAGES PROJECT AS PROVIDED IN THE LETTER FROM
THE VARONA CAMP COMMUNITY IMPROVEMENT
ASSOCIATION.**

Michael K Esquivel	<i>Michael K Esquivel</i>
JOHN BAYUT	<i>John Bayut</i>
BEN MALTE	<i>Ben Malte</i>
Maribel Palabay	<i>Maribel B. Palabay</i>
Jay Palabay	<i>Jay Palabay</i>
MR & MRS RUBEN ACOSTA	<i>Ruben B. Acosta</i>
MR. & MRS. BERNARD UNGOS	
Mr. & Mrs. Simon Perual	
Juliet Perual	
Ric B. Batalon	<i>Ric B. Batalon</i>
AIDA B. BALES	<i>Aida B Bales</i>
Faustino SOMERA	<i>Faustino Somera</i>
Edwanda Armea	<i>Edwanda Somera</i>
JENNETTE SOMERA	<i>Jennette Somera</i>
Maria Ramos	<i>Maria Ramos</i>
DAVID RAMOS	<i>David Ramos</i>
THESE DULDULAO	<i>These Duldulao</i>
ARTHELIE DEBEBAR	<i>Arthelie Debebar</i>
THELMA DULDULAO	<i>Thelma Duldulao</i>
ARSENIO DULDULAO	<i>Arsenio M. Duldulao</i>
MARCIANA VILORIA	<i>Marciana Viloria</i>
JENDLYN DENINGO	<i>Jendlyn Deningo</i>
CHRISTOPHER VILORIA	<i>Christopher Viloria</i>
GERALD DENINGO	<i>Gerald Deningo</i>
JOE VILORIA	<i>Jose Viloria</i>
JUAN VILORIA	<i>Juan Viloria</i>
GLORIA VILORIA	<i>Gloria D. Viloria</i>
CELIA VILORIA	<i>Celia Viloria</i>

"Varona Village" a.k.a. "Banana Camp"
(As told by Segundino Corpuz Sr.)

Philippine Commissioner Varona coordinated the recruitment of young Filipino immigrants to provide labor for the Ewa Sugar Plantation Company. The Philippine Government was ensured that the Sugar company would provide suitable living quarters for all of the immigrants. The young, mostly single men signed 3-year contracts and were promised a free trip home after successfully fulfilling their commitments under what was known as the "Varona Agreement". (Mr. Corpuz returned to visit his homeland under the Varona Agreement through the HSPA.)

When the men arrived in Hawaii, they were shuffled to specific areas to live and learned that the plantation separated the immigrants by nationality. The reasons for such actions were not particularly clear to them but, they were in no position to request explanations. They were prepared to work hard and looked forward in earning more money than they would expect to earn in the Philippines.

Originally, the eight different camps had no street names only house numbers. "Banana Camp" started at what is today, Paalua Street and ended at Kini Street (for ease of definition, locations are as outlined in Figure 11, Existing Property Status Map, Draft Environmental Assessment, Friendship Community Services Varona Village Project). The homes along Paalua Street through Leialoalo Street housed Japanese immigrants and, were well built in comparison to the homes located beyond Leialoalo Street. These inferior built homes were constructed of 1 X 12 lumber and were not maintained on a regular basis. Leialoalo Street represented the line of separation between the nationalities, in this case, Japanese and Filipino. The rest of the homes that existed along Renton Road and Manakuke Street were specifically reserved for the Filipino immigrant. In 1946 Koahi Street was part of the cultivated sugar cane lands.

The assigned quarters for the Filipino immigrant were severely infested with termites. So much so that the floors were completely covered with manila paper to cover the deteriorated and eaten lumber. Having no bachelor quarters, three men were assigned to a home. By 1946, the toilet facilities were akin to the "hale luas" that are used today. Prior to that, open flumes were constructed and water was used to push the debris out of the flumes into a catch area. The "hale luas" were emptied out by buckets and dumped into a designated area in the ground located within a field that no one questioned where it went. Possibly filtering through coral with the final destination into the ocean. Community baths were the state of the art at that time.

In the mid 1940's, Commissioner Varona journeyed to Hawaii to evaluate the living condition of his recruits. After a cursory inspection of the houses, a meeting took place at the Filipino Club House which was located along Manakuke Street, lot # 1058. The present Manager, Mr. Orrick arrived and Commissioner Varona refused to shake hands. Instead, he kicked the wall and said, "My countrymen are not pigs! You must build houses for my people!"

Attachment (1)

At the same time, the union element was entering into the scene. In 1952, construction of new houses to replace those along Renton Road and Manakuke Street commenced. Part of the cultivated sugar cane fields was dedicated and Koahi Street was born. Lots #1046 & #1050 became the "model homes". But, the union rejected both arguing that they were too small for a family. Ultimately, a larger home was agreed upon and all of the other single family units now were uniform in size except for one duplex unit on Manakuke Street. Most importantly, however, the union insisted that all of the construction be completed by the sugar company's carpenters, plumbers and electricians. By 1954 all 55 homes were complete and the camp was renamed, "Varona Village" in honor of Commissioner Varona who had made demands to the Company and stood up for his countrymen. Varona Village stands as the only area that was built by the plantation workers themselves. All other villages and camps were built by contractors.

Varona Village is typical of what the original villages looked like. Except for Tenney and Fernandez Villages, the normal villages or camps were comprised of a small aggregate of homes numbering no more than 50 or so. All the homes had an open and spacious environment. No perimeter fencing was erected around any of the villages and clothes lines were found in every yard as clothes dryers were considered a luxury and unnecessary.

Each village had back roads (driveways) where individual garages were provided. Since landfills were obsolete and garbage pickup nil, the pig farmers traveled the back roads to pick up all leftover food that was accumulated in buckets or drums. Normal rubbish and debris were brought to dumpsters positioned along the back road and much of the "green waste" was disposed of through individual open burning.

Each household cultivated its own fruits and vegetables and shared with each other their harvests in exchange for what was not grown in their yards. Neighbors worked together and participated in unison for all community based activities. The villagers also maintained a "watchful eye" on all of the children in the community. It was truly a village that existed because of each other.

2

Attachment (1)

DEPARTMENT OF COMMUNITY SERVICES
CITY AND COUNTY OF HONOLULU

715 SOUTH KING STREET, SUITE 311 • HONOLULU, HAWAII 96813
TELEPHONE: (808) 527-5311 • FAX: (808) 527-5498 • INTERNET: www.co.honolulu.hi.us



JEREMY HARRIS
MAYOR

MICHAEL T. AMII
DIRECTOR

JOHN R. SABAS
DEPUTY DIRECTOR

October 8, 2001

Ms. Charlene M. Richardson
Advisor for the Varona Camp Community Improvement Association
Varona Camp Community Improvement Association
91-1024 Manakuke Street
Ewa, Hawaii 96706

Dear Ms. Richardson:

Subject: Draft Environmental Assessment for the Proposed Friendship Community Services Varona Village Project

Thank you for your letter dated August 3, 2001, regarding the Draft Environmental Assessment (DEA) for the proposed Friendship Community Services (FCS) Varona Village Project. We have reviewed your letter and offer the following responses:

1. As we understand from your letter, you believe an Environmental Impact Statement (EIS) is required because Community Development Block Grant (CDBG) funds are being sought and because Varona Village is part of the Ewa Villages Historic District. Please note that there are many ways to comply with the National Environmental Policy Act (NEPA), and it does not appear that an EIS is warranted in this particular case. While compliance with Section 106 of the National Historic Preservation Act is required, the State Historic Preservation Division does not appear to share your concerns about the impact of the proposed project on the Ewa Villages Historic District.
2. We thank you for the information on the history of Varona Village that was attached to your letter. Please note that the information (along with your letter) will be reproduced as part of the Final Environmental Assessment.
3. We concur that FCS may have been overzealous in clearing some of the proposed project area and we have asked them to refrain from any activities (other than trash pick up, grassing or lawn maintenance) until the proper approvals are in place.
4. Comments on the planning, development and operation of the proposed recreational

Ms. Charlene M. Richardson
October 8, 2001
Page 2

facilities were accepted during the DEA public review period.

5. Many of your comments appear to be related to the fact that the redevelopment of Ewa Village does not include Varona Village at this time. As you are aware, the housing market and political climate changed significantly in recent years, which caused the City and County of Honolulu to reassess its role in providing housing directly. Unfortunately, this occurred before Varona Village was redeveloped.
6. Please be assured that describing Varona Village as "rundown" was not intended to place the blame on any particular individual. We do not believe that the FCS project will have the negative impact that you describe. On the contrary, what now appears to be a dilapidated area could be replaced with the appearance of an active, thriving village.

We appreciate your comments and concerns, and we welcome any proposals, from any party, that can secure funds that will actualize the improvement of Varona Village.

If you have any other questions or comments, please do not hesitate to call me.

Sincerely,


MICHAEL T. AMII
Director

MTA:dk

cc: Department of Planning and Permitting
Office of Environmental Quality Control
Friendship Community Services
PBR Hawaii

July 18, 2001

'01 JUL 20 PM 2 55



Verizon Hawaii Inc.
P.O. Box 2200
Honolulu, HI 96841

DEPT. OF PLANNING
& PERMITTING
CITY & COUNTY OF HONOLULU

Attention: Mr. Randall Fujiki
Department of Planning and Permitting
City & County of Honolulu
650 South King Street
Honolulu, Hawaii 96813

Dear Mr. Fujiki:

Subject: **FRIENDSHIP COMMUNITY SERVICES, VARONA VILLAGES PROJECT**

Thank you for the opportunity to review and comment on the preliminary environmental assessment for the Friendship Community Services, Varona Villages project.

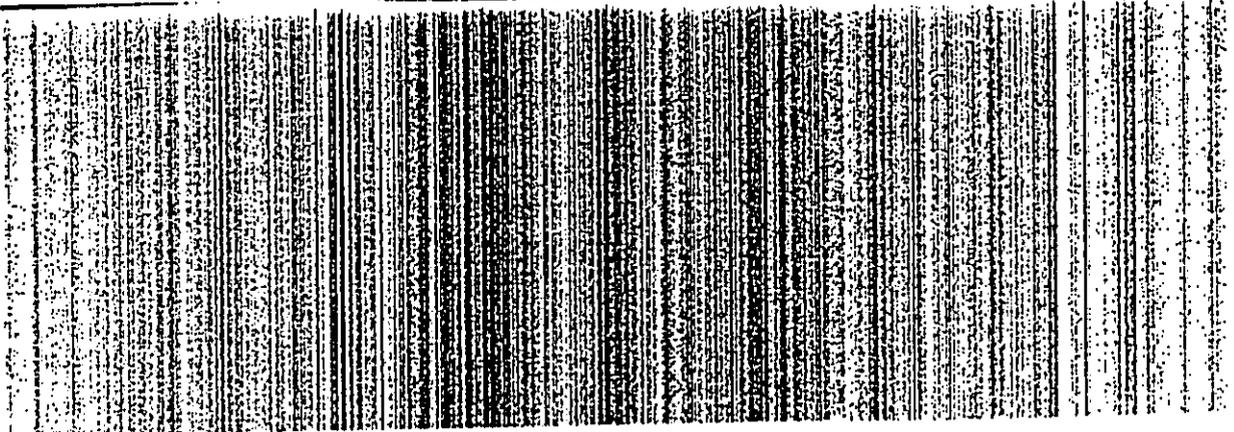
Verizon Hawaii does not foresee any problems in providing telecommunication services to the proposed project. Nor does Verizon Hawaii foresee any conflicts with the existing telecommunication facilities in the area. However, Verizon Hawaii requires further review during the design stages of the project.

If you have any questions or require assistance in the future on this project, please call Les Loo at 840-5861.

Sincerely,

Jill Z. Lee
Section Manager
Outside Plant Engineering

c: K. Ayano (HIA5)



DEPARTMENT OF COMMUNITY SERVICES
CITY AND COUNTY OF HONOLULU

715 SOUTH KING STREET, SUITE 311 • HONOLULU, HAWAII 96813
TELEPHONE: (808) 527-5311 • FAX: (808) 527-5498 • INTERNET: www.co.honolulu.hi.us



JEREMY HARRIS
MAYOR

MICHAEL T. AMII
DIRECTOR

JOHN R. SABAS
DEPUTY DIRECTOR

July 25, 2001

Ms. Jill Z. Lee, Section Manager
Outside Plant Engineering
Verizon Hawaii, Inc.
P.O. Box 2200
Honolulu, Hawaii 96841

Dear Ms. Lee:

Subject: Draft Environmental Assessment for the Proposed
Friendship Community Services Varona Village Project

We have reviewed your letter dated July 18, 2001, regarding the Draft Environmental Assessment (DEA) for the proposed Friendship Community Services Varona Village Project. We thank you for your review and comments and offer the following responses:

1. We acknowledge that Verizon Hawaii does not foresee any problem in providing telecommunications services to the proposed project. Nor are any conflicts foreseen with the existing telecommunication facilities in the area.
2. During the design stage of the project, Verizon Hawaii will be contacted for further review and comment.

If you have any other questions or comments, please do not hesitate to call me.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael T. Amii", with a long horizontal line extending to the right.

MICHAEL T. AMII
Director

MTA:dk

cc: Department of Planning and Permitting
Office of Environment Quality Control
Friendship Community Services
PBR Hawaii

Appendix A - CZM Determination



DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM

BENJAMIN J. CAYETANO
GOVERNOR
SEIJI F. NAYA, Ph.D.
DIRECTOR
SHARON S. HARIMATSU
DEPUTY DIRECTOR
DAVID W. BLANE
DIRECTOR, OFFICE OF PLANNING

OFFICE OF PLANNING

235 South Beretania Street, 6th Floor, Honolulu, Hawaii 96813
Mailing Address: P.O. Box 2359, Honolulu, Hawaii 96804

Telephone: (808) 587-2845
Fax: (808) 587-2824

Ref. No. P-9197

September 7, 2001

Mr. Michael T. Amii, Director
Department of Community Services
City and County of Honolulu
715 South King Street, Suite 311
Honolulu, Hawaii 96813

Post-It® Fax Note	7671	Date	9/1/7	# of pages	1
To	Vinee	From	AVIS		
Co./Dept	PBR	Co.	DCS		
Phone #		Phone #			
Fax #	523-1402	Fax #			

Dear Mr. Amii:

Subject: Hawaii Coastal Zone Management (CZM) Program Review for Federal Assistance for the Friendship Community Services Project at Varona Village, Ewa, Oahu

The Hawaii CZM Program has reviewed the proposal to grant Community Development Block Grant federal funds to Friendship Community Services for (1) acquisition of 14 acres of land in the Ewa Villages area to develop a community center including a park, employment training facilities, and facilities for seniors and other community groups; and (2) acquisition of a one-acre parcel for the development of a 200-student day care facility with a playground area. We do not have objections to the proposed use of federal funds.

This CZM review is not an endorsement of the project nor does it convey approval with any other regulations administered by any State or County agency. Thank you for your cooperation in complying with Hawaii's CZM Program. If you have any questions, please call John Nakagawa of our CZM Program at 587-2878.

Sincerely,

David W. Blane for
David W. Blane, AICP
Director
Office of Planning

DEPT. OF COMMUNITY SERVICES

c: Dept of Planning and Permitting, City & County of Honolulu

RECEIVED

**Appendix B -
Air Quality**

**AIR QUALITY STUDY
FOR THE PROPOSED
VARONA VILLAGE PHASE II PROJECT**

OAHU, HAWAII

**Prepared for:
PBR HAWAII**

July 1996



B. D. NEAL & ASSOCIATES
Applied Meteorology • Air Quality • Computer Science
P.O. BOX 6234, OCEAN VIEW, HAWAII 96761-4234
TELEPHONE (808) 833-8117 • FAX (808) 833-7700

1.0 SUMMARY

The City and County of Honolulu is proposing to develop the last remaining area of its Ewa Villages project in the Ewa Plains area of Oahu. Referred to as the Varona Village Phase II Project, this development involves three areas totaling approximately sixty-one acres. A total of 519 single- and multi-family units are planned along with related community facilities. Development would occur over the next eight years with full occupancy by the year 2005. This study examines the potential short- and long-term air quality impacts that could occur as a result of construction and use of the proposed facilities. Mitigative measures to reduce any potential air quality impacts from the project are suggested where possible and appropriate.

Both federal and state standards have been established to maintain ambient air quality. At the present time, seven parameters are regulated including: particulate matter, sulfur dioxide, hydrogen sulfide, nitrogen dioxide, carbon monoxide, ozone and lead. Hawaii state air quality standards are more stringent than the comparable national limits except for the standards for sulfur dioxide, particulate matter and lead, which are set at the same levels.

Regional and local climate together with the amount and type of human activity generally dictate the air quality of a given location. The climate of the project area is very much affected by its leeward and only slightly inland situation. Winds are predominantly trade winds which are deviated somewhat from the northeast toward the east by the local terrain. During winter,

occasional storms may generate strong winds from the south (Kona winds) for brief periods. When the trade winds or Kona winds are weak or absent, landbreeze-seabreeze circulations may develop. Wind speeds typically vary between about 5 and 15 miles per hour providing relatively good ventilation much of the time. Temperatures in the leeward Oahu area are generally very moderate with average daily temperatures ranging from about 65°F to 85°F. Extreme temperatures range from about 50°F to about 95°F. Rainfall is relatively low with an average of about 21 inches per year.

The present air quality of the project area is relatively good and has probably improved recently with the discontinuation of sugar cane growing in the Ewa Plain area. Air quality data from the nearest monitoring stations operated by the State Department of Health suggest that all national air quality standards are currently being met, although occasional exceedances of the more stringent state standards for ozone and for carbon monoxide may occur.

If the proposed project is given the necessary approvals to proceed, it is inevitable that some short- and long-term impacts on air quality will unavoidably occur either directly or indirectly as a consequence of project construction and use. Short-term impacts from fugitive dust will likely occur during the project construction phase. To a lesser extent, exhaust emissions from stationary and mobile construction equipment and from workers' vehicles may also affect air quality during the period of construction. State air pollution control regulations require that there be no visible fugitive dust emissions at the property

line. Hence, an effective dust control plan should be implemented to ensure compliance with state regulations and to avoid complaints from residents and businesses adjacent to construction areas. Fugitive dust emissions can be controlled to a large extent by watering of active work areas, using wind screens, keeping adjacent paved roads clean, and by covering of open-bodied trucks. Other dust control measures could include limiting the area that can be disturbed at any given time and/or mulching or chemically stabilizing inactive areas that have been worked. Paving and landscaping of project areas early in the construction schedule will also reduce dust emissions. Monitoring of dust emissions along the project boundary could be considered to evaluate the effectiveness of dust control measures. Exhaust emissions from traffic disruption can be mitigated by moving construction equipment and workers to and from the project site during off-peak traffic hours.

After construction, vehicles coming to and from the proposed project will result in a long-term increase in air pollution emissions in the project area, particularly along Renton Road. To assess the impact of emissions from these vehicles, an air quality modeling study was undertaken to estimate current ambient concentrations of carbon monoxide at the intersection of Renton Road and Park Row and to predict future levels both with and without the proposed project at this and two other intersections in the project area. During worst-case conditions, model results indicated that present 1-hour carbon monoxide concentrations are within the state and national ambient air quality standards. Model results also indicated that presently the state and national 8-hour carbon monoxide standards are being met.

In the year 2005 without the project, worst-case 1-hour concentrations were predicted to increase at the intersection of Renton Road and Park Row to a level exceeding the state standard during the morning peak hour. The Renton Road at North-South Road intersection also produced predicted concentrations in excess of the state standard. Both locations, however, were predicted to remain within the less stringent national 1-hour standard. State and national 8-hour carbon monoxide standards were predicted to be exceeded at the Renton Road/North-South Road intersection while Renton Road at Park Row exceeded only the state standard.

With the project worst-case concentration levels within the project area would increase slightly or remain the same at the two Renton Road intersections studied. A third intersection, Area E Access Road at North-South Road, which exists only in the future with project case, was also predicted to exceed the state 1-hour standard. All three locations were found to produce predicted concentrations in excess of the state 8-hour standard and one intersection, Renton Road/North-South Road, exceeded the national 8-hour standard.

It should be noted here that, because the state standards are set at such stringent levels, it is likely that they are currently exceeded at many locations in the state that have even moderate traffic volumes. Although potential exceedance of the national 8-hour standard is also indicated either with or without the project at the Renton Road/North-South Road intersection, the projected 8-hour concentrations are probably less reliable than

the 1-hour estimates due to the prediction methodologies involved.

Options available to mitigate long-term, traffic-related air pollution are generally to further improve roadways, to reduce traffic or to reduce individual vehicular emissions. Based on the air quality modeling results, it may be appropriate to consider the feasibility of further improving some intersections in the project area, particularly the intersection of Renton Road and North-South Road. Aside from providing added roadway improvements, air pollution impacts from vehicular emissions could conceivably be additionally mitigated by reducing traffic volumes through the promotion of bus service and car pooling and/or by adjusting local school and business hours to begin and end during off-peak times. This mitigation measure, however, is generally considered only partially successful. Reduction of emissions from individual vehicles is generally beyond the control of any single development and would have to be achieved through the promulgation of county, state or federal air pollution control regulations. For example, Hawaii currently does not require annual inspections of motor vehicle air pollution control equipment. Although this has been proposed in past legislative sessions, there currently is no indication that the state is contemplating adopting such rules.

Another potential mitigation measure might be to provide added buffer zones between walkways and roadways where space is available. Technically, however, the public would have to somehow be excluded from the buffer zones. The predicted worst-case concentrations in this report are based on a separation distance of 3 m

(10 ft) between walkways and roadways. Doubling this distance to about 6 m (20 ft) would reduce maximum concentrations in some cases by about 10 to 15 percent.

Depending on the demand levels, long-term impacts on air quality are also possible due to indirect emissions associated with a development's electrical power and solid waste disposal requirements. Quantitative estimates of these potential impacts were not made, but based on the estimated demand levels and emission rates involved, any significant impacts are unlikely. Nevertheless, incorporating energy conservation design features and promoting conservation and recycling programs within the proposed development could serve to further reduce any associated impacts.

2.0 INTRODUCTION AND PROJECT DESCRIPTION

The City and County of Honolulu is proposing for development a residential project, referred to as the Varona Village Phase II Project. The development is to be in three distinct areas located north, west, and south of the existing Varona Village in the Ewa Plains area of the island of Oahu. As indicated in Figure 1, the proposed project site is located along both sides of Renton Road, south of the Ewa Villages Golf Course. The entire proposed development includes 61 acres of land, most of which will be used for a mixture of 519 single-family residences and townhomes. The project will also include community facilities. Development will conclude by the year 2005.

The purpose of this study was to evaluate the potential air quality impacts of the proposed project and recommend mitigative measures, if possible and appropriate, to reduce or eliminate any degradation of air quality in the area. Before examining the potential impacts of the proposed project, a discussion of ambient air quality standards is presented and background information concerning the regional and local climatology and the present air quality of the project area is provided.

3.0 AMBIENT AIR QUALITY STANDARDS

Ambient concentrations of air pollution are regulated by both national and state ambient air quality standards (AAQS). National AAQS are specified in Section 40, Part 50 of the Code of Federal Regulations (CFR), while State of Hawaii AAQS are defined in Chapter 11-59 of the Hawaii Administrative Rules. Table 1 summarizes both the national and the state AAQS that are specified in the cited documents. As indicated in the table, national and state AAQS have been established for particulate matter, sulfur dioxide, nitrogen dioxide, carbon monoxide, ozone and lead. The state has also set a standard for hydrogen sulfide. National AAQS are stated in terms of primary and secondary standards. National primary standards are designed to protect the public health with an "adequate margin of safety". National secondary standards, on the other hand, define levels of air quality necessary to protect the public welfare from "any known or anticipated adverse effects of a pollutant". Secondary public welfare impacts may include such effects as decreased visibility, diminished comfort levels, or other potential injury to the natural or man-made environment, e.g., soiling of materials, damage to vegetation or other economic damage. In contrast to

the national AAQS, Hawaii State AAQS are given in terms of a single standard that is designed "to protect public health and welfare and to prevent the significant deterioration of air quality".

Each of the regulated air pollutants has the potential to create or exacerbate some form of adverse health effect or to produce environmental degradation when present in sufficiently high concentration for prolonged periods of time. The AAQS specify a maximum allowable concentration for a given air pollutant for one or more averaging times to prevent harmful effects. Averaging times vary from one hour to one year depending on the pollutant and type of exposure necessary to cause adverse effects. In the case of the short-term (i.e., 1- to 24-hour) AAQS, both national and state standards allow one exceedance per year.

State of Hawaii AAQS are in some cases considerably more stringent than comparable national AAQS. In particular, the State of Hawaii 1-hour AAQS for carbon monoxide is four times more stringent than the comparable national limit, and the state 1-hour limit for ozone is more than two times as stringent as the federal standard.

Hawaii AAQS for sulfur dioxide were relaxed in 1986 to make the state standards essentially the same as the national limits. In 1993, the state also revised its particulate standards to follow those set by the federal government. It has been proposed in various forums that the state also relax its carbon monoxide

standards to the national levels, but at present there are no indications that such a change is being considered.

4.0 REGIONAL AND LOCAL CLIMATOLOGY

Regional and local climatology significantly affect the air quality of a given location. Wind, temperature, atmospheric turbulence, mixing height and rainfall all influence air quality. Although the climate of Hawaii is relatively moderate throughout most of the state, significant differences in these parameters may occur from one location to another. Most differences in regional and local climates within the state are caused by the mountainous topography.

Hawaii lies well within the belt of northeasterly trade winds generated by the semi-permanent Pacific high pressure cell to the north and east. On the island of Oahu, the Koolau and Waianae Mountain Ranges are oriented almost perpendicular to the trade winds, which accounts for much of the variation in the local climatology of the island. The site of the proposed project is located southwest of Pearl Harbor in the Ewa Plains area.

The nearest long-term wind data available for the project area are collected either at the Barbers Point Naval Air Station, located about 3 miles to the southwest, or at the Honolulu International Airport, located about 8 miles to the east. These data are probably representative of the project site. Wind frequency data given in Table 2 for Barbers Point show that the annual prevailing wind direction for this area of Oahu is east

northeast (the same as at Honolulu International Airport). On an annual basis, 38.1 percent of the time the wind is from this direction, and more than 80 percent of the time the wind is in the northeast quadrant. Winds from the south are infrequent occurring only a few days during the year and mostly in winter in association with Kona storms. Wind speeds average about 10 knots (12 mph) and mostly vary between about 5 and 15 knots (6 and 17 mph). Surface winds at the project site are likely similar to those recorded at Barbers Point.

Air pollution emissions from motor vehicles, the formation of photochemical smog and smoke plume rise all depend in part on air temperature. Colder temperatures tend to result in higher emissions of contaminants from automobiles but lower concentrations of photochemical smog and ground-level concentrations of air pollution from elevated plumes. In Hawaii, the annual and daily variation of temperature depend to a large degree on elevation above sea level, distance inland and exposure to the trade winds. Average temperatures at locations near sea level generally are warmer than those at higher elevations. Areas exposed to the trade winds tend to have the least temperature variation, while inland and leeward areas often have the most. Based on more than 50 years of data collected at the Ewa Plantation, average annual daily minimum and maximum temperatures in the project area are 65°F and 84°F, respectively [1]. The extreme minimum temperature on record is 47°F, and the extreme maximum is 93°F.

Small scale, random motions in the atmosphere (turbulence) cause air pollutants to be dispersed as a function of distance or time

from the point of emission. Turbulence is caused by both mechanical and thermal forces in the atmosphere. It is oftentimes measured and described in terms of Pasquill-Gifford stability class. Stability class 1 is the most turbulent and class 6 the least. Thus, air pollution dissipates the best during stability class 1 conditions and the worst when stability class 6 prevails. In the project area, stability class 5 or 6 is probably the highest stability class that occurs, developing during clear, calm nighttime or early morning hours when temperature inversions form due to radiational cooling. Stability classes 1 through 4 occur during the daytime, depending mainly on the amount of cloud cover and incoming solar radiation and the onset and extent of the sea breeze.

Mixing height is defined as the height above the surface through which relatively vigorous vertical mixing occurs. Low mixing heights can result in high ground-level air pollution concentrations because contaminants emitted from or near the surface can become trapped within the mixing layer. In Hawaii, minimum mixing heights tend to be high because of mechanical mixing caused by the trade winds and because of the temperature moderating effect of the surrounding ocean. Low mixing heights may sometimes occur, however, at inland locations and even at times along coastal areas early in the morning following a clear, cool, windless night. Coastal areas also may experience low mixing levels during sea breeze conditions when cooler ocean air rushes in over warmer land. Mixing heights at most locations in Hawaii typically are above 3000 feet (1000 meters).

Rainfall can have a beneficial affect on the air quality of an area in that it helps to suppress fugitive dust emissions, and it also may "washout" gaseous contaminants that are water soluble. Rainfall in Hawaii is highly variable depending on elevation and on location with respect to the trade wind. The Ewa Plain is one of the driest areas on Oahu due to its leeward and near sea level location. Average annual rainfall in the project area is probably close to 21 inches as measured at the former Ewa Plantation, but may vary from about 10 inches during a dry year to more than 40 inches during a wet year. Most of the rainfall tends to occur during the winter months. Monthly rainfall may vary from as little as a trace to as much as 15 inches or more.

5.0 PRESENT AIR QUALITY

Present air quality in the project area is mostly affected by air pollutants from vehicular, industrial, natural and/or agricultural sources. Table 3 presents an air pollutant emission summary for the City and County of Honolulu that was compiled for 1980 emissions. These are the latest data that are available. Emissions are undoubtedly higher at this time, but the proportional relationships may continue to be about the same. Also, these emission rates may provide a relative measure with which to assess project-related emissions presented later in this study. As suggested in the table, the mineral products industry was the most significant source category for emissions of particulate matter. Sulfur dioxide emissions originated mainly from power plants, while motor vehicles accounted for much of the emissions of nitrogen oxides, carbon monoxide and hydrocarbons.

Fort Weaver Road, slightly more than a mile from the project site on the northeast, is a major arterial roadway that presently carries moderate to heavy levels of vehicle traffic during peak traffic hours. Emissions from motor vehicles using this roadway, primarily nitrogen oxides and carbon monoxide, will tend to be carried over the project site by the prevailing winds. Emissions emanating from traffic on the H-1 Freeway, situated about two miles to the north, probably do not significantly impact the site.

Several sources of industrial air pollution are located in the Campbell Industrial Park, which is located about three miles to the southwest at Barbers Point. Industries currently operating there include the Chevron and PRI refineries, H-Power and others. Prevailing winds from the northeast will carry these emissions away from the site most of the time. Another large industrial source of air pollution is the Waiau Power Plant situated about six miles to the northeast. Emissions from Waiau Power Plant consist primarily of sulfur dioxide and nitrogen oxides from oil-burning generator units. Due to the prevailing wind pattern in the area, it is likely that these emissions occasionally impact air quality in the project area.

Until recently, air pollution in the project area originating from agricultural sources could mainly be attributed to sugar cane operations near the project site. Emissions from both the mill and the canefield operations in the area have now been eliminated with the closure of the Oahu Sugar Company. Although it is currently unclear how all of the former sugar cane lands will be utilized, it is expected that diversified agriculture

will be promoted. Due to the project's location in the midst of former sugar cane lands, it is quite likely that air pollution emissions associated with the new diversified agricultural operations will impact the site from time to time.

Natural sources of air pollution emissions that also could affect the project area but cannot be quantified very accurately include the ocean (sea spray), plants (aero-allergens), wind-blown dust, and perhaps distant volcanoes on the island of Hawaii.

The State Department of Health operates a network of air quality monitoring stations at various locations on Oahu. Each station, however, typically does not monitor the full complement of air quality parameters. Table 4 shows an annual summary of air quality measurements that were made nearest to the project site for each of the regulated air pollutants for the period 1989 through 1993. These are the most recent data that are currently available.

During the years 1991 to 1993, sulfur dioxide was monitored by the State Department of Health at an air quality station located at Makaiwa Gulch about 3 miles to the southwest of the project site. There were no exceedances of the state/national 24-hour AAQS for sulfur dioxide during the 3-year period. Concentrations monitored were consistently low with 24-hour averages ranging from near 0 to 47 $\mu\text{g}/\text{m}^3$.

The nearest monitoring station for particulate matter less than 10 microns in diameter (PM-10) was located at Kapolei about 3 miles to the west. Twenty-four hour average PM-10 concentrations monitored at this location ranged from 8 to 164 $\mu\text{g}/\text{m}^3$ from 1991 through 1993. Average daily concentrations were approximately 25 $\mu\text{g}/\text{m}^3$. One exceedance of the state and national AAQS was reported.

The nearest carbon monoxide measurements were made at West Beach, about five miles to the west of the project site. During the period, the average daily maximum 1-hour concentration measured at this location was less than 1 mg/m^3 . During the most recent year reported, 1993, the daily maximum 1-hour concentration ranged from 0 to 17.8 mg/m^3 , with two exceedances of the state 1-hour AAQS recorded. The national AAQS was not exceeded. During previous years (1991-92), maximum 1-hour concentrations were lower and did not exceed the state AAQS. Daily maximum 8-hour values for 1989-93 have not been reported at this writing, but concentrations for earlier years were less than 5 mg/m^3 and averaged about 1.3 mg/m^3 . No exceedances of the state or national 8-hour AAQS have been reported. Present concentrations of carbon monoxide in the project area are estimated later in this study based on air quality modeling of vehicular emissions.

The nearest available ozone measurements were obtained at Sand Island (about 10 miles east southeast of the project site). The maximum 1-hour concentration for each year from 1990 to 1993 has averaged 118 $\mu\text{g}/\text{m}^3$ and two to seven exceedances of the state AAQS per year have been recorded. Ozone concentrations were somewhat lower during 1989 when a maximum concentration of 96 $\mu\text{g}/\text{m}^3$ was

measured and no exceedances of the state standard were registered.

The nearest and most recent measurements of ambient lead concentrations that have been reported were made at the downtown Honolulu monitoring station between 1991 and 1993. Lead concentrations at this location have had a downward trend for several years, most probably reflecting the increased use of unleaded gasoline. Average quarterly concentrations were near or below the detection limit, and no exceedances of the state AAQS were recorded. Monitoring for this parameter was discontinued during 1988 and resumed in 1991.

Nitrogen dioxide was not monitored by the Department of Health anywhere in the state during the first four years of the 1989-93 reporting period. In 1993 measurements were taken at Kapolei and the annual mean value reported was $12 \mu\text{g}/\text{m}^3$, safely inside the state and national AAQS.

Based on the data and discussion presented above, it appears likely that the State of Hawaii AAQS for sulfur dioxide, nitrogen dioxide, lead and, with the closing of the Oahu Sugar Company, probably particulate matter are currently being met at the project site. It is likely, however, that the state AAQS for ozone may be exceeded on occasion based on the Sand Island measurements for this parameter. Carbon monoxide readings from West Beach indicate that the state AAQS for carbon monoxide may also be exceeded at a rate of about one to two times per year in traffic congested areas.

6.0 SHORT-TERM IMPACTS OF PROJECT

Short-term direct and indirect impacts on air quality could potentially occur during project construction. For a project of this nature, there are two potential types of air pollution emissions that could directly result in short-term air quality impacts during project construction: (1) fugitive dust from vehicle movement and soil excavation; and (2) exhaust emissions from on-site construction equipment. Indirectly, there also could be short-term impacts from slow-moving construction equipment traveling to and from the project site and from a temporary increase in local traffic caused by commuting construction workers.

Fugitive dust emissions may arise from the grading and dirt-moving activities associated with site clearing and preparation work. The emission rate for fugitive dust emissions from construction activities is difficult to estimate accurately because of its elusive nature of emission and because the potential for its generation varies greatly depending upon the type of soil at the construction site, the amount and type of dirt-disturbing activity taking place, the moisture content of exposed soil in work areas, and the wind speed. The EPA (2) has provided a rough estimate for uncontrolled fugitive dust emissions from construction activity of 1.2 tons per acre per month under conditions of "medium" activity, moderate soil silt content (30%), and precipitation/evaporation (P/E) index of 50. Uncontrolled fugitive dust emissions in the project area would likely be somewhat higher due to the relatively dry climate. In

any case, State of Hawaii Air Pollution Control Regulations (3) prohibit visible emissions of fugitive dust from construction activities at the property line. Thus, an effective dust control plan for the project construction phase is essential.

Adequate fugitive dust control can usually be accomplished by the establishment of a frequent watering program to keep bare-dirt surfaces in construction areas from becoming significant sources of dust. In dust-prone or dust-sensitive areas, other control measures such as limiting the area that can be disturbed at any given time, applying chemical soil stabilizers, mulching and/or using wind screens may be necessary. Control regulations further stipulate that open-bodied trucks be covered at all times when in motion if they are transporting materials that could be blown away. Haul trucks tracking dirt onto paved streets from unpaved areas is oftentimes a significant source of dust in construction areas. Some means to alleviate this problem, such as road cleaning or tire washing, may be appropriate. Paving of parking areas and/or establishment of landscaping as early in the construction schedule as possible can also lower the potential for fugitive dust emissions.

On-site mobile and stationary construction equipment also will emit air pollutants from engine exhausts. The largest of this equipment is usually diesel-powered. Nitrogen oxides emissions from diesel engines can be relatively high compared to gasoline-powered equipment, but the standard for nitrogen dioxide is set on an annual basis and is not likely to be violated by short-term construction equipment emissions. Carbon monoxide emissions from diesel engines, on the other hand, are low and should be

relatively insignificant compared to vehicular emissions on nearby roadways.

Indirectly, slow-moving construction vehicles on roadways leading to and from the project site could obstruct the normal flow of traffic to such an extent that overall vehicular emissions are increased, but this impact can be mitigated by moving heavy construction equipment during periods of low traffic volume. Likewise, the schedules of commuting construction workers can be adjusted to avoid peak hours in the project vicinity. Thus, most potential short-term air quality impacts from project construction can be mitigated.

7.0 LONG-TERM IMPACTS OF PROJECT

7.1 Roadway Traffic

After construction is completed, use of the proposed facilities will result in increased motor vehicle traffic on nearby roadways, potentially causing long-term impacts on ambient air quality in the project vicinity. Motor vehicles with gasoline-powered engines are significant sources of carbon monoxide, and they also emit nitrogen oxides and other contaminants.

Federal air pollution control regulations require that new motor vehicles be equipped with emission control devices that reduce emissions significantly compared to a few years ago. In 1990, the President signed into law the Clean Air Act Amendments. This new legislation requires further emission reductions be phased in

beginning in 1994. The combination of current and new restrictions on emissions from new motor vehicles will lower average emissions each year as more and more older vehicles leave the state's roadways. Carbon monoxide emissions, for example, will go down by about 15 percent on the average during the next 10 years due to the replacement of older vehicles with newer models.

To evaluate the potential long-term indirect ambient air quality impact of increased roadway traffic associated with a project such as this, computerized emission and atmospheric dispersion models can be used to estimate ambient carbon monoxide concentrations along roadways leading to and from the project. Carbon monoxide is selected for modeling because it is both the most stable and the most abundant of the pollutants generated by motor vehicles. Furthermore, carbon monoxide air pollution is generally considered to be a microscale problem that can be addressed locally to some extent, whereas nitrogen oxides air pollution most often is a regional issue that cannot be addressed by a single new development.

For this project, three scenarios were selected for the carbon monoxide modeling study: year 1996 with present conditions, year 2005 without the project, and year 2005 assuming the project is complete and fully occupied. To begin the modeling study, critical receptor areas in the vicinity of the project site were identified for analysis. Generally speaking, roadway intersections are the primary concern because of traffic congestion and because of the increase in vehicular emissions associated with traffic queuing. For this study, intersections

identified by the project traffic engineers as being impacted by the project and as having either high traffic volumes or congested traffic conditions were selected for air quality analysis. These included one existing intersection (Renton Road/Park Row), one which will exist in the future with and without project cases (Renton Road/North-South Road) and one which will exist only in the future with project case (Area E Access Road/North-South Road). Intersection configurations and traffic conditions at each of these locations are detailed in the traffic impact report for the project (4).

The main objective of the modeling study was to estimate maximum 1-hour average carbon monoxide concentrations for each of the three scenarios studied. To evaluate the significance of the estimated concentrations, a comparison of the predicted values for each scenario can be made. Comparison of the estimated values to the national and state AAQS will provide another measure of significance.

The traffic impact report for the project indicates that traffic volumes will be higher at most locations during the afternoon peak hour than during the morning peak period. However, worst-case emission and meteorological dispersion conditions typically occur during the morning hours at most locations. Thus, both morning and afternoon peak-traffic hours were examined for each scenario to ensure that worst-case concentrations were identified.

The EPA computer model MOBILE5A [5] was used to calculate vehicular carbon monoxide emissions for each year studied. This model is the most recently released version of the EPA mobile emission models. Emission estimates provided by the MOBILE5A model have been updated based on EPA's recent testing of on-road vehicles. This latest series of tests has indicated that emission control equipment deteriorates more rapidly than had been previously thought. Hence, MOBILE5A emission estimates are higher (in some cases as much as twice as high) compared to emission estimates derived from earlier versions of the model, particularly in states like Hawaii that have no inspection and maintenance program for emission control equipment.

One of the key inputs to the MOBILE5A emission model is vehicle mix. Based on recent vehicle registration figures, the present and projected vehicle mix in the project area is estimated to be 91.9% light-duty gasoline-powered vehicles, 5% light-duty gasoline-powered trucks and vans, 0.5% heavy-duty gasoline-powered vehicles, 0.6% light-duty diesel-powered vehicles, 1% heavy-duty diesel-powered trucks and buses, and 1% motorcycles.

Other key inputs to the MOBILE5A emission model are the cold/hot start fractions. Motor vehicles operating in cold- or hot-start modes emit excess air pollution until reaching stabilized operating temperatures. Typically, motor vehicles reach stabilized operating temperatures after about 4 miles of driving. For traffic operating on surface streets around the project area, it was assumed that during both morning and afternoon peak traffic hours about 25 percent of all vehicles would be operating in the cold-start mode and that about 5 percent would be

operating in the hot-start mode. These operational mode values were estimated based on a report from the California Department of Transportation [6] and taking into consideration the likely origins of morning/afternoon traffic in the project area.

Ambient temperatures of 59 and 68 degrees Fahrenheit were used for morning and afternoon peak-hour emission computations, respectively. These are conservative assumptions since morning/afternoon ambient temperatures will generally be warmer than this and emission estimates given by MOBILE5A are inversely proportional to the ambient temperature.

After computing vehicular carbon monoxide emission factors through the use of the MOBILE5A emission model, these data were then input to the latest version of the computer model CALINE4 [7]. CALINE4 was developed by the California Transportation Department to simulate vehicular movement and atmospheric dispersion of vehicular emissions. This model is designed to predict 1-hour average pollutant concentrations along roadways based on input traffic and emission data, roadway/receptor geometry and meteorological conditions.

Input peak-hour traffic data were obtained from the traffic impact report for the project [4]. The traffic volumes for the future with project scenario include project traffic as well as traffic from other growth that is expected to occur in the area by the year 2005. Traffic queuing estimates were made based on Transportation Research Board procedures [8] and U.S. EPA guidelines [9]. Deceleration/acceleration times were calculated

based on the posted speed limits at existing intersections and anticipated limits at future intersections.

Model roadways were set up to reflect roadway geometry, physical dimensions and operating characteristics. Presently, pedestrian walkways exist very close to most of the roadways within the project area. Concentrations predicted by air quality models generally are not considered valid within the roadway mixing zone. The roadway mixing zone is usually taken to include 3 meters on either side of the traveled portion of the roadway and the turbulent area within 10 meters of a cross street. Model receptor sites were thus located at the edges of the mixing zones near all intersections that were studied. All receptor heights were placed at 1.8 meters above ground to simulate levels within the normal human breathing zone.

Input meteorological conditions for this study were defined to provide "worst-case" results. One of the key meteorological inputs is atmospheric stability category. For these analyses, atmospheric stability category 5 was assumed for morning scenarios and stability category 4 was assumed for afternoon cases. These are the most conservative stability categories that are generally used for estimating worst-case pollutant dispersion at suburban locations. A surface roughness length of 100 cm and a mixing height of 300 meters was used in all cases. Worst-case wind conditions were defined as a wind speed of 1 meter per second with a wind direction resulting in the highest predicted concentration.

Existing background concentrations of carbon monoxide in the project vicinity are believed to be at relatively low levels. Hence, background contributions of carbon monoxide from sources or distant roadways not directly considered in the analysis were accounted for by adding a small background concentration of 0.5 ppm to all predicted concentrations for 1996. Although significant development and increased traffic are expected to occur within the project area within the next few years, background carbon monoxide concentrations may not change significantly since individual emissions from motor vehicles are forecast to decrease substantially. Hence, a background value of 0.5 ppm was assumed to persist for the 2005 scenarios.

Predicted Worst-Case 1-Hour Concentrations

Table 5 summarizes the final results of the modeling study in the form of the estimated worst-case 1-hour morning and afternoon ambient carbon monoxide concentrations. Estimated worst-case carbon monoxide concentrations are presented in the table for the year 1996 with existing traffic and for the year 2005 both with and without project traffic. The locations of these estimated worst-case 1-hour concentrations all occurred at or very near the indicated intersections.

As indicated in the table, the higher estimated 1-hour concentration within the project vicinity for the present (1996) case was 1.7 mg/m³. This was projected to occur during the morning peak traffic hour near the intersection of Renton Road and Park Row. The afternoon predicted concentration at this intersection was slightly lower at 1.4 mg/m³. As suggested by these predicted

concentrations, present traffic volumes for both peak hours are quite low. Both estimated concentrations are well within the state standard of 10 mg/m³ and the national limit of 40 mg/m³.

In the year 2005 without the proposed project, the highest worst-case 1-hour concentration in the project area, 29.8 mg/m³, was predicted to occur during the morning near the intersection of Renton Road and North-South Road. Anticipated traffic volumes at this intersection are considerable, approaching 5000 vehicles during each of the peak hours. Northbound traffic queuing on North-South Road contributed heavily to the morning estimate which is higher than the afternoon concentration of 27.3 mg/m³ at the same location despite a lower morning traffic volume. This probably can be attributed to less favorable morning meteorological dispersion conditions. Predicted concentrations at the Renton Road/Park Row intersection increased significantly, in line with anticipated traffic volume increases. Three of the four predicted worst-case 1-hour concentrations for this scenario exceeded the state AAQS but all were within the national standard.

Predicted 1-hour worst-case concentrations for the 2005 with project scenario ranged from 9.7 mg/m³ during the afternoon at the intersection of Renton Road and Park Row to 31.1 mg/m³ during the morning at Renton Road at North-South Road. Increases were slight when compared to the without project case due to the relatively modest amount of traffic contributed by the project. In fact, the afternoon concentration at the intersection of Renton Road and Park Row did not change at all compared to the without project case. Similar to the without project case, all

but one of the predicted worst-case 1-hour concentrations for this scenario exceeded the state AAQS but all were within the national standard.

Predicted Worst-Case 8-Hour Concentrations

Worst-case 8-hour carbon monoxide concentrations were estimated by multiplying the worst-case 1-hour values by a persistence factor of 0.5. This accounts for two factors: (1) traffic volumes averaged over eight hours are lower than peak 1-hour values, and (2) meteorological dispersion conditions are more variable (and hence more favorable) over an 8-hour period than they are for a single hour. Based on monitoring data, 1-hour to 8-hour persistence factors for most locations generally vary from 0.4 to 0.8 with 0.6 being the most typical. One recent study based on modeling [10] concluded that 1-hour to 8-hour persistence factors could typically be expected to range from 0.4 to 0.5. EPA guidelines [11] recommend using a value of 0.6 to 0.7 unless a locally derived persistence factor is available. Recent monitoring data for Honolulu reported by the Department of Health [12] suggest that this factor may range between about 0.35 and 0.55 depending on location and traffic variability. Considering the location of the project and the traffic pattern for the area, a 1-hour to 8-hour persistence factor of 0.5 will likely yield reasonable estimates of worst-case 8-hour concentration.

The resulting estimated worst-case 8-hour concentrations are indicated in Table 6. For the 1996 scenario, the estimated worst-case 8-hour carbon monoxide concentration was 0.8 mg/m³

near the intersection of Renton Road and Park Row. This is well within both the state standard of 5 mg/m³ and the national limit of 10 mg/m³.

The predicted maximum value for the year 2005 without project scenario was 14.9 mg/m³, occurring at the intersection of Renton Road and North-South Road. This exceeds both the state and national 8-hour AQGS. The worst-case concentration level near the Renton Road/ Park Row intersection was 5.1 mg/m³, which is slightly over the state limit but within the national standard.

With the project, the maximum 8-hour concentration in the year 2005 was estimated to occur once again at the intersection of Renton Road and North-South Road with a predicted concentration of 15.6 mg/m³. This represents a nearly 5 percent increase over the 2005 without project case and indicates the continued potential exceedance of the state and national 8-hour AQGS. The predicted concentration at the Renton Road/Park Row intersection increased by 4 percent compared to the without project case, slightly over the state limit but within the national standard. The Area E Access Road/North-South Road intersection produced a worst-case 8-hour concentration of 9.7 mg/m³, within the national limit but over the state standard.

Conservativeness of Estimates

The results of this study reflect several assumptions that were made concerning both traffic movement and worst-case meteorological conditions. One such assumption concerning worst-case

1-hour meteorological conditions is that a wind speed of 1 meter per second with a steady direction for one hour will occur. A steady wind of 1 meter per second blowing from a single direction for an hour is extremely unlikely and may occur only once a year or less. With wind speeds of 2 meters per second, for example, computed carbon monoxide concentrations would be only about half the values given above. The 8-hour estimates are also conservative and are probably less reliable than the 1-hour estimates due to the methodology used to compute the estimates. Further, it is unlikely that anyone would occupy the assumed receptor sites (within 3 m of the roadways) for a period of 8 hours.

7.2 Electrical Demand

The proposed project also will cause indirect air pollution emissions from power generating facilities as a consequence of electrical power usage. The annual electrical demand of the project when fully developed is expected to reach approximately 5 million kilowatt-hours. This is based on an average estimated electrical power demand of 800 kilowatt-hours per month per unit. Electrical power for the project will most probably be provided mainly by oil-fired generating facilities located on Oahu. However, with H-Power and the AES coal-fired power plant now online at Campbell Industrial Park, some of the project power could also come from sources burning other fuels. In order to meet the electrical power needs of the proposed project, power generating facilities will be required to burn more fuel and hence more air pollution will be emitted at these facilities. Given in Table 7 are estimates of the indirect air pollution emissions that would result from the project electrical demand

assuming all power is provided by burning more fuel oil at Oahu's power plants. If power is supplied instead or in part by coal or solid waste burning facilities, emissions will likely be higher than the values given in the table.

7.3 Solid Waste Disposal

Solid waste generated from the proposed development when fully completed and occupied is not expected to exceed about 2.5 tons per day from residential sources (13) plus additional amounts from community facility elements of the project. No estimates are available for solid waste generated by the latter. Most project refuse will likely be hauled away and burned at the H-Power facility at Campbell Industrial Park to generate electricity. Burning of the waste to generate electricity will result in emissions of particulate, carbon monoxide and other contaminants, but these will be offset to some extent by reducing the amount of fuel oil that would be required to generate electricity for the project. Table 8 gives emission estimates assuming all project solid waste from residential components is burned at H-Power. With the high level of particulate emission control achieved at H-Power, emission quantities from the burning of project solid waste would be relatively small compared to emissions from other sources on the island.

8.0 CONCLUSIONS AND RECOMMENDATIONS.

Air quality in the project area is currently relatively good except possibly for occasional air pollution excursions at scattered locations and times. Air quality monitoring data from

the Department of Health indicate that sporadic exceedances of the state ozone standard (which is set at a relatively stringent level) may presently occur on Oahu. Based on air quality monitoring data, standards for carbon monoxide may also presently be exceeded on occasion within small "hot-spot" areas near traffic-congested intersections in the project area.

If not controlled properly, fugitive dust emissions during project construction could have a temporary impact on the air quality of areas adjacent to the development. Uncontrolled fugitive dust emissions from construction activities are estimated to amount to about 1.2 tons per acre per month or more, depending on rainfall. To control dust, active work areas and any temporary unpaved work roads should be watered at least twice daily on days without rainfall. Use of wind screens and/or limiting the area that is disturbed at any given time will also help to contain fugitive dust emissions. Wind erosion of inactive areas of the site that have been disturbed could be controlled by mulching. Dirt-hauling trucks should be covered when traveling on roadways to prevent windage. A routine road cleaning and/or tire washing program will also help to reduce fugitive dust emissions that may occur as a result of trucks tracking dirt onto paved roadways in the project area. Paving of parking areas and establishment of landscaping early in the construction schedule will also help to control dust. Monitoring of dust concentrations along the project boundary could be considered during the period of construction to evaluate the effectiveness of project dust control measures and to perhaps determine if enhanced dust controls are necessary.

During construction phases, emissions from engine exhausts (primarily consisting of carbon monoxide and nitrogen oxides) will also occur both from on-site construction equipment and from vehicles used by construction workers and from trucks traveling to and from the project. Increased vehicular emissions due to disruption of traffic by construction equipment and/or commuting construction workers can be alleviated by moving equipment and personnel to the site during off-peak traffic hours.

After construction, emissions from motor vehicle traffic coming to and from the proposed project will occur on a long-term basis. Motor vehicle related emissions of carbon monoxide are the greatest concern. Based on the projected peak-hour traffic volumes and the roadway configurations and laneages given for the project, air quality model projections for the year 2005 indicate that with or without the project the national 1-hour standard for carbon monoxide would be met but that the more stringent state 1-hour standard would likely be exceeded by a wide margin during worst-case conditions near the intersection of Renton Road and North-South Road and to a somewhat lesser extent near the intersections of Renton Road at Park Row and the Area E Access Road at North-South Road. With or without the project in the year 2005, air quality model predictions indicate that both the state and the national 8-hour standards for carbon monoxide could be exceeded during worst-case conditions at all three intersections as well. However, due to the methodology involved, predicted worst-case 8-hour carbon monoxide concentrations are probably less reliable than the 1-hour estimates. In both the 1-hour and the 8-hour averaging periods, emissions from project traffic would cause little or no increase in concentrations at

both of the study intersections which exist with and without the project.

Options available to mitigate long-term, traffic-related air pollution from increased project motor vehicle traffic are to improve roadways, reduce traffic or reduce individual vehicular emissions. In view of the significant impact on air quality near the proposed intersection of Renton Road and North-South Road, it may be appropriate to consider adding roadway improvements to the design of this future intersection if feasible.

Aside from further improving roadways, air pollution impacts from vehicular emissions could conceivably be mitigated by reducing traffic volumes through the promotion of bus service and car pooling and/or by adjusting local school and business hours to begin and end during off-peak times. However, this mitigation measure is generally considered only partially successful. Reduction of emissions from individual vehicles would have to be achieved through the promulgation of county, state or federal air pollution control regulations. For example, Hawaii currently does not require annual inspections of motor vehicle air pollution control equipment. At the present time, there is no indication that the state is contemplating adopting such rules.

Another potential mitigation measure would be to provide added buffer zones between walkways and roadways in areas where space is available. Technically, however, the public would have to somehow be excluded from the buffer zones. The predicted worst-case concentrations in this report are based on a separation

distance of 3 m (10 ft) between walkways and roadways. Doubling this distance to about 6 m (20 ft) would in many cases reduce maximum concentrations by about 10 to 15 percent.

Any long-term impacts on air quality due to indirect emissions from supplying the project with electricity and from the disposal of waste materials generated by the project will likely be relatively small based on the magnitudes of both the estimated demands and the indirect emissions. To further moderate any impacts, indirect emissions from project electrical demand could likely be reduced somewhat by incorporating energy-saving features into project design requirements. This might include the use of solar water heaters, water heater timers or possibly hot water on demand systems; designing building space so that window positions maximize indoor light without unduly increasing indoor heat; using landscaping where feasible to provide afternoon shade to cut down on the use of air conditioning; installation of insulation and double-glazed doors to reduce the effects of the sun and heat; movable, controlled openings for ventilation at opportune times; and possibly automated room occupancy sensors. Solid waste related air pollution could likely be reduced somewhat by the promotion of conservation and recycling programs within the proposed development.

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Table 1
SUMMARY OF STATE OF HAWAII AND NATIONAL
AMBIENT AIR QUALITY STANDARDS

Pollutant	Unit	Averaging Time	State of Hawaii		National Ambient Air Quality Standards	
			Maximum Allowable Concentration	Secondary Standard	Primary Standard	Secondary Standard
Particulate Matter ^a	$\mu\text{g}/\text{m}^3$	Annual	50	50	50	50
		24 Hours	150 ^b	150 ^b	150 ^b	150 ^b
Sulfur Dioxide	$\mu\text{g}/\text{m}^3$	Annual	80	-	80	80
		24 Hours	365 ^b	-	365 ^b	365 ^b
		3 Hours	-	1300 ^b	1300 ^b	1300 ^b
Nitrogen Dioxide	$\mu\text{g}/\text{m}^3$	Annual	100	100	70	
Carbon Monoxide	mg/m^3	8 Hours	10 ^b	-	5 ^b	5 ^b
		1 Hour	40 ^b	-	10 ^b	10 ^b
Ozone	$\mu\text{g}/\text{m}^3$	1 Hour	235 ^b	235 ^b	100 ^b	
Lead	$\mu\text{g}/\text{m}^3$	Calendar Quarter	1.5	1.5	1.5	
Hydrogen Sulfide	$\mu\text{g}/\text{m}^3$	1 Hour	-	-	35 ^b	

^a Particles less than or equal to 10 microns aerodynamic diameter

^b Not to be exceeded more than once per year

Table 2

ANNUAL WIND FREQUENCY FOR BARBERS POINT, OAHU (%)

Wind Direction	Wind Speed (knots)							Total
	0-3	4-6	7-10	11-16	17-21	>21		
N	0.1	0.4	0.3	0.1	0.0	0.0	0.0	0.9
NNE	0.4	1.5	2.3	1.1	0.2	0.0	0.0	5.5
NE	1.2	7.9	5.8	2.6	0.2	0.0	0.0	17.8
ENE	2.7	16.2	12.0	7.0	0.2	0.0	0.0	38.1
E	0.8	6.2	8.3	4.4	0.1	0.0	0.0	19.8
ESE	0.2	0.4	1.2	0.7	0.0	0.0	0.0	2.5
SE	0.0	0.3	1.2	1.3	0.0	0.0	0.0	2.9
SSE	0.0	0.3	1.1	1.0	0.1	0.0	0.0	2.5
S	0.1	0.6	1.5	0.7	0.2	0.0	0.0	3.1
SSW	0.1	0.3	0.8	0.3	0.0	0.0	0.0	1.5
SW	0.0	0.2	0.5	0.3	0.0	0.0	0.0	1.1
WSW	0.0	0.1	0.5	0.3	0.0	0.0	0.0	1.0
W	0.1	0.2	0.5	0.4	0.0	0.0	0.0	1.2
WNW	0.0	0.1	0.4	0.4	0.0	0.0	0.0	0.9
W	0.0	0.1	0.2	0.2	0.0	0.0	0.0	0.5
WNW	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.3
CALM	0.4							0.4
TOTAL	6.1	35.0	36.8	20.8	1.2	0.1	0.1	100.0

Source: "Monthly and Annual Wind Distribution/Pasquill Stability Classes, STAR Program, Barbers Point Hawaii, 1/72-12/76, 8 Observations/Day", U.S. Department of Commerce, National Oceanic and Atmospheric Administration, Environmental Data Service, National Climatic Center, Asheville, NC.

Table 3

AIR POLLUTION EMISSIONS INVENTORY FOR CITY AND COUNTY OF HONOLULU, 1980

Source Category	Emissions (tons/year)			
	Particulate	Sulfur Oxides	Nitrogen Oxides	Carbon Monoxide
Steam Electric Power Plants	2,092	36,736	12,455	1,065
Gas Utilities	14	0	199	0
Fuel Combustion in Agricultural Industry	1,088	579	358	0
Refinery Industry	622	7,096	2,149	266
Petroleum Storage	0	0	0	0
Metallurgical Industries	28	96	40	0
Mineral Products Industry	6,884	1,883	597	0
Municipal Incineration	42	145	2,029	0
Motor Vehicles	1,413	1,014	17,270	239,198
Construction, Farm and Industrial Vehicles	184	193	2,507	3,729
Aircraft	382	145	1,751	5,594
Vessels	42	386	438	533
Agricultural Field Burning	1,399	0	0	15,982
Total:	14,190	48,273	39,793	266,367

Source: State of Hawaii, Department of Health

Table 4
ANNUAL STATISTICS OF AIR QUALITY MEASUREMENTS
FOR MONITORING STATIONS NEARST
VARONA VILLAGE PHASE II PROJECT

Parameter / Location	1989	1990	1991	1992	1993
Sulfur Dioxide / Makaiwa Gulch					
No. of 24-Hr Samples	-	-	329	327	284
Range of 24-Hr Values (µg/m ³)	-	-	0-28	0-27	0-47
Average Daily Value (µg/m ³)	-	-	3	4	3
No. of State AAQS Exceedances	-	-	0	0	0
PM-10 / Kapolei					
No. of 24-Hr Samples	-	-	10	48	54
Range of 24-Hr Values (µg/m ³)	-	-	11-71	8-166	11-40
Average Daily Value (µg/m ³)	-	-	24	27	24
No. of State AAQS Exceedances	-	-	0	1	0
Carbon Monoxide / West Beach					
No. of Days of 1-Hr Samples	-	-	183	313	309
Range of 1-Hr Values (ppm)	-	-	0.1-8.0	0.0-1.7	0.0-17.8
Avg. Daily Maximum 1-Hr Value (ppm)	-	-	0.9	0.4	0.7
No. of State 1-Hr AAQS Exceedances	-	-	0	0	2
Ozone / Sand Island					
No. of Days of 1-Hr Samples	342	340	312	288	230
Range of Daily Max 1-Hr Values (ppb)	0-16	4-16	9-126	9-126	21-111
Avg. Daily Maximum 1-Hr Value (ppb)	15	12	59	54	48
No. of State AAQS Exceedances	0	2	3	6	7
Lead / Downtown Honolulu					
No. of 24-Hr Samples	-	-	50	44	51
Range of 24-Hr Values (µg/m ³)	-	-	0-0.1	0-0.1	0-0.1
Average Quarterly Value (µg/m ³)	-	-	0.0	0.0	0.0
No. of State AAQS Exceedances	-	-	0	0	0
Nitrogen Dioxide / Kapolei					
No. of 24-Hr Samples	-	-	-	-	131
Range of 24-Hr Values (µg/m ³)	-	-	-	-	4-29
Average Daily Value (µg/m ³)	-	-	-	-	12
No. of State AAQS Exceedances	-	-	-	-	0

Source: State of Hawaii Department of Health

Table 5

ESTIMATED WORST-CASE 1-HOUR CARBON MONOXIDE CONCENTRATIONS
ALONG ROADWAYS NEAR VARONA VILLAGE PHASE II PROJECT
(milligrams per cubic meter)

Location	1986/1987 Project	1988/1989 Project	1990/1991 Project	2005/2010 Project
Renton Road at Park Row	1.7	1.4	10.1	9.7
Renton Road at North-South Road	-	-	29.8	27.3
Area E Access Road at North-South Rd.	-	-	-	18.6

Hawaii State AAQS: 10
National AAQS: 40

Table 7

ESTIMATED INDIRECT AIR POLLUTION EMISSIONS FROM VARONA VILLAGE PHASE II PROJECT ELECTRICAL DEMAND*

Air Pollutant	Emission Rate (tons/year)
Particulate	1.5
Sulfur Dioxide	12.6
Carbon Monoxide	1.0
Volatile Organics	0.1
Nitrogen Oxides	5.5

* Based on U.S. EPA emission factors for utility boilers (2). Assumes electrical demand of 5 million kw-hrs per year and low-sulfur oil used to generate power.

Table 6

ESTIMATED WORST CASE 8-HOUR CARBON MONOXIDE CONCENTRATIONS ALONG ROADWAYS NEAR VARONA VILLAGE PHASE II PROJECT (milligrams per cubic meter)

Renton Road at Park Row	0.8	5.1	5.3
Renton Road at North-South Road	-	14.9	15.6
Area E Access Road at North-South Road	-	-	9.7

Hawaii State AQCS: 5
National AQCS: 10

Table 8
 ESTIMATED INDIRECT AIR POLLUTION EMISSIONS FROM
 RESIDENTIAL COMPONENTS OF
 VARONA VILLAGE PHASE II PROJECT SOLID WASTE DISPOSAL DEMAND*

Air Pollutant	Emission Rate (tons/year)
Particulate	<1
Lead	<1
Sulfur Dioxide	<1
Carbon Monoxide	2
Volatile Organics	<1
Nitrogen Oxides	4

* Based on U.S. EPA emission factors for municipal waste incinerators [2]. Assumes mass burn unit with 99 percent control of particulate emissions and solid waste disposal demand of 2.5 tons per day.