## Environmental Impact Statement Preparation Notice

January 2007





## **ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE**

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#### **ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE**

## 1.0 INTRODUCTION

This environmental impact statement preparation notice (EISPN) is prepared in accordance with Chapter 343, *Hawaii Revised Statutes* (HRS) and Title 11, Chapter 200, Hawaii Administrative Rules for the proposed Ho'opili project on the island of O'ahu.

#### 1.1 PROJECT SUMMARY

The following summary describes the existing entitlements and proposed actions:

**Project Name:** Ho'opili

**Project Location:** East Kapolei, 'Ewa District, O'ahu, Hawai'i

**Applicant:** D.R. Horton – Schuler, LLC, a Delaware Limited Liability

Company, d.b.a. D.R. Horton – Schuler Division

**Landowner Within** 

the Petition Area: D.R. Horton-Schuler Division

Landowners Outside the Petition Area but

within Project Area:

D.R. Horton-Schuler Division The Estate of James Campbell

**United States Navy** 

City and County of Honolulu Hawaiian Electric Company

**Total Project Area:** Approximately 1,704.265 acres

**Tax Map Key Parcels:** 9-1-17: 04 (portion), 59, and 72; 9-1-18: 01 and 04; 9-1-10: 02,

14 (portion), and 15 (portion) and 9-2-02:02, and

9-2-02:01 (portion), 04, 05, 06 and 07

**Proposed Action:** Reclassification of approximately 1,553.844 acres of land from

the Agricultural District to the Urban District.

**Existing Uses:** Diversified agriculture, pasturage, storage/processing/distribution

facility for farm produce, seed cultivation, agricultural research

station, parking for school buses and Handi-Vans

**Proposed Uses:** Development of a mixed-use, transit-ready community including:

low-medium density residential/live-work, mixed-use medium density residential, mixed-use/high-density residential, light

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industrial mixed-use/business, schools, parks, open space and

roads.

Existing State Land Use Designation:

Agricultural District (within the Petition Area) and Urban and

Agricultural Districts (outside of the Petition Area)

**Existing Zoning** 

**Designation:** AG-1 (Agricultural)

**Ewa Development** 

Plan:

Low and Medium Density Residential, High Density Residential, Agricultural and Preservation, Parks, Transit Node (High Density Residential and Commercial), and Future Intermediate School

Special None. Project area is not situated in a Special Management Area

**Designations:** or in the Shoreline Setback.

Permits/Approvals Required:

Compliance with Chapter 343, Hawaii Revised Statutes and Title

11, Chapter 200, Hawaii Administrative Rules State Land Use District Boundary Amendment City and County of Honolulu Change in Zoning

Grading /Building Permits

National Pollutant Discharge Elimination System (NPDES) Permit

Subdivision Approval

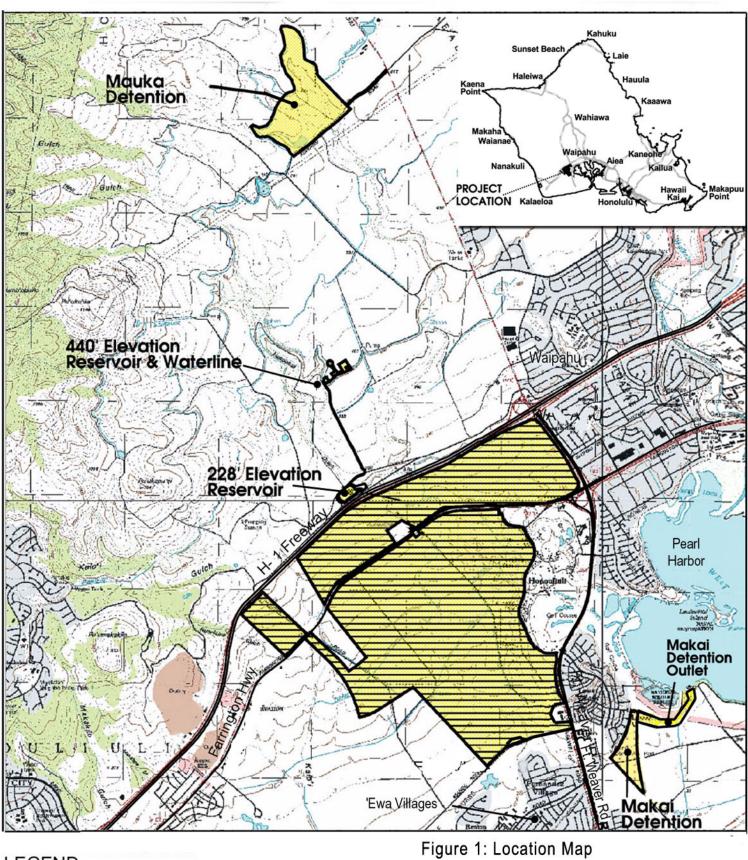
**Accepting Authority:** State of Hawai'i Land Use Commission

#### 1.2 Project Location

The approximately 1,704.265 acre Project area is located in 'Ewa District, island of O'ahu (Figure 1: Location Map). The Project area is comprised of eleven distinct parcels of land situated in between the H-1 Freeway (north) and Mango Tree Road (south), and in between the proposed University of Hawai'i West O'ahu (UHWO) property (west) and Old Fort Weaver Road (east). The Petition Area consists of 1,553.844 acres and three of the 11 parcels (A, B and C).

### 1.3 Project Area

The 11 parcels are identified as Tax Map Keys and include 9-1-10: 02, 14 (portion), 15 (portion); 9-1-17: 04 (portion), 59, and 72; 9-1-18: 01 and 04, 9-2-01:01 (por.), 04, 05, 06, and 07 and 9-2-02:02 (Figure 2: Tax Map Key). For purposes of this Environmental Impact Statement Preparation Notice ("EISPN"), the parcels labeled A through H are shown in Figure 3: Parcels, and listed in Table 1 below. Parcels 9-1-10:02, 14 and 15 and





Project Site Boundary

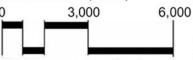
Petition Area

O'OPILI

Oahu, Hawaii

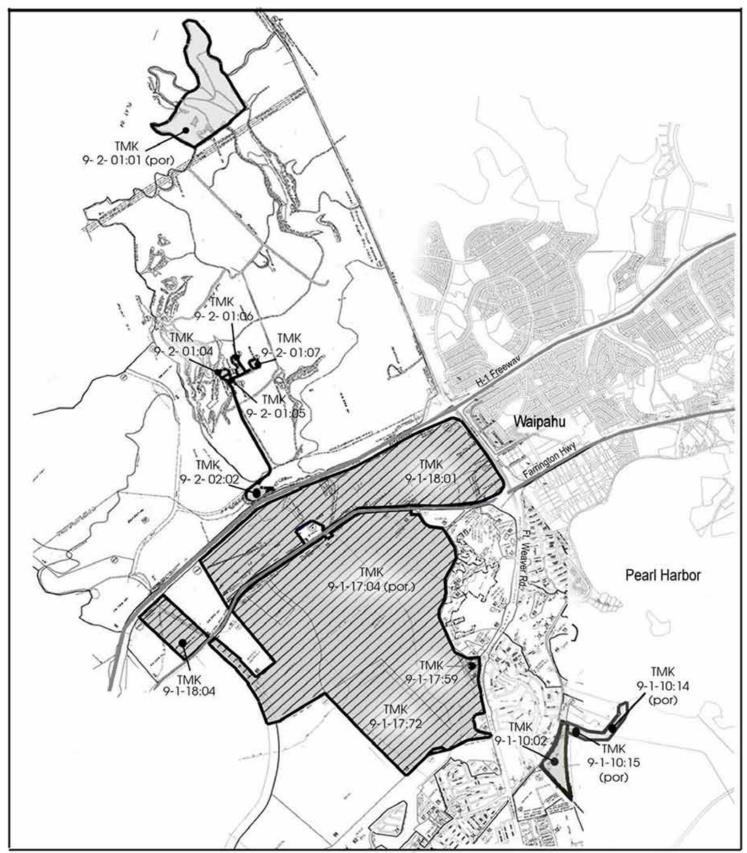
LINEAR SCALE (FEET)







Source: US Geological Survey Disclaimer: This graphic has been prepared for general planning purposes only.



## **LEGEND**



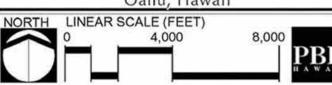
Source: Tax Maps Zone 9, Sec. 1, Plats 10, 17 and 18 Zone 9, Sec. 2, Plat 1 and 2

Disclaimer: This graphic has been prepared for general planning purposes only.

Figure 2: Tax Map Key

## O'OPILI

Oahu, Hawaii





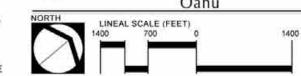
Project Site Boundary
Petition Area

Source: Tax Map Zone 9, Sec. 1, Plat 17
Disclaimer: This graphic has been prepared for general planning purposes only.

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FOR PROPERTY ASSESSMENT PURPOSES, PARCELS MAY NOT BE LEGAL SUBDIVIDED LOTS - SUBJECT TO CHANGE

Owners, lessees, & vendees name recorded on this tax map print may not be current. Please refer to computer and history sheets for current owners.



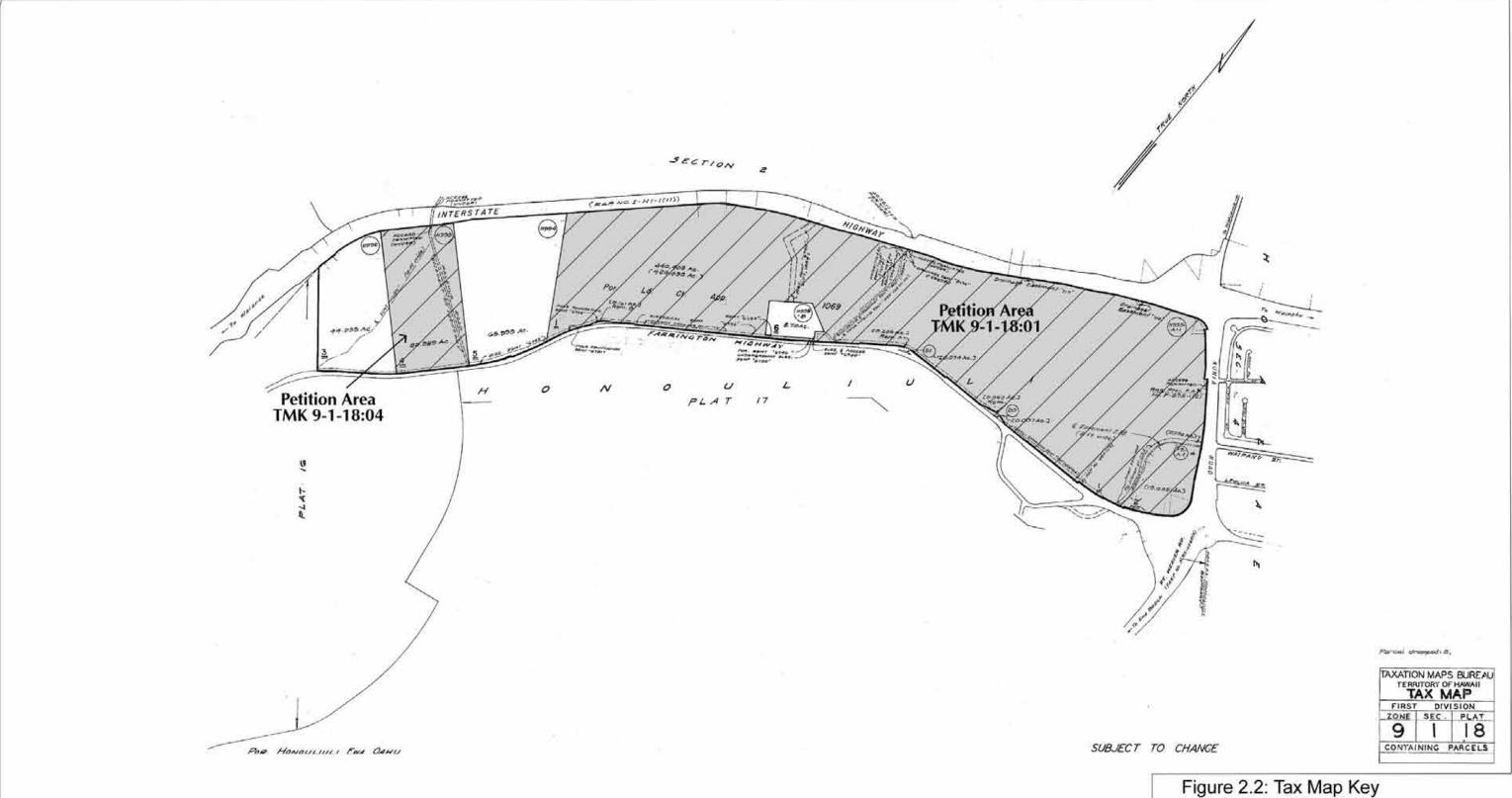
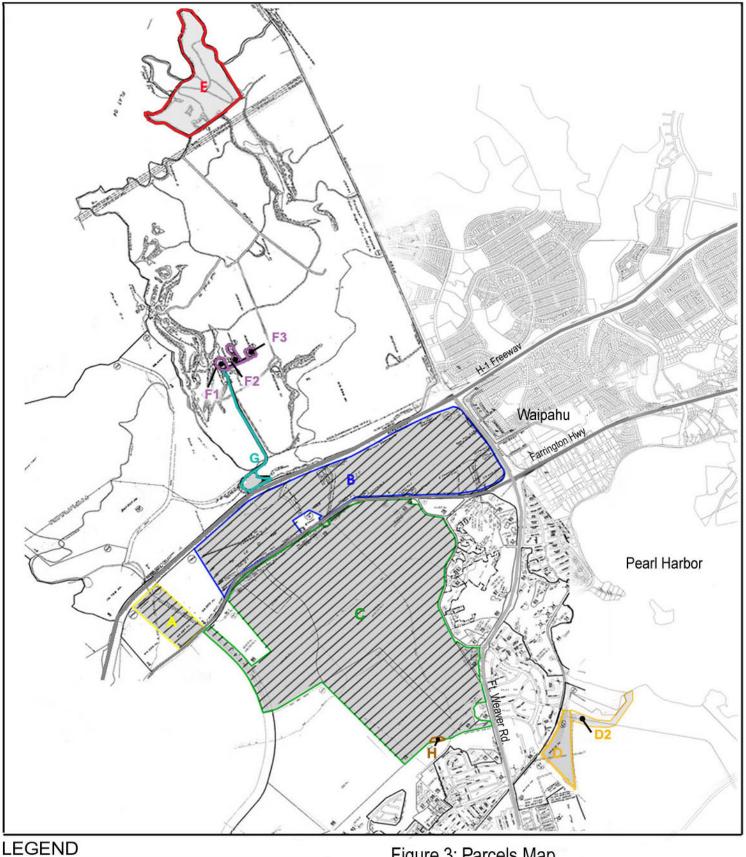


Figure 2.2: Tax Map Key (Zone 9, Section 1, Plat 18)

## LEGEND

Project Site Boundary Petition Area

Source: Tax Map Zone 9, Sec. 1, Plat 18 Disclaimer: This graphic has been prepared for general planning purposes only.



Petition Area

Parcel A: 52.289 Acres

Parcel B: 447.592 Acres Parcel C: 1,053.963 Acres

Non-Petition Area

Parcel D: 30.825 Acres

Parcel D2: 4.5 Acres\* E Parcel E: 104 Acres\*

Parcel F1: .635 Acres Parcel F2: 1.49 Acres\* Parcel F3: .359 Acres

Parcel G: 7.311 Acres H Parcel H: 1.301 Acres

\* Approx Acres

Figure 3: Parcels Map

## D'OPILI

Oahu, Hawaii

LINEAR SCALE (FEET) 3,000 6,000

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parcel 9-2-01:01 (por.) will be reserved for drainage only, and Parcels 9-2-01:04, 05, 06 and 07 and Parcel 9-2-02:02 will be used for reservoirs and storage, reducing the urban acreage petition area to 1,553.844 acres. An additional 43.297 acres from 9-1-18:04 and 9-1-17:04 in the petition area will be condemned for the creation of North-South Rd.

**Table 1. Project Area Tax Map Key Parcels** 

Project Area	Landowner	Parcel Name	Tax Map Key	Acreage
D :::	D.R.	А	9-1-18: 04	52.289
Petition Area	Horton- Schuler	В	9-1-18: 01	447.592
	Division	С	9-1-17:04 (portion), 59, and 72	1053.963
	Total Petition Area			
	D.R. Horton- Schuler Division	Н	9-1-17:04 (por.)	1.301
	The Estate of James Campbell	D	9-1-10: 02	30.825
NI	U.S Navy	D2	9-1-10:14 and 15	4.5*
Non- Petition Area	The Estate of James Campbell	E	9-2-01:01	104*
	HECo		9-2-01:04	.243
	The Estate of James Campbell	F1	9-2-01:05	.392
	City and County of Honolulu	F2	9-2-01:06	1.49*
		F3	9-2-01:07	.359
		G	9-2-02:02	7.311
* Approxima	ate Acreage	Tot	al Approximate Non-Petition Area	150.421
TOTAL APPROXIMATE PROJECT AREA				1,704.265

#### 1.4 LAND OWNERSHIP

D.R. Horton-Schuler Division is the owner of the parcels (A, B, and C) located in the Petition Area. D.R. Horton-Schuler Division, HECo, the City and County of Honolulu, the

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U.S. Navy and the Estate of James Campbell own property situated within the non-petition area of the Project area.

#### 1.5 IDENTIFICATION OF THE APPLICANT

The applicant is D.R. Horton – Schuler Homes LLC, a Delaware Limited Liability Company, d.b.a. D.R. Horton – Schuler Division (hereinafter "D.R. Horton").

Contacts: Mr. Michael Jones, Division President

Mr. Robert Q. Bruhl, Vice President, O'ahu Development

Mr. Dean Uchida, Vice President, Ho'opili

828 Fort Street Mall, 4<sup>th</sup> Floor Honolulu, Hawai'i 96813 Phone: (808) 521-5661 Fax: (808) 538-1476

#### 1.6 IDENTIFICATION OF THE ACCEPTING AUTHORITY

According to Hawaii Revised Statutes, as amended ("HRS"), Chapter 343, "The authority to accept a final statement shall rest with the agency receiving the request for approval." Privately-initiated environmental impact statement ("EIS") documents must be accepted by the government agency empowered to approve permits for a project. The accepting authority for this Project's EIS is the State of Hawai'i Land Use Commission, hereinafter simply referred to as the "Commission."

Contact: Mr. Anthony Ching, Executive Officer

State of Hawai'i

Land Use Commission

P.O. Box 2359

Honolulu, Hawai'i 96804 Phone: (808) 587-3822 Fax: (808) 587-3827

#### **ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE**

#### 1.7 IDENTIFICATION OF THE ENVIRONMENTAL CONSULTANT

The environmental consultant is PBR HAWAII.

Contact: Mr. Vincent Shigekuni, Vice President

PBR HAWAII 1001 Bishop Street ASB Tower, Suite 650 Honolulu, HI 96813

Telephone: (808) 521-5631

Fax: (808) 523-1402

## 1.8 COMPLIANCE WITH THE STATE OF HAWAI'I AND CITY AND COUNTY OF HONOLULU ENVIRONMENTAL LAWS

This document has been prepared in accordance with the provisions of HRS Chapter 343 and Hawaii Administrative Rules, as amended ("HAR"), Title 11, Department of Health ("DOH"), Chapter 200, Environmental Impact Statement Rules. Section 343-5, HRS, establishes nine "triggers" that require compliance with these regulations. One of these triggers is the use of State or County funds or lands. Use of State or County lands or funds could include the proposed public school on the site and on- and off- site infrastructure improvements relating to roadway, traffic, water, sewer, utility and drainage facilities affecting State and/or County roadways or other lands. A Draft Environmental Impact Statement ("Draft EIS") will be prepared in order to address all current and future instances involving the use of State or County lands or funds relating to the Project. The Draft EIS will be prepared and filed in accordance with all applicable laws.

### 1.8.1 Statement of Consistency with the Ewa Development Plan Vision

The *Ewa Development Plan* was updated and officially adopted by the City Council in August 1997 and is presently being updated. The plan presents a vision for 'Ewa's future development and provides conceptual land use plans that will serve as a policy guide for more detailed zoning maps and regulations, and public and private sector investment decisions. Provisions of the *Ewa Development Plan* that are applicable to the proposed project are discussed in the following pages.

#### **VISION STATEMENT**

The vision for 'Ewa, as expressed in the *Ewa Development Plan*, embraces two horizons: the first from the present to the year 2020 and the second horizon extending beyond

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2020, when 'Ewa would be fully developed. In support of the City *General Plan* policies, the *Ewa Development Plan*:

- Provides a secondary employment center with its nucleus in the City of Kapolei to supplement the Primary Urban Center (PUC) and to divert commuter traffic from the PUC, and
- Concentrates primary employment activities at industrial and resort areas and at government service and higher education centers near the City of Kapolei, creating secondary markets for office and retail activities.

The *Ewa Development Plan* projects tremendous population growth and will help to establish 'Ewa as a Secondary Urban Center for O'ahu. Population is expected to grow to 125,000 in 2020. By 2020, nearly 28,000 new housing units will have been built in a series of master-planned communities. Employment opportunities will grow from 17,000 jobs to more than 64,000 jobs. Beyond 2020, implementation of the *Ewa Development Plan* will have established an Open Space Network within an Urban Growth Boundary.

The City of Kapolei will evolve into the Secondary Urban Center for O'ahu, supporting a mix of commercial, office, and residential uses. According to the *Ewa Development Plan*, "by 2020, it is projected that the City of Kapolei will house more than 7,000 residents and provide 25,000 private sector jobs and 7,000 public sector jobs." At the same time, the UH West O'ahu Campus will support approximately 7,600 students and 1,040 staff and faculty (Phase 3). Ko Olina and 'Ewa Marina will also add over 3,700 visitor units by the year 2020, providing basic jobs which will support office and commercial jobs in the City of Kapolei.

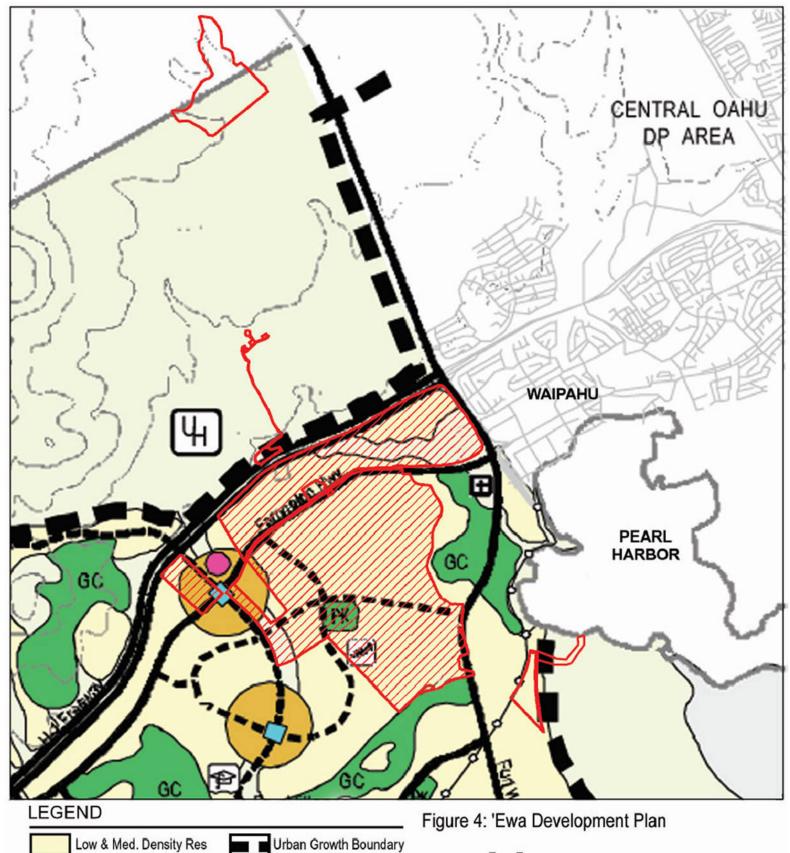
Master-planned communities envisioned by the *Ewa Development Plan* include East Kapolei, 'Ewa by Gentry, 'Ewa Marina, 'Ewa Villages, Ko Olina, Laulani, Makaiwa Hills, Makakilo, and the Villages of Kapolei. These communities will interact and support the vision for development of the entire 'Ewa region.

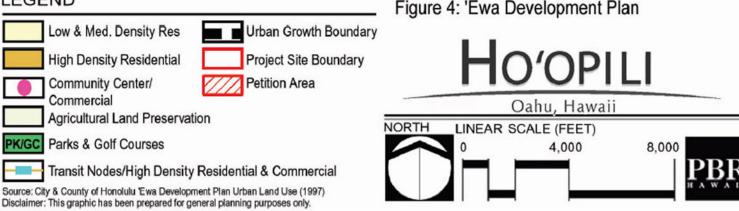
**Discussion:** The proposed project is a master-planned community ("East Kapolei") envisioned by the *Ewa Development Plan*. Ho'opili will be a mixed-use, transit-ready community including residential, business, and commercial areas; and transit stations, schools, and parks.

#### **KEY ELEMENTS OF THE VISION**

The *Ewa Development Plan* establishes six key elements to ensure that the vision statement for the 'Ewa region is achieved. The following describes those key elements that are applicable to the proposed project (Figure 4: *Ewa Development Plan*).

**Urban Growth Boundary.** Although the project site is within the Agricultural State Land Use District, it is located within the Urban Growth Boundary of the *Ewa Development Plan* Urban Land Use Map. Portions of the site are currently leased for agricultural





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purposes mainly for favorable property tax treatment and security reasons, and portions of these leases will be terminated during the phased development of the project.

**Network of Open Space and Greenways.** As much as 210 acres of parks and open space could be provided by the project. Additionally, Parcel D, D2, and E will be used for off-site drainage.

The Secondary Urban Center. The Secondary Urban Center would function as the primary employment generator for the *Ewa Development Plan* area by the year 2020. Major new employment centers are planned at the City of Kapolei, Kapolei Hale (the Kapolei Civic Center completed in 2001), Ko Olina, the Deep Draft Harbor, Campbell Industrial Park, Barbers Point Naval Air Station (with civilian reuse) and the UHWO campus. While the greatest percentage of the developable area of the project is contemplated for residential use, the proposed project will generate employment opportunities during the construction period as well as after build-out. The project will include significant business and commercial areas that will provide employment opportunities. The proposed community will contribute to the larger goal of developing a "self-contained" second city within the greater master-planned Kapolei area in which residents can live, work, learn, play, and shop and will complement the City of Kapolei and 'Ewa's urban core.

Communities Designed to Support Non-automotive Travel. According to the *Ewa Development Plan*, master-planned residential communities will be designed to support pedestrian, bicycle, and public transit uses. A rapid transit corridor along Farrington Highway and the proposed North-South Road will link the City of Kapolei, Villages of Kapolei, UHWO campus, and Waipahu. The proposed project will be built along the corridor, with large areas of the project site either within walking distance of transit stations or accessible by feeder buses. As a mixed-use, transit-ready community, Hoʻopili will encourage residents to walk/bike to schools, parks, and business and commercial areas within the community, and use public transportation to commute to areas outside of the community.

**Preservation and Enhancement of Cultural Resources.** The *Ewa Development Plan* states: *Ewa's Historic and Cultural Resources will be preserved and enhanced by...retaining visual landmarks and significant vistas, including:* 

- Distant views of the shoreline from the H-1 Freeway above the Ewa Plain;
- Views of the ocean from Farrington Highway between Kahe Point and the boundary of the Waianae Development Plan Area;
- Views of the Waianae Range from H-1 Freeway between Kunia Road and Kalo'i Gulch and from Kunia Road;
- Views of na puu at Kapolei, Palailai, and Makakilo;
- Mauka and makai views; and
- Views of central Honolulu and Diamond Head.

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Views of Diamond Head and the Ko'olau Mountain Range will be created from the property, which is currently inaccessible to the public. The visual appearance of the property will change from vacant scrub and cultivated vegetation to a master-planned community with approximately 210 acres of parks and open space. The project will be designed to take advantage of the views of Wai'anae, central Honolulu, and Diamond Head.

Phased Development. The *Ewa Development Plan* originally set forth a phasing program with the objective of coordinating future development with existing and planned infrastructure. It is our understanding that the proposed update to the *Ewa Development Plan* will remove references to phasing. Ho'opili is the final non-Urban land within the Urban Growth Boundary in 'Ewa. With the planned completion of the North-South Road in 2008, the development of UHWO, planning of a residential and commercial development by DHHL, the construction of the Kroc (recreational, social services and community) Center and the planned development by Hawai'i Community Development Authority in Kalaeloa, the coordination of infrastructure with development is occurring through regular and frequent meetings between D.R. Horton and DHHL, UHWO and HCDA. In addition, D.R. Horton meets frequently with other State and County agencies, including the Department of Planning and Permitting, the Department of Transportation Services and the Department of Education.

#### LAND USE POLICIES, PRINCIPLES, AND GUIDELINES

According to the *Ewa Development Plan*, the vision for development of 'Ewa will be implemented through the application of land use general policies, principles and guidelines. The following describes those provisions applicable to the proposed project.

**Open Space Preservation and Development.** As much as 210 acres of parks and open space could be provided within the Petition Area. Additionally, Parcel D, comprising an additional 30 acres, will be maintained as open space and will be used for off-site drainage.

**Historic and Cultural Resources.** Five historic properties (SIHP Nos. 50-80-12-4344, 4345, 4346, 4347, and 4348) were documented during Cultural Surveys Hawaii's archaeological inventory survey of the Petition Area. All five historic properties have been assessed as eligible for the State Register of Historic Places under Criteria C and D, except for Site 4344, which is only eligible under criterion D. The State Historic Preservation Division (SHPD) concurs with these "signficance" assessments.

The SHPD also concurs with the consulting archaeologist's (Cultural Surveys Hawaii) mitigation recommendations, which include: (1) no further archaeological work at Site 4344, (2) preservation of Sites 4345, 4346, 4347, and 4348, and (3) archaeological

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monitoring in the vicinity of the four areas of historic habitation (Honouliuli taro lands, Kapalani Catholic Church, Pipeline Village, and Drivers/Stable Village).

According to SHPD, the archaeological inventory survey report is now accepted in fulfillment of Hawaii Administrative Rules 13-284 and 13-276. A preservation plan and archaeological monitoring plan will be prepared and submitted to SHPD for their review and approval. Should any archaeologically significant artifacts, bones, or other indicators of previous on-site activity be uncovered during construction phases of development, construction will halt and archaeological resources will be treated in strict compliance with the requirements of the DLNR.

#### PUBLIC FACILITIES AND INFRASTRUCTURE POLICIES AND PRINCIPLES

The Public Facilities Map and policies and principles of the *Ewa Development Plan* are provided to guide the planning and construction of proposed facilities and infrastructure systems. These guidelines have been incorporated into the planning for the proposed project.

**Public Facilities Map.** The Public Facilities Map shows a future intermediate school site and a future district park site in the vicinity of the Hoʻopili project site. The proposed project could include as many as five or more public school sites, depending on further discussions with the State Department of Education. As presently planned, the project includes accommodations for public facilities on six sites on a total of 100 acres. These sites could accommodate three elementary schools, one middle school, one high school and an additional public facilities space. A district park adjacent to proposed middle school site will serve the residents of Hoʻopili and the surrounding area. The number of public facilities proposed within the project site exceeds the requirements of the *Ewa Development Plan*.

Planned Extensions of the Roadway Network. Major planned and proposed roadway elements and other transportation system features have been considered in the planning of the proposed project. These include: setting aside additional right-of-way for the city's widening of Farrington Highway; multiple connections to Farrington Highway; connection to the proposed East-West Road; connection to the proposed North-South Road (under construction); construction of a mauka-makai "North-South Bypass" road; and transit nodes along Farrington Highway. While the transit alignment and transit station locations may be revised as part of the Honolulu High-Capacity Transit Corridor Project, the Hoʻopili Conceptual Land Use Plan is nevertheless ready to accept rail in multiple technologies and routes.

**Transit.** The project site is conveniently located adjacent to the H-1 Freeway, Farrington Highway, Fort Weaver Road, and the proposed North-South Road. Transit stations within the project will encourage the use of public transportation, while a mix of land use density

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and a system of pedestrian paths will encourage walking and bicycling within the community.

Planned Rapid Transit Corridor. As shown on the Public Facilities Map, a rapid transit corridor is planned to connect the City of Kapolei with Waipahu and the Primary Urban Center along Farrington Highway and down North-South Road. The project site is located adjacent to Farrington Highway and the proposed North-South Road, and will include transit stations to encourage the use of public transportation. While the transit alignment and transit station locations may be revised as part of the Honolulu High-Capacity Transit Corridor Project, the Hoʻopili Conceptual Land Use Plan is nevertheless ready to accept rail in multiple technologies and routes.

**Bikeway System.** The *Kapolei Area Bikeway Plan* (KABP), published by Campbell Estate in 1991, establishes a comprehensive bikeway network to serve the 'Ewa Plain. Bike paths within the project will be designed to encourage residents to bike between their homes and work, school, social, recreational and commercial areas. As currently planned, the project could include grade-separated bike/pedestrian paths and low-speed roads suitable for experienced bicyclists that as a network connects to the bikeway system proposed by the Kapolei Area Bike Plan,

**Water Allocation and System Development.** The Board of Water Supply (BWS) has a 440-foot elevation system and a 228-foot elevation system serving the project area. The project will use both systems and it is expected that it will require the construction of reservoir(s) above and below the H-1 Freeway, consisting of 5.0 million gallons (MG) of new storage at the 440-ft elevation and 1.5 MG of new storage at the 228-foot elevation.

**Wastewater Treatment.** The nearest sewer collection system to the project site is the Kapolei Interceptor located along the OR&L railroad tracks. All wastewater will be conveyed to the Honouliuli Wastewater Treatment Plan (WWTP) via new gravity sewer.

**Electrical Power Development.** Electricity for the project area is provided by Hawaiian Electric Company ("HECo"), which has an available generation capacity (peak demand) of approximately 1,669 megawatts (MW). As the project is built-out, demand will gradually increase. Much of this demand will be offset if the solid waste generated daily by the project is burned at the H-POWER plant, which can produce 1 MW of electricity for every 35 tons of solid waste burned. Specific peak electrical demand for this project will follow in the draft EIS. [new HECO power plant planned at the harbor?]

**Solid Waste Handling and Disposal.** The average weight of solid waste generated by the project will be calculated in the Draft EIS.

**Drainage Systems.** The proposed project will increase the amount of impermeable surfaces such as roofs, sidewalks, and roadways. This will result in an increase in storm

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runoff. To mitigate this increase, drainage improvements will be provided, including detention and retention basins and the use of Parcels D, D2, and E for off-site drainage. Detention basins are being planned and sited to detain stormwater to ensure that areas downstream of the Project will not be impacted.

**School Facilities.** The proposed project could include as many as five or more public school sites. The project could provide approximately 90 acres for Department of Education (DOE) school sites. Currently, three elementary schools, one middle school, and one high school are sited on the Conceptual Land Use Plan.

**Public Safety Facilities.** The project will comply with all Honolulu Fire Department requirements for access, water supply, and building construction.

#### CONSISTENCY WITH THE VISION FOR 'EWA

'Ewa will continue to experience tremendous growth, and has made significant progress toward providing a new, or secondary urban center for O'ahu. The population has nearly doubled since 1990 and is expected to double again by 2030. Job growth should be equally impressive with another 40,000 jobs expected to be created by 2025. O'ahu residents and visitors should be attracted to 'Ewa by a new university campus, new resort, ocean, and waterfront activities, major regional parks, and the city of Kapolei bustling with retail and commercial establishments and private and government offices. 'Ewa will be built around a regional system of open space and greenways so that it has the feel of a network of communities "within a garden."

Ho'opili is highly consistent with the goals and objectives of two primary recognized long-range development plans for the area, the City and County of Honolulu's directed growth policy for the area, the *Ewa Development Plan* (*Ewa DP*) and the Kapolei Area Long Range Master Plan, which was adopted by the City and County of Honolulu as part of Resolution 91-34. The *Ewa DP* states that growth in the area will include community building, not just project development, with communities designed to enhance lives, reduce automobile dependency, and be connected via a network of greenways.

Ho'opili fundamentally adheres to the best intentions of the area's long-range master plans and the possibilities for a better 'Ewa with its:

- concentrated mixed-use development pattern;
- embrace of "Traditional Neighborhood Design" and "Transit-Oriented Development" principles so that the entire project is walkable, connected and transit-ready;
- commitment to contributing to a strong jobs-housing balance within the greater Kapolei area;
- earmarking of large areas for community gathering places, schools, parks and open space and a comprehensive bicycle network; and

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• A density of nearly 12,000 homes that should provide many housing opportunities within the affordable and market-rate price ranges.

Ho'opili continues to be highly coordinated with major planning and development efforts by other regional developers, including the Department of Hawaiian Home Lands, the Hawai'i Community Development Authority and University of Hawai'i at West O'ahu. Meetings among regional developers as well as City and State agencies have been held on a regular and frequent basis to discuss shared infrastructure improvements, timing and connectivity. As a result, joint development agreements have been already been entered into between the area's developers and the City regarding regional sewer transmission line improvements, and more will follow.

Ho'opili can play a key role in actualizing the community's vision for 'Ewa and enhancing the desirability of living on the 'Ewa Plain. Ho'opili, or "coming together," is part of the bridge where Honolulu's existing central corridor that reaches to Waipahu meets the urban core of the 'Ewa Plain, the City of Kapolei. It is where neighboring towns from Waipahu to Ko Olina and from Makakilo to 'Ewa Beach will be welcome and can gather.

Residents should celebrate the benefits of this connected community for generations to come. Ho'opili is a community that is:

- o Going to enhance living in 'Ewa: more time spent with families, less vehicle trips/cleaner air quality, and greater community gathering opportunities;
- Highly liveable with a range of housing options including affordable, workforce, and senior housing – plus parks, community facilities, schools, diverse jobs and retail options;
- o Sustainable, "green" and requires less cars with its bicycle and pedestrian paths;
- o Innovative, incorporating principles of "Traditional Neighborhood Design," and "transit-oriented development"; and
- o Based on a healthy, live-work environment.

#### 1.9 STUDIES TO BE CONDUCTED AND INCLUDED IN THE EIS

The EISPN provides a description of the existing natural and social environment; the possible alternatives to the Project, and the Project's potential impacts and proposed mitigation measures. The information contained in the EISPN has been developed from site visits and generally available information regarding the characteristics of the Project area and surrounding areas. Technical studies are currently being prepared in order to

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assess the existing natural and physical conditions of the Project area. The specific findings on the Project's potential impacts to the Project area and the surrounding area will be included as part of the Draft EIS. These include:

- Agricultural Impact Analysis
- Air Quality Study
- Archaeological Inventory Survey
- Cultural Impact Assessment
- Faunal Survey
- Flora Survey
- Market and Fiscal Impact Study
- Noise Study
- Preliminary Engineering and Drainage Report
- Social Impact Assessment
- Traffic Impact Analysis Report

#### 1.10 Public Consultation

The following agencies and individuals were consulted about this Project:

#### **Federal**

- Army Corps of Engineers
- Navy

#### State of Hawai'i

- Governor
- Department of Education
- Department of Hawaiian Home Lands
- Department of Health
- Department of Land and Natural Resource
- Department of Transportation
- Hawaii Community Development Authority
- Land Use Commission
- Office of Planning
- University of Hawai'i West O'ahu

#### City and County of Honolulu

- Mayor
- Board of Water Supply
- Department of Planning and Permitting
- Department of Transportation Services
- Department of Environmental Services, Wastewater Management Division

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#### Other Agencies and Individuals:

- Maureen Andrade, Village Park Community Association
- Todd Apo, City Councilmember
- Gary Bautista, 'Ewa Neighborhood Board
- Dick Beamer, Retired Army/Honorary Mayor of 'Ewa Beach
- Scott Belford, HOSEFF Non-Profit
- Darrlyn Bunda, Waipahu Community Association
- Rida Cabanilla, State Representative
- John Condello, Hawai'i Theological Institute
- Charles Djou, City Councilmember
- BJ Dorman, Salvation Army Hawai'i
- Everett Dowling, The Dowling Company
- Kurt Fevella, 'Ewa Neighborhood Board
- John Field, Punahou School
- Mike Fitzgerald, Enterprise Honolulu
- Pearlyn Fukuba, HCDA/Kalaeloa
- Mike Gabbard, State Senator
- Nestor Garcia, City Councilmember
- Frank Genadio, Makakilo Resident, Committee for Balance Transportation
- Kevin Gilbert, Hawai'i Theological Institute
- · Carolyn Golojuch, Makakilo Resident
- Michael Golojuch, Palehua Community Association
- Scotty Gomes, Fellowship of Catholic Men
- Donna Goth, Aina Nui Corporation
- Sharon Har, State Representative
- Teri Ikehara, West Loch Estates President
- Dr. Val Iwashita, 'Iolani School
- Larry G. Jefts, Sugarland Farms
- Brian Kanno, Former State Legislator
- Guy Kidder, Fellowship of Catholic Men
- Walter Kirimitsu, Saint Louis School
- Coby Lynn, 'Ewa Beach Lion Club
- Eileen Lynn, 'Ewa Beach Resident
- Tesha Malama, 'Ewa Beach Resident
- Stephen Meder, UH Center for Smart Building and Community Design
- Dr. Mark Mitchell, Kahi Mohala
- Scott Mitchell, Fellowship of Catholic Men
- Mark Moses, Former State Legislator
- Richard Oshiro, Waipahu Neighborhood Board
- Kimberly Pine, State Representative
- Rodolfo Ramos, 'Ewa Task Force
- Peter Rappa, UH Sea Grant Extension Service
- Frances Rivero, 'Ewa Beach Boys and Girls Club

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- Ross Rolirad, Rotary Club
- Lou Salza, ASSETS School
- Dr. James Scott, Punahou School
- Alec Sou, Aloun Farms
- Chuck Sted, Hawaii Pacific Health
- Georgette Stevens, West O'ahu Economic Development Association
- Summer Thomson, 'Ewa Beach Boys and Girls Club
- Keith Timson, Makakilo Resident
- Maeda Timson, Kapolei Neighborhood Board
- Dean Uchida, Land Use Research Foundation
- Karen Wenke, 'Ewa Resident, 'Ewa Lions, Small Business Person
- Chuck Wheatley, Guardian Angels/Waipahu
- Daniel White, Island Pacific Academy
- Lance Widner, Royal Kunia Community Association
- Stephanie Widner, Royal Kunia Resident
- George Yakowenko, Waipahu Neighborhood Board
- Annette Yamaguchi, Waipahu Business Association
- Linda Young, Kapolei Neighborhood Board, Malani Iki Association

## HO'OPILI ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE

## 2.0 DESCRIPTION OF THE PROJECT

This chapter provides background information and a general description of the Project.

#### 2.1 BACKGROUND INFORMATION

#### 2.1.1 Project Location and Surrounding Uses

The Petition Area consists of 1,553.844 acres of the 1,704.265 acres in the Project Area. The Project area consists of eleven distinct parcels of land situated within the Agricultural District as shown in Figure 5: State Land Use. For purposes of this EISPN, the parcels have been labeled as A, B, C, D, D2, E, F1, F2, F3, G and H. The Petition Area parcels are A, B, and C. The remaining Project Area parcels, D, D2, F1, F2, F3, G and H, do not need to be reclassified to urban.

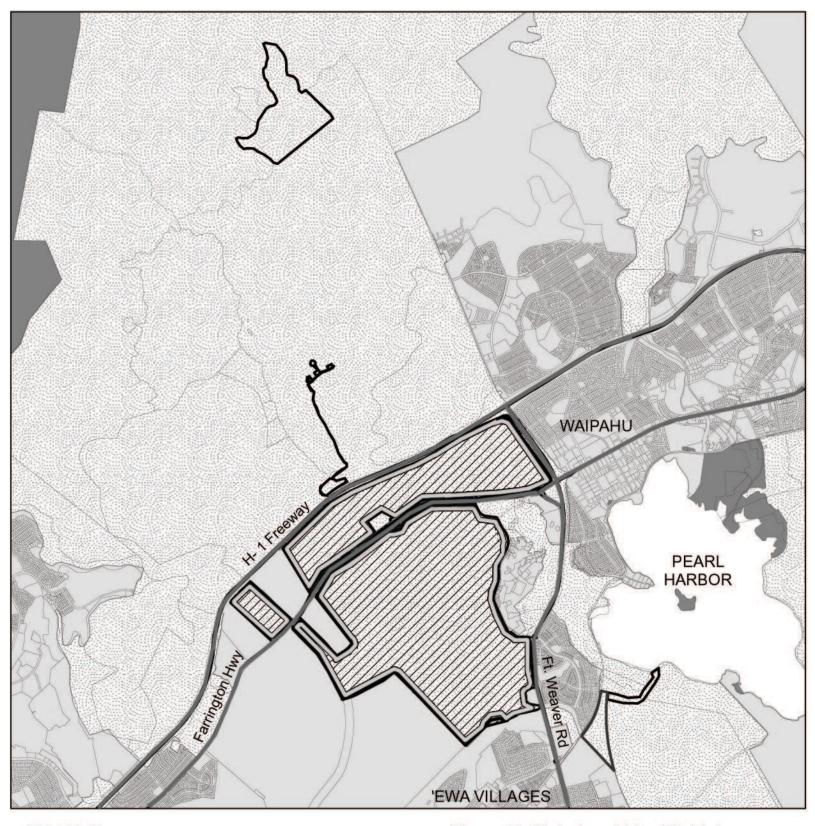
Parcel A is located west of Parcels B and C, and north of the UHWO. It is bordered by State land to the west, Farrington Highway to the south, the proposed North-South Road (under construction) to the east, and the H-1 Freeway to the north.

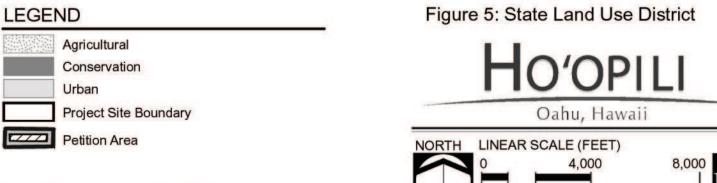
Parcel B is located north (mauka) of Parcel C and Farrington Highway. It is the second largest of the 11 parcels. Parcel B is bordered to the west by land proposed for multifamily residential use by the HCDCH, to the south by Farrington Highway, to the east by Kunia Road, and to the north by the H-1 Freeway. An out-parcel along Farrington Highway is used by Hawaiian Electric Company ("HECo").

Parcel C is located south (makai) of Farrington Highway. It is the largest of the 11 parcels. Parcel C is bordered by the proposed North-South Road to the west; State Department of Hawaiian Home Lands ("DHHL") landholdings, 'Ewa Villages, and the 'Ewa Villages Golf Course to the south; Old Fort Weaver Road and (new) Fort Weaver Road to the east; and Farrington Highway to the north. There are two out-parcels along Farrington Highway. One out-parcel of land near the planned University of Hawai'i West O'ahu ("UHWO") campus and North-South Road is proposed for multi-family residential use by the Housing and Community Development Corporation of Hawai'i ("HCDCH"). The other out-parcel of land is used by the City and County of Honolulu Board of Water Supply ("BWS").

Parcel D is located east of the other four parcels and Fort Weaver Road. Pearl Harbor National Wildlife Refuge is located to the north, West Loch Estates is located to the northwest, 'Ewa by Gentry is located to the south and southwest, and Waipahu and Pearl Harbor are located to the east.

Parcel D2 functions as an outlet, connecting Parcel D to Pearl Harbor and its use would require approval from the United States Navy.





Source: State Land Use Commission (2004)

Disclaimer: This graphic has been prepared for general planning purposes only.

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Parcel E is located the furthest north (mauka) of the other four parcels and the H-1 Freeway. It is surrounded by open space.

Parcels F1, F2, and F3 are located north (mauka) of the H-1 Freeway. The parcels are numbered from west to east, with F1 on the west and F3 on the east. All are surrounded by open space, and are connected to Parcel G via narrow parcel of land which will serve as a waterline.

Parcel G is located north (mauka) near to the H-1 Freeway. It is linked to Parcels F1, F2, and F3 by a narrow band of land. It is bordered by the H-1 Freeway on the southern boundary and by open space on its north, east and western sides.

Parcel H is adjacent to the makai boundary of Parcel C and is located north (mauka) of the 'Ewa Villages Golf Course.

The Project is not situated in a Special Management Area or Shoreline Setback.

#### 2.1.2 Description of the Project Area

The Project area has been used primarily for agricultural purposes. The Project area was previously leased to the Ewa Plantation Company/Ewa Sugar Company and the Oahu Sugar Company. The Project area's current tenants and existing land uses are listed in Table 2 below.

Table 2. Current Tenants and Existing Land Uses

Tenant	Land Uses
	Diversified agriculture, pasturage,
Aloun Farm, Inc.	storage/processing/distribution facility for farm
	produce
Sugarland Farms, Inc.	Grazing of livestock, cultivation of crops
Rocker G. Livestock (dba Bud Gibson)	Pasturage
Larry G. Jefts	Diversified agriculture, ranching and grazing
Larry G. Jetts	of cattle
Garst Seed Company	Cultivation of legal seed corn and other
Gaist Seed Company	agricultural crops
Roberts Hawaii School Bus, Inc.	Parking of no more than 30 school buses and
Roberts Hawaii School Bus, Inc.	60 Handi-Vans
Hawaii Agricultural Research Center	Agricultural research station

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#### 2.1.3 Community Planning Process

Representatives from various West Oahu community groups began work on formulating a vision and master plan for a new West Oahu community being planned by D.R. Horton in October 2005. The group, the Hoʻopili Community Task Force, met nearly once a month – and sometimes more often – for a year (October 13, 2005; November 9, 2006; February 1, 2006; March 1, 2006; March 29, 2006; April 17, 2006; May 15, 2006; June 5, 2006; June 26, 2006; August 14, 2006; October 16, 2006), to explore the communities' needs and desires for the completion of the 'Ewa Vision on topics such as "gathering place," "parks and community facilities," "transportation and infrastructure," "education," "employment," and "housing."

The planning effort produced a community-driven vision for a new kind of development, one that improves the quality of people's lives by allowing them to live, work, learn, shop and play...all right in their own community.

The proposed plan for Ho'opili – which means "coming together" in Hawaiian – reflects the ideas, hopes and dreams of what the community wanted to see in this new community. The plan reflects the communities' desire for vibrant and safe neighborhoods where people feel a sense of connection with one another, and with the rest of O'ahu.

The Conceptual Land Use Plan also reflects the desire for a community that provides: affordable living options; employment centers; quality schools; shopping, gathering and recreational places; and parks and open space for residents.

Finally, the community expressed a desire to see this new community incorporate green building practices and to be an environmentally-sound, healthy and resource-efficient community.

The Ho'opili Community Task Force identified three core values for its vision for 'Ewa:

#### Connected community.

- Connect the City of Kapolei with the surrounding communities of 'Ewa, 'Ewa Beach, 'Ewa Villages, Honouliuli, Kalaeloa, Kunia, Makakilo, Waipahu, West Loch, and the rest of O'ahu;
- Make it easy for residents to connect to local shops, parks, schools, employment areas, such as the City of Kapolei and the planned University of Hawai'i at West O'ahu through a walkable, transit-oriented community with pedestrian/bicycle paths.
- Acknowledge the transportation issues in 'Ewa, and provide a thoughtful and real response to these issues.
- Use technology to connect businesses and residents with others to create a healthy "live-work" environment.

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#### Lifestyle-enhanced community.

- Create a healthy, balanced and vibrant community that offers a unique urban lifestyle in a "village" setting.
- Provide a wide diversity of housing, including truly "attainable" housing.
- Create a "gateway" to West O'ahu that establishes a strong sense of place and a warm sense of community, both for this generation and the next.
- Plan for schools of every type: public and private; daycare through bachelor's degree; and life-long learning opportunities.
- Provide more quality jobs so people can live, work and thrive in their own community.
- Provide a gathering place that creates a real community "center" and gives residents "somewhere to go."

#### o Sustainable "green" community.

- Incorporate green building practices and an environmentallysound, healthy and resource-efficient community.
- Provide lots of parks, open space and community facilities.
- Plan for and properly-phase utility infrastructure
- Reduce automobile dependency by creating a compact community with a mix of land uses.
- Preserve views to Diamond Head and surrounding mountains.

The Ho'opili Community Task Force's vision and values manifested itself in the following proposed land uses for a mixed-use community:

## Variety of Parks and Open Space

Various large and small parks are planned throughout Ho'opili. These include:

- A District Park with active playfields;
- Canyon Park (a unique "wilderness"-type park);
- Civic Plaza a community gathering space for outdoor concerts, farmer's markets, etc.;
- Neighborhood parks, located throughout the project to be within walking distance of most residences;
- Linear parks and open space that encircle Ho'opili with walking/biking paths.

## **Various Community Gathering Spaces**

Ho'opili is planned to provide a number of gathering places including the Civic Plaza, the various parks, a community center, houses of worship and new public school cafetoriums that can be used for community meetings, etc.

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#### **Wide Range of Educational Facilities**

A range of educational facilities are planned for Ho'opili residents, either on-site or nearby. Possible schools include daycare and/or pre-school facilities, public elementary schools, a public middle school, and a public high school, and possibly a private school. Ho'opili will also be designed to connect with the new UH West Oahu campus. Providing such facilities in Ho'opili will help reduce trips outside of 'Ewa.

#### **Diverse Career Opportunities**

Through 2025, it is expected that more than 40,000 new jobs will be created in the 'Ewa region and Kapolei. While many of its residents might fill these jobs, Ho'opili is designed to be a well-balanced community, hoping to allow residents the opportunity to integrate their personal and professional lives by offering a number of new employment alternatives. D.R. Horton hopes to help attract new employers to the area in its goal to achieve a jobs-housing balance to help reduce the need for commuting outside of 'Ewa. Possible jobs-creation areas include research and development parks associated with UH West Oahu, medical offices that will compliment St. Francis and Kahi Mohala, schools, offices, restaurants and retail. As at Mehana, in the City of Kapolei, Ho'opili will include "live-work" units where residents can own homes that also serve as business locations. Off-site, but within 'Ewa, career-type opportunities include those at the City of Kapolei, Ko Olina and UH West O'ahu.

#### **Various Home Choices**

Ho'opili is planned to feature a variety of housing options, including: low-density residential, including single-family homes; medium-density (including "live-work" housing featuring townhouses and semi-attached homes); and higher-density residential condominiums and apartments.

#### **Shopping, Dining and Entertainment Choices**

Ho'opili is planned to include shopping, dining and entertainment establishments concentrated within walking distances of the Civic Plaza, medium and higher density residential areas, offices and the two planned rail transit stops. These establishments should add to the social opportunities within 'Ewa and reduce the need to drive to "town" for shopping, dining and movies.

#### **Multi-Modal Transportation**

Ho'opili is designed to be bus/rail transit-ready with a vast, interconnected internal street grid that provides numerous ways of getting around by car, biking and walking.

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### **Pedestrian-Friendly Environment**

Ho'opili is planned to include a comprehensive pedestrian/bike system that connect homes to schools, gathering places, community facilities, parks and open spaces. Also, Ho'opili's proposed mix of land uses should mean that jobs, goods and services that residents need (including day care), will be either just "steps away" or a "couple of doors down." Reducing automobile dependency can lead to an enhanced lifestyle that encourages healthy living.

D.R. Horton will consult with the area Neighborhood Boards prior to the publication of this EISPN.

#### 2.2 GENERAL DESCRIPTION OF THE PROJECT

## 2.2.1 Ho'opili Conceptual Land Use Plan

The Proposed Action involves the reclassification of approximately 1,553.844 acres from the Agricultural District to the Urban District. Urbanization of the petition area will enable D.R. Horton to develop is proposed Conceptual Land Use Plan (Figure 3). The proposed Hoʻopili Conceptual Land Use Plan will be a community for residents to live, work, learn, play, and shop.

To achieve the communities' vision for Ho'opili, a Conceptual Land Use Plan has been formulated that illustrates a mixed-use community that would complete and connect Kapolei with the surrounding communities. Originating from the common vision and values of a community-driven planning effort, the conceptual plan contains a series of neighborhoods with a mix of uses including residential, retail, office and light industrial. Included in this mix are a series of parks, schools, public buildings and community centers which act as a focus and help define the identity of each neighborhood.

Ho'opili is planned to be connected to the surrounding 'Ewa District by a network of streets and bicycle paths which allow a variety of circulation options for residents and visitors. Wider tree-lined boulevards create a distinct axis running north-south and east-west across the site. The two future mass transit line alignments being studied through 'Ewa go along Farrington Highway, and could include two potential station locations which act as denser neighborhood centers for higher intensity development.

In the geographical center of the site there is a public square or Civic Plaza that is surrounded by higher density housing development and mixed-use buildings. Housing intensity transitions to lower-density, small-lot single family homes along the eastern and southern peripheries of the site. A significant open space and pedestrian/bicycle trail network should provide a wide variety of recreational opportunities for residents and other

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members of the 'Ewa community. It is meant that Ho'opili incorporate traditional Hawaiian building styles with a modern, contemporary aesthetic and will reflect the landscape and climate.

The general land use allocation illustrated on the Conceptual Land Use Plan is summarized in Table 3 and described below:

#### Low-Medium Density Residential/Live-Work

Ranging from traditional single family detached homes on varying lot sizes to multifamily dwellings with a variety of live-work opportunities, there are approximately 535 gross acres (which includes secondary roads and neighborhood parks) planned to accommodate approximately 5,100 residential units at densities of 5 to 14 units per acre. These areas would include neighborhood parks located as focal points and activity centers of the community.

#### Mixed-Use/Medium Density Residential

Planned to be oriented along future mass transit and major roadway alignments, these medium density mixed use districts would include live-work residential units or residential uses over ground floor commercial and office uses. Within these districts that comprise approximately 340 gross acres (which includes secondary roads, off-street parking and neighborhood parks), there are approximately 5,200 dwelling units planned at densities of 15 to 29 units per acre along with retail and office use.

#### Mixed-Use/High Density Residential

Planned to be located near major transportation junctions, these higher density mixed use districts would include commercial, office space, and higher density live-work residential units or residential uses above ground floor businesses. Within these districts that comprise approximately 50 gross acres (which includes secondary roads, off-street parking and neighborhood parks) would be approximately 40 net developable acres that would accommodate approximately 1,450 dwelling units planned at densities of 30 to 50 units per acre along with retail and office use.

#### Business / Commercial

To serve the neighborhoods and surrounding communities and to provide a variety of employment opportunities within Ho'opili, the business/commercial uses are located to be conveniently accessed from the major transportation corridors of the region. The approximately 145 gross acres illustrated (which includes secondary roads and off-street parking) are estimated to yield a net development area of approximately 130 acres that are projected to accommodate retail and office use. These areas would be significant employment generators for Ho'opili and the region.

#### Light Industrial / Business Mixed-Use

To meet regional demands and to provide for an additional employment center for

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Ho'opili, approximately 50 gross acres (which includes secondary roads and off-street parking) are planned to provide an area for larger light industrial type users and businesses. It is estimated that there would be a net development area of approximately 40 acres industrial mixed-use.

#### Open Spaces / Buffers

Integral to the connectivity of Ho'opili to the surrounding neighborhoods, a variety of open space buffers and drainage detention areas are planned. Some of the key open space buffers include along the H-1 Freeway, Honouliuli Gulch and along Old Fort Weaver Road.

#### **Parks**

Some of the key parks being planned include a district park along Fort Weaver Road and a downtown civic square to serve as the community gathering area.

#### Neighborhood Parks

Integral to the establishment and identity of neighborhoods, a variety of smaller parks of approximately one to two acres in size are planned. Properly planned and located, most residents will be within walking distance of one of these neighborhood parks.

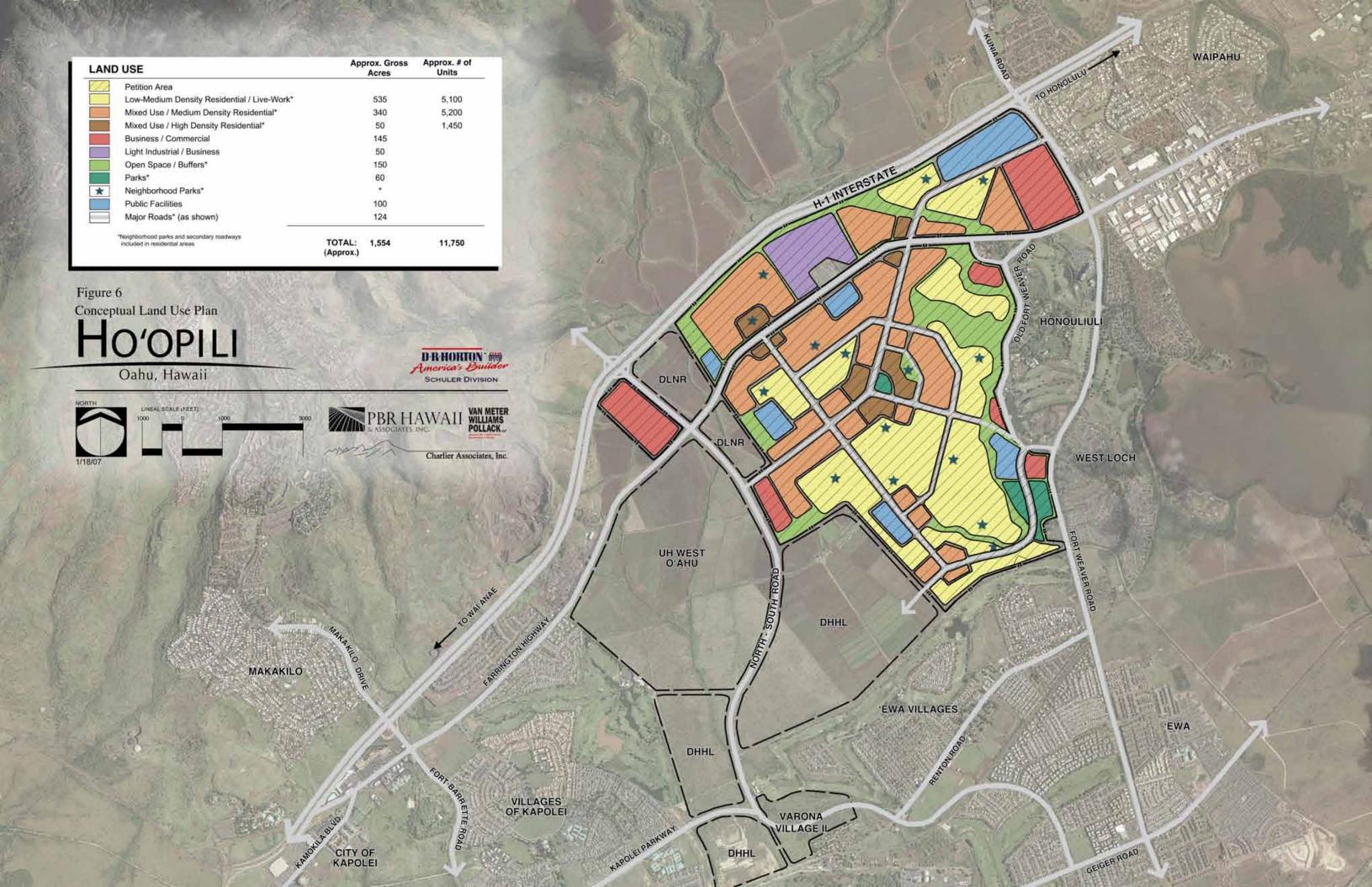
#### **Public Facilities**

The proposed project could include as many as five or more public school sites. The Conceptual Land Use Plan shows the possible locations for five DOE school sites planned to be as accessible as possible to the neighborhoods of Hoʻopili as the community is developed; one high school, one middle school and three elementary schools. The plan can also accommodate private schools as the need is determined. In addition, area is set aside along Fort Weaver Road for either a fire station or a police substation. In total, approximately 100 acres are allocated to meet public facility needs.

#### **Major Roads**

To provide for improved regional circulation and to define and serve the various neighborhoods of Hoʻopili, the major boulevards planned within the community are illustrated. In addition, the plan includes a well planned network of local streets to provide connectivity and alternate routes throughout the community in a safe and pedestrian friendly manner. This land use category includes the portion of the property that will be utilized for 1) the widening of Farrington Highway, 2) the construction of North-South Road, and 3) the intersections of North-South Road with Farrington Highway and the H-1 Freeway.

Proposed land uses are shown in the Conceptual Land Use Plan (Figure 6: Conceptual Land Use Plan) and generally described below. The approximate land use areas may be adjusted as the proposed Hoʻopili Conceptual Land Use Plan is refined through the land use review and approval process.



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Table 3 CONCEPTUAL LAND USE PLAN – LAND USE SUMMARY FOR PETITION AREA

Land Use Legend

	Approximate Gross Acres	Approximate Developable <u>Net Acres</u>	Approximate No. of Units	General Land Use <u>Density Range</u> (Dwellings/Units per Acre)	Proposed Zoning
Low-Medium Density Residential/Live-Work*	535	400-475	5,100	5-14	R-5/AMX-2
Mixed Use/Medium Density Residential*	340	250-300	5,200	15-29	AMX-3
Mixed-Use/High Density Residential*	50	40	1,450	30-50	BMX-3
Business / Commercial	145	130			В1
Light Industrial Business Mixed Use	50	40			IMX-1
Open Space / Buffers*,**	150	na			P-2
☐ Parks*	60	na			P-2
☐ Neighborhood Parks*	*	na			P-2
Public Facilities	100	na			AMX-3
☐ Major Roads (as shown)**	124	na			varies
Total (approximate):	1,554 Acres		11,750 Units		

<sup>\*</sup>Neighborhood parks and secondary roadways included in residential areas
\*\*Might increase as developable areas decrease in residential and commercial categories

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## 2.2.2 Infrastructure Improvements

In support of the Project, infrastructure facilities to be installed, expanded or improved include access and circulation roadways, drainage systems, water and wastewater collection lines, and electrical/communication systems. All infrastructure improvements will be designed and sized to accommodate the Project. Project construction will commence with development of the infrastructure upon issuance of the necessary grading permits.

Major on-site infrastructure improvements required for the Project include: facilities for water transmission and distribution; wastewater collection; traffic circulation; drainage; and electrical and communication systems. Preliminary master infrastructure plans will be included in the Draft EIS.

## 2.2.3 Project Development Timetable and Preliminary Costs

The following Table 4 is an approximate list of major permits and approvals required for the implementation of the proposed Ho'opili Conceptual Land Use Plan.

**Table 4. Required Permits/Approvals** 

Permit/Approval	Approving Authority	Timeframe	
State Land Use District Boundary Amendment (with EIS)	State of Hawai'i Land Use Commission	Approx. two years to complete	
Change in Zoning	City and County of Honolulu Department of Planning and Permitting	To be filed assuming successful processing of SLUDBA	
Subdivision Permits	City and County of Honolulu Department of Planning and Permitting	To be filed after change in Zoning	
National Pollutant Discharge Elimination System (NPDES) Permit	State of Hawai'i Department of Health	To be filed before Building/Grading Permits	
Building/Grading Permits	City and County of Honolulu Department of Planning and Permitting	Approx. 2010-2012	

# 3.0 ASSESSMENT OF THE EXISTING NATURAL ENVIRONMENT, POTENTIAL IMPACTS, AND MITIGATION MEASURES

The Project reflects a logical extension of existing and planned urban development on the 'Ewa Plain, O'ahu's "Second City". This chapter describes the existing natural environment associated with the Project area and the Project's potential impacts that may result from proposed development. Mitigation measures are proposed to address the Project's potential project impacts.

#### 3.1 CLIMATE

## **Existing Conditions**

Average annual daily minimum and maximum temperatures in the Project area are 65 and 84 degrees Fahrenheit, respectively. The annual prevailing wind direction for this area of O'ahu is east northeast, about 40 percent of the time, at approximately 10 knots (12 miles per hour). The 'Ewa Plain experiences light rainfall, with a mean annual precipitation of about 20 inches per year, most of which occurs between the months of November and April.

## Anticipated Impacts and Mitigation Measures

The Project is not expected to have an impact on regional climate. With Project buildout, there may be some localized increase in temperature as a result of paved surfaces and roofs. However, shade trees will be incorporated into Project landscaping and necessary irrigation will help mitigate any localized temperature increases from roadways, walkways, and buildings.

#### 3.2 TOPOGRAPHY

## **Existing Conditions**

The island of O'ahu was built by the extrusion of basalt and basaltic lava from two shield volcanoes, Wai'anae and Ko'olau. The Project area is located on the southwestern flank of the Wai'anae Volcano. A sedimentary wedge, formed by eroded sediment and coral and algae, is located in the Project area and to the south. This wedge forms the 'Ewa Plain and serves as the "caprock" over the Southern O'ahu Basal Aquifer ("SOBA").

The approximately 1,704.265-acre Project area consists of 11 distinct parcels of land (See Figure 3: Parcels Map). Parcels A, B, C, D, D2 and H are situated makai of the H-1 Freeway while Parcels E, F1, F2, F3, and G are situated mauka of the H-1 Freeway. The topography of each of the 11 parcels is described below.

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The topography of Parcel A ranges from approximately 150 feet above mean sea level (MSL) at Farrington Highway to approximately 210 feet MSL at the H-1 Freeway. The slope of Parcel A is 3 percent.

The topography of Parcel B ranges from approximately 170 feet MSL at the southwestern boundary (at Farrington Highway) to approximately 205 feet MSL at its northwestern boundary (at the H-1 Freeway). The topography of Parcel B at the southeastern boundary (at Farrington Highway) is approximately 75 feet MSL and approximately 175 feet MSL at the northeastern boundary (at the H-1 Freeway). The slope of Parcel B is between 1.9 percent and 3.2 percent.

The topography of Parcel C ranges from approximately 65 feet MSL at its southern boundary to approximately 175 feet MSL at Farrington Highway. The slope of Parcel C is 1.4 percent. A ravine and steep, east-facing slope are located on the eastern boundary of the Parcel C, along Old Fort Weaver Road.

The topography of Parcel D ranges from approximately 10 feet MSL at its northern boundary to approximately 40 feet MSL at its northern boundary. The central portion of Parcel D is 25 feet MSL. The slope of Parcel D is 1.2 percent. Parcel D2 ranges from 0 feet at its northern boundary to 35 feet MSL at its southern boundary with a slope of 1.1 percent.

The topography of Parcel E ranges from approximately 540 feet MSL at its southern boundary to approximately 640 feet MSL at its northern boundary. The slope of Parcel E is 2.7 percent.

The topography of Parcels F1, F2 and F3 ranges from approximately 410 feet MSL at their southern boundaries to 415, 430 and 415, respectively at their northern boundaries. The slope of parcel F1 is 2.8 percent, the slope of F2 is 3.5 percent, and the slope of F3 is 3.9 percent.

The topography of Parcel G runs with an east-west slope with an elevation of 240 feet MSL on the western boundary and an elevation of 205 on the eastern edge. The center of the parcel is at an elevation of 220 feet. Parcel G has a slope of 3.49 percent on the east-west axis.

The slope of Parcel H is approximately 3 percent.

The entire Project area has been historically utilized for sugarcane cultivation and large portions are currently utilized for agricultural production. As such, the Project area has been extensively modified with dirt roadways, various irrigation systems, and other appurtenant agricultural structures.

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## **Anticipated Impacts and Mitigation Measures**

The topography of the Project area will be modified with infrastructure improvements and urban structures for residential, commercial, and educational uses. The Project area will include parks and will be extensively landscaped to minimize the potential for soil erosion. Compared to existing conditions in which the land is vacant or used for agricultural production, the proposed drainage system for the Project will provide better control and management of surface runoff during intense storms.

All grading operations will be conducted in accordance with dust and erosion control and other requirements of the City and County of Honolulu Grading Ordinance. All construction activities must comply with the relevant provisions regulating Fugitive Dust set forth under Section 11-60.1-33, HAR. A grading permit is required to modify the topography, and additionally, a National Pollutant Discharge Elimination System ("NPDES") permit will be required prior to construction to address non-point source discharges.

#### **3.3 SOILS**

## **Existing Conditions**

**Natural Resources Conservation Service Soil Survey.** The Project area includes several different soil types, as classified by the Natural Resources Conservation Service. Table 5 lists these soil types and their potential for erosion.

**Table 5. Soil Types and Erosion Potential** 

Soil Type	Erosion Potential
'Ewa Silty Clay Loam, 3-6% Slopes	Slight
Honouliuli Clay, 0-2% Slopes	No More Than Slight
Honouliuli Clay, 2-6% Slopes	Slight
Kaloko Clay, Noncalcareous Variant	None-Slight
Kawaihāpai Clay Loam, 0-2% Slopes	No More than Slight
Kolekole Silty Clay Loam 6-12% Slopes	Moderate
Kolekole Silty Clay Loam 12-25% Slopes	Moderate-Severe
Kunia Silty Clay, 0-3% Slopes	No More than Slight
Kunia Silty Clay, 3-8% Slopes	Slight
Kunia Silty Clay, 8-15% Slopes	Moderate
Moloka'i Silty Clay Loam, 3-7% Slopes	Slight-Moderate
Moloka'i Silty Clay Loam, 7-15% Slopes	Moderate
Waialua Silty Clay, 0-3% Slopes	No More than Slight
Waipahu Silty Clay, 0-2% Slopes	None-Slight
Waipahu Silty Clay, 2-6% Slopes	Slight
Waipahu Silty Clay, 6-12% Slopes	Moderate
Wahiawā Silty Clay Loam 0-3% Slopes	Slight

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Figure 7: Natural Resources Conservation Service Soil Survey shows the distribution of soils within the Project area.

## **Anticipated Impacts and Mitigation Measures**

During Project construction, there is a potential for soil loss through the generation of dust and water-borne soil erosion as areas are graded. All grading operations will be conducted in accordance with dust and erosion control and other requirements of the City and County of Honolulu Grading Ordinance and all applicable provisions regulating Fugitive Dust set forth under Section 11-60.1-33, HAR regarding. A NPDES permit will also be required prior to construction to address construction-related runoff. Additionally, a watering program will be implemented during construction to minimize soil loss through fugitive dust emission.

After construction, landscaping and drainage improvements will provide permanent post-construction pollution control measures and minimize the potential for soil erosion. Since much of the Project area presently consists of cultivated crops, exposed soil, and scrub vegetation, overall soil loss will likely be reduced significantly after development compared to previous and current conditions in which the land is used for agricultural production.

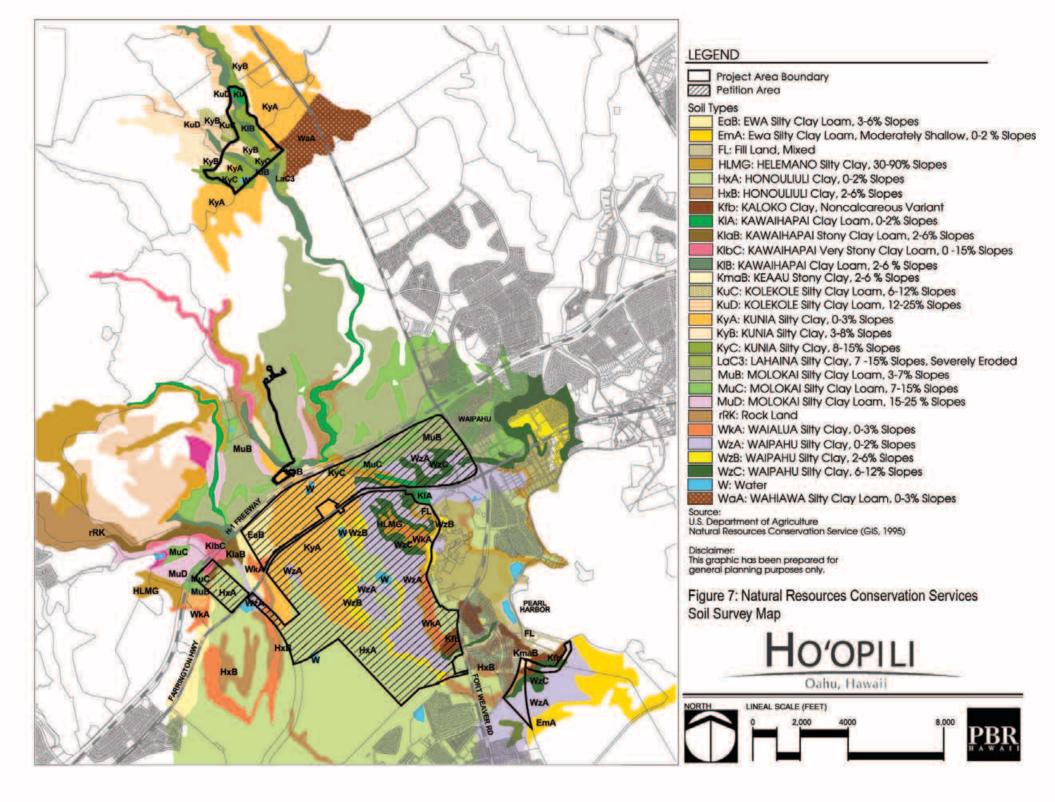
#### 3.4 AGRICULTURAL IMPACT

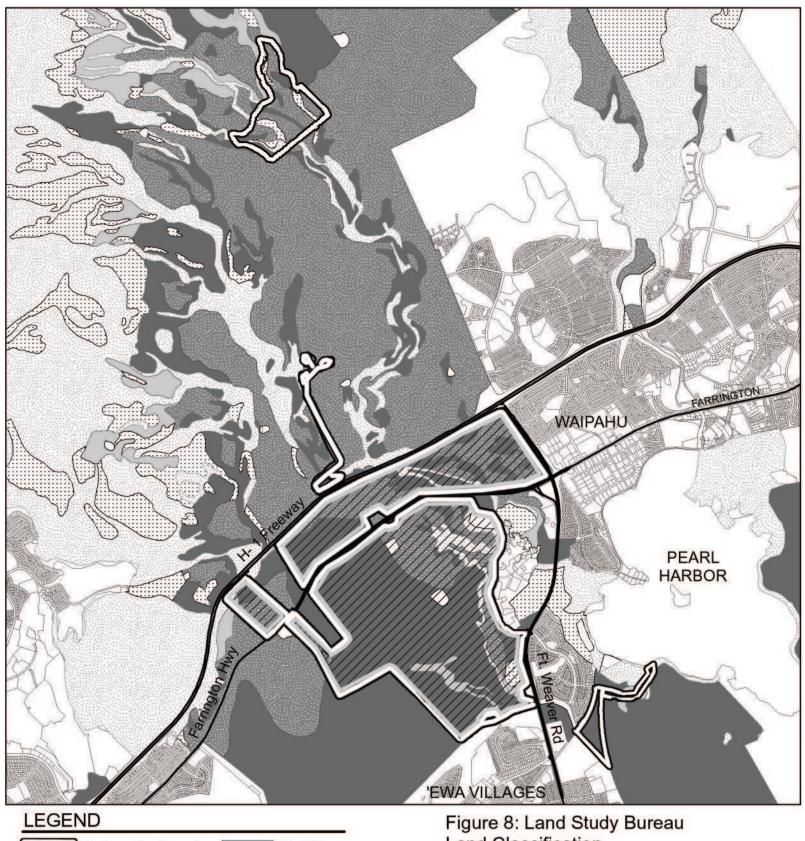
## **Existing Conditions**

Land Study Bureau Detailed Land Classification. The Detailed Land Classification (1965 through 1972) series was produced for each island by the Land Study Bureau (LSB) of the University of Hawai'i. The intent of this series of reports was to develop a land inventory and productivity evaluation based on statewide standards of crop yields and levels of management.

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. Most of the soils within the Project area are rated B (Figure 8: Land Study Bureau). Other soils are rated A, with fewer soils rated C, D, and E. These soil ratings reflect the Project area's past and present use for agricultural production under irrigated conditions.

**Agricultural Lands of Importance to the State of Hawai'i.** The Agricultural Lands of Importance to the State of Hawai'i (ALISH) (1977) system classifies lands that are important to agriculture in Hawai'i as Prime, Unique, or Other Agricultural Land, with Prime Agricultural Land representing the class of greatest importance and Other Agricultural Land the least. Most of the Project area includes soils identified as Prime





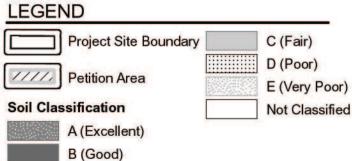


Figure 8: Land Study Bureau Land Classification



Oahu, Hawaii

LINEAR SCALE (FEET) 4,000 8,000

Source: Land Study Bureau (1967)

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Agricultural Land, which is defined as "land best suited for the production of food, feed, forage, and fiber crops." The remaining lands are identified as Other Agricultural Land (which is important to agriculture in Hawai'i but exhibits properties that exclude it from the Prime or Unique Agricultural Land classifications) or are not classified by the ALISH system (Figure 9: Agricultural Lands of Importance to the State of Hawai'i).

The approximately 1,553.844 acre Petition Area was cultivated in sugarcane since at least 1939. Currently, there are several leases on the land for diversified agriculture, pasturage, and agricultural research. Water payment for several of the agricultural lessees is being subsidized by D.R. Horton. These existing leases are listed in Table 2 of Section 2.1.2.

## **Anticipated Impacts and Mitigation Measures**

Since D.R. Horton intends to develop the Project in phases, it will only withdraw land from the leases on an as needed basis for construction and development and as provided for in agreements with the individual lessees. Within the Project area, lands will gradually be withdrawn from agricultural production for residential, commercial, and educational uses. An agricultural impact assessment will be included in the Draft EIS.

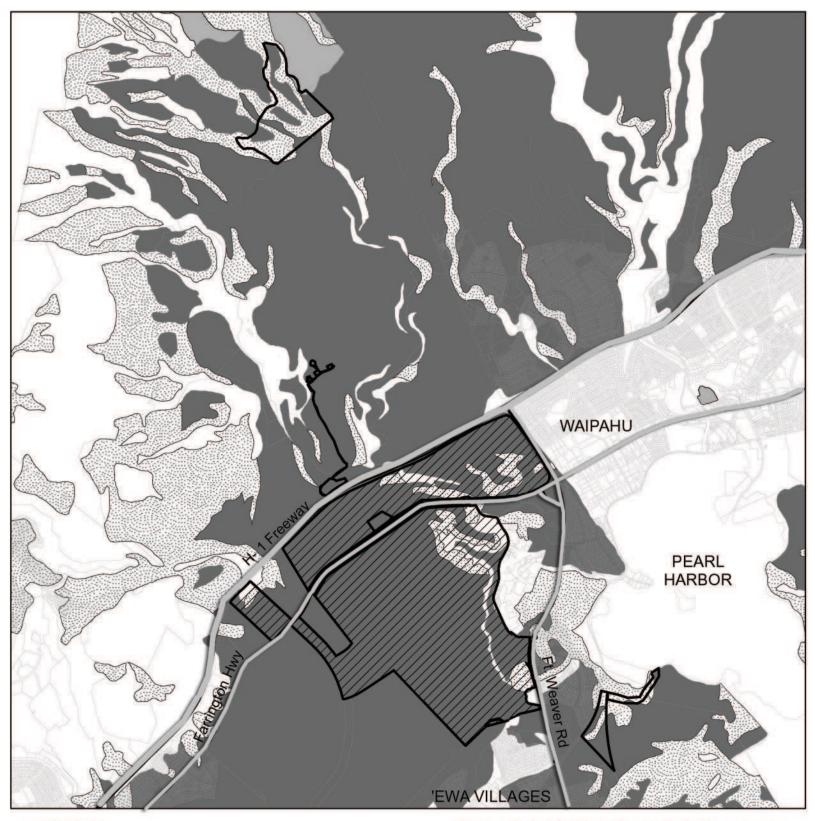
## 3.5 GROUNDWATER RESOURCES/HYDROLOGY

## **Existing Conditions**

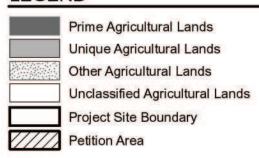
The 'Ewa region of O'ahu overlies the Southern Oahu Basin Aquifer (SOBA), a designated Sole Source Aquifer. The gently sloping topography of the 'Ewa Plain is comprised of terrestrial alluvium, which is made up of clay and mud eroded from volcanic rock. The terrestrial alluvium is inter-layered with coral limestone deposited during periods when the area was covered by the ocean. This geologic feature is commonly referred to as "caprock". The caprock is located makai of the H-1 Freeway and is approximately 1,000 feet thick near the shoreline. Water in the caprock is too saline to be potable.

The potential for surface water contamination under the caprock is low due to artesian conditions and the relatively impermeable caprock. Infiltration of surface water mauka of the caprock could cause contamination to the potable ground water resource since the caprock is no longer present to function as a barrier in this area. Hydrological modeling predicts that the salinity of the caprock aquifer will increase as fresh water recharge declines with the reduction in sugarcane irrigation.

DOH has established the Underground Injection Control ("UIC") line at North Hanson Road (south of the Project area). The primary purpose of the UIC line is to protect potential sources of drinking water by not allowing wastewater injection wells or cesspools mauka of the line. The Project area is situated mauka of the UIC line.



## **LEGEND**



Source: State Dept. of Agriculture (1977).

Disclaimer: This graphic has been prepared for general planning purposes only.

Figure 9: Agricultural Land of Importance to the State of Hawaii (ALISH)

# Hoʻopili

Oahu, Hawaii

NORTH LINEAR SCALE (FEET)
0 4,000 8,000
PBI

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A well-defined stream channel is the only existing hydrological feature within the Project area. Honouliuli Stream channel acts as the primary channel for runoff from part of the Project area and drainage of the watershed upstream. Runoff waters and discharge waters from the BWS tanks upstream pass through the site in this stream channel. Within the Project area, surface water in the channel does not appear to be connected to the groundwater.

The Honouliuli Stream discharges into the Pacific Ocean at West Loch, Pearl Harbor. The mouth of the stream is located at the western border of the West Loch Golf Course. Fishponds, small feeder channels, and tidal flats were observed near the mouth of the stream.

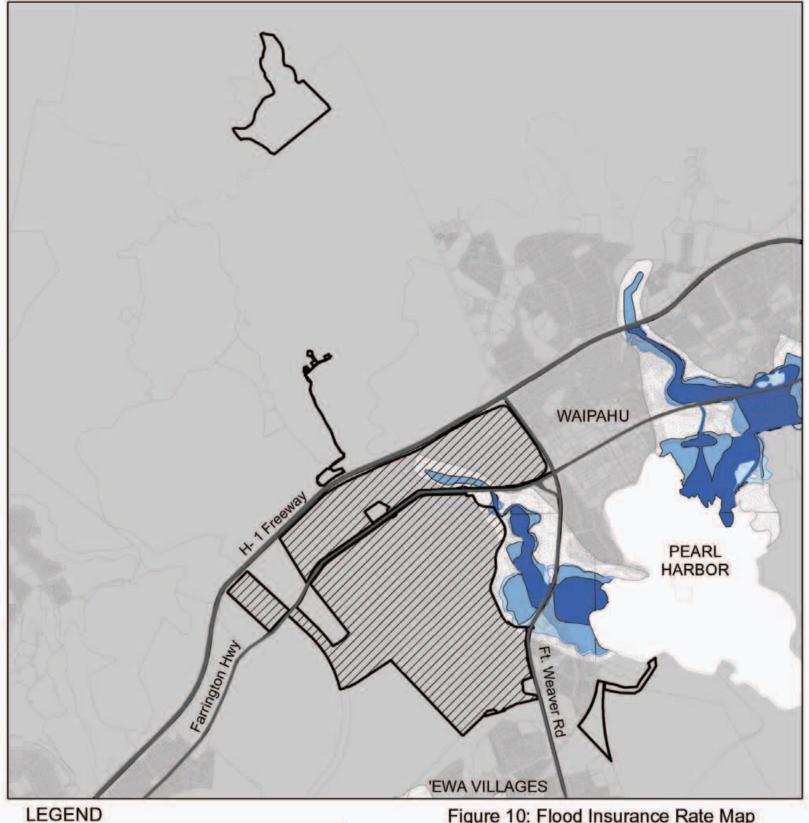
The Federal Emergency Management Agency ("FEMA") classifies flood hazard zones as part of the Flood Insurance Program for the City and County of Honolulu. According to the Flood Insurance Rate Map ("FIRM"), the majority of lands within the Project area are in Zone D (See Figure 10: Flood Insurance Rate Map). A very small portion of Parcel C within Honouliuli Stream is located in Zone AE and Zone X. A portion of Parcel B within Honouliuli Stream is located in Zone A and Zone X. These flood zones are described in Table 6 below.

**Table 6. FIRM Designations** 

Zone	Description
Α	Areas inundated by 1 percent annual chance flooding,
A	for which no base flood elevations have been determined
AE	Areas inundated by 1 percent annual chance flooding,
AE	for which base flood elevations have been determined
V	Areas outside of the 0.2 percent annual chance
X	floodplain
D	Areas of undetermined, but possible, flood hazards

## **Anticipated Impacts and Mitigation Measures**

The project is not expected to impact groundwater resources, as the caprock acts as a barrier in the Project area. Although the Project area is situated mauka of the UIC line, no injection wells or cesspools will be installed (since the Project's wastewater collection system will eventually connect to the Honouliuli Wastewater Treatment Facility), and any runoff or wastewater disposal required for the project will be managed in full compliance with DOH regulations. Irrigation for landscaping will utilize brackish water from the 'Ewa caprock and/or treated effluent from the City and County of Honouliuli's Honouliuli Wastewater Treatment Facility if available to facilitate the recharge of caprock water and to reduce the demand for potable water from the BWS system.



Zone AE: Floodway Zone A: 100-Year Floodplain

Zone X500: 500-Year Floodplain

Zone X: Outside Floodplain/Minimal Flooding Area

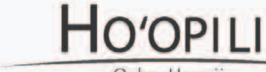
Zone D: Undetermined Flood Hazards

**Project Site Boundary Petition Area** 

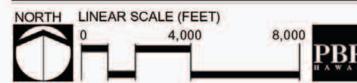
Source: Federal Emergency Management Agency Flood Insurance Rate Maps (Panels 220 & 310, 2005)

Disclaimer: This graphic has been prepared for general planning purposes only.

Figure 10: Flood Insurance Rate Map



Oahu, Hawaii



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Kalo'i Gulch is planned to be diverted to along the east side of the planned North-South Road, within a portion of the right-of-way. Proposed drainage improvements within the Project area include on-site detention and retention basins, which will promote on-site infiltration of surface water and facilitate groundwater recharge. Parcels D and E will also be used for off-site drainage.

There are presently no uses within Honouliuli Stream that are expected to require a permit from the U.S. Army Corps of Engineers. Additionally, there are presently no proposed uses expected to obstruct flows within Honouliuli Stream flood hazard zones.

#### 3.6 NATURAL HAZARDS

## **Existing Conditions**

Natural hazards include events such as tsunami, earthquakes, floods, hurricanes, soil slippage, and volcanic hazards. The Project area may be subject to hurricanes and minor earthquakes in the future. However, the Project area is not unique to these potential hazards.

According to the FIRM designations prepared by FEMA, the portions of the Project area are located within Zones A, AE, and X. These zones are described in Section 3.5 above.

## **Anticipated Impacts and Mitigation Measures**

The Project is not expected to exacerbate any natural hazards. Potential damage from hurricanes and earthquakes will be mitigated by compliance with the Uniform Building Code adopted by the City and County of Honolulu. All structures will be constructed for protection from earthquakes and tropical hurricanes.

#### 3.7 FLORA AND FAUNA

## **Existing Conditions**

Botanical resources surveys were conducted in 2006. These reports will be included in their entirety in the Draft EIS.

According to the botanical survey reports, most of the Project area is currently plowed and devoid of trees and brush. Other lands within the Project area are uncultivated brushland or pastureland. The vegetation is typical of agriculturally cultivated cropland or highly disturbed weedy areas. Little of the original native vegetation remains after over a century of intensive sugarcane agriculture and periodic burning. Native species have been replaced by aggressive non-native plant species. No federally listed endangered or

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threatened native plants, or candidate endangered species, were encountered on the property. Additionally, no wetlands occur on the property.

According to the 2006 biological survey reports, there are no unique or special habitats within the Project area, and that the habitat provided is not suitable for most native species.

The Pearl Harbor National Wildlife Refuge is located north of Parcels D and D2. The wetland refuge was established in 1972 as mitigation for construction of the Honolulu International Airport Reef Runway. The refuge is primarily devoted to the recovery of four endemic and endangered waterbirds (Hawaiian silt, Hawaiian moorhen, Hawaiian coot, and Hawaiian duck). The refuge is composed of two units, the 37-acre Honouliuli Unit bordering West Loch and the 25-acre Waiawa Unit bordering Middle Loch.

## **Anticipated Impacts and Mitigation Measures**

The Project's proposed land uses are not expected to have a significant negative impact on botanical resources or fauna in this part of O'ahu. The recently updated botanical survey and a fauna survey together with the Draft EIS will determine appropriate mitigation measures to address the Project's potential impact on such resources identified within the Project area.

## HO'OPILI ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE

# 4.0 ASSESSMENT OF THE EXISTING HUMAN ENVIRONMENT, POTENTIAL IMPACTS AND MITIGATION MEASURES

This chapter provides information related to archaeological and cultural resources, traffic, air quality, noise, visual resources, and the socio-economic environment. Technical studies are being conducted to identify the project's potential impacts and appropriate mitigation measures to minimize such impacts. These studies will be included in the Draft EIS.

### 4.1 Archaeological and Historic Resources

## **Existing Conditions**

Five historic properties (SIHP Nos. 50-80-12-4344, 4345, 4346, 4347, and 4348) were documented during Cultural Surveys Hawaii's archaeological inventory survey of the Petition Area. All five historic properties have been assessed as eligible for the State Register of Historic Places under Criteria C and D, except for Site 4344, which is only eligible under criterion D. The State Historic Preservation Division (SHPD) concurs with these significance assessments.

SHPD also concurs with the consulting archaeologist's (Cultural Surveys Hawaii) mitigation recommendations, which include: (1) no further archaeological work at Site 4344, (2) preservation of Sites 4345, 4346, 4347, and 4348, and (3) archaeological monitoring in the vicinity of the four areas of historic habitation (Honouliuli taro lands, Kapalani Catholic Church, Pipeline Village, and Drivers/Stable Village).

## **Anticipated Impacts and Mitigation Measures**

According to SHPD, the archaeological inventory survey report is now accepted in fulfillment of Hawaii Administrative Rules 13-284 and 13-276. A preservation plan and archaeological monitoring plan will be prepared and submitted to SHPD for their review and approval.

#### 4.2 CULTURAL RESOURCES

## **Existing Conditions**

The Project area was historically used for sugarcane cultivation and is currently used for agricultural production. Intensive cultivation and grazing on the land has likely destroyed many cultural resources within the Project area. A cultural impact assessment is being

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prepared to identify cultural resources and practices within the Project area. The assessment will be included in the Draft EIS.

## **Anticipated Impacts and Mitigation Measures**

The cultural impact assessment and Draft EIS will discuss if any mitigation measures are needed to address the Project's potential impact on cultural resources. If burials are encountered during Project construction, D.R. Horton will comply with the relevant notification and stop work requirements.

#### 4.3 Noise

## **Existing Conditions**

Aircraft activity over the 'Ewa area generates noise. Even when no aircrafts are flying near the Project area, noise is generated by traffic on adjacent roadways, including the H-1 Freeway, Farrington Highway, Kunia Road, and Fort Weaver Road. Wind through vegetation and birds also generate noise within the Project area.

A noise impact study is being conducted to determine existing noise levels within the site. The study will be included in the Draft EIS.

## **Anticipated Impacts and Mitigation Measures**

Noise will be generated by construction and earth-moving equipment during the Project's development. However, construction noise will be relatively short-term, occur only during daytime hours, and comply with DOH noise regulations. Noise impacts will only be felt on margins of the Project area that border sensitive land uses, such as existing residential uses on the eastern boundary (minimal development is currently contemplated along Old Fort Weaver Road) and the southern boundary (buffered by the 'Ewa Villages Golf Course) of the Project area.

If construction noise is expected to exceed DOH's maximum permissible property line noise levels, a permit will be obtained from the DOH to allow the operation of vehicles, construction equipment, power tools, etc. Additionally, construction equipment, vehicles, or devices will be equipped with mufflers, as necessary.

The Project may introduce up to 11,750 residential units, business and commercial spaces, schools, and parks on approximately 1,553.844 acres of land primarily used for agricultural purposes. Activities and vehicular traffic within the community will generate noise. However, noise generated by the project is expected to be contained within the Project area.

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The noise impact study and Draft EIS will determine the Project's impact on existing noise levels and identify appropriate mitigation measures.

## 4.4 AIR QUALITY

## **Existing Conditions**

Air quality in the Project area is relatively good and has likely improved with the discontinuation of sugarcane cultivation, which involved periodic burning and exposed large expanses of soils to wind erosion. Within the Project area, air quality may be periodically impacted by emissions from agricultural vehicles and Aloun Farm, Inc.'s storage/processing/distribution facility for farm produce. Additionally, industrial sources of air pollution are located southwest of the property at Campbell Industrial Park. However, prevailing winds carry emissions away from the site more than 80 percent of the time.

An air quality study is being conducted to determine existing air quality levels on-site. The study will be included in its entirety in the Draft EIS

## **Anticipated Impacts and Mitigation Measures**

During all phases of construction, there is a potential for fugitive dust emissions. These short-term air quality impacts will be mitigated by the implementation of a dust control management plan and compliance with the relevant provisions on Fugitive Dust set forth under Section 11-60.1-33, HAR.

After Project construction, long-term impacts to air quality can result from increased activity within the Project area. Vehicles will increase exhaust emissions, although public transportation will be encouraged by the Project area's proximity to the planned transit nodes and corridors. Stricter vehicular emission controls will also help to mitigate air quality impacts. The Project is being designed to promote walking/biking by integrating land uses. This will encourage residents to walk/bike from home to work, school, day care, retail outlets, and parks and trails.

The air quality study and Draft EIS will discuss mitigation measures to address the Project's short-term and long-term air quality impacts.

#### 4.5 Man-Made Hazards

## **Existing Conditions**

Man-made hazards include hazardous and toxic wastes and materials, and the manufacture, generation, use, storage, release, and disposal of such materials. A review of

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major Federal, State, and local regulatory agency lists of such materials identified no manmade hazards within the entire 1,553.844-acre Petition Area.

## **Anticipated Impacts and Mitigation Measures**

No impacts from hazardous industrial operations are anticipated, and neither people nor buildings will be exposed to explosive or flammable fuels or chemical containers as a result of the Project.

## 4.6 VISUAL RESOURCES AND OPEN SPACE

## **Existing Conditions**

The Project area is mostly open and undeveloped. Parcels A, B, and C are presently undergoing various forms of diversified agriculture. Views of the Wai'anae Mountains and Diamond Head are offered from certain locations of the project site. However, since most of the Project area is being actively cultivated, the public does not have the opportunity to experience these views.

## **Anticipated Impacts and Mitigation Measures**

The visual appearance of the Project area will change from vacant scrub and cultivated vegetation to a landscaped residential community with parks and open space. Project landscaping, the provision of view corridors, and sensitive architectural design will set the visual character of the area.

#### 4.7 SOCIO-ECONOMIC CHARACTERISTICS

A socio-economic impact assessment is being prepared and will be included in its entirety in the Draft EIS.

## 4.7.1 Population

## **Existing Conditions**

According to the City and County of Honolulu Department of Planning and Permitting ("DPP"), the year 2000 population of the Ewa Development Plan Area ("DPA") was 68,718 (DPP, 2003). This comprised an increase of 60.1 percent from its 1990 population of 42,931. The DPP expects the population of the Ewa DPA to increase to 124,775 by the year 2020. In comparison, the population for the City and County of Honolulu as a whole increased only 4.8 percent from 836,231 to 876,156 between 1990 and 2000. The City and County of Honolulu is expected to experience a population growth of 21.9 percent

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(234,995 persons) from 836,231 to 1,071,226 total residents during the same 30-year period.

## **Anticipated Impacts and Mitigation Measures**

The proposed project will increase the population of the 'Ewa region. This is consistent with the City and County of Honolulu's policy to direct future growth to the 'Ewa region. The Draft EIS will provide an estimate of the number of residents who will live in the Project area.

## **4.7.2** Housing

## **Existing Conditions**

Communities surrounding the Project area include Waipahu, West Loch, 'Ewa Villages, 'Ewa by Gentry, 'Ewa Beach, Ocean Pointe, Iroquois Point, Kapolei, Makakilo, Ko Olina, and Kalaeloa (Naval Air Station Barbers Point). The Draft EIS will provide a description of these communities.

Most of O'ahu's new housing stock is planned for development in the 'Ewa and Central O'ahu regions of the island. This trend is expected to continue over the next several decades to accommodate the anticipated population growth and housing demand on O'ahu. The 'Ewa region offers the island's major opportunity for home ownership at relatively reasonable prices because of lower land costs.

Over the next 20 years, the Ewa DPA is expected to experience a growth rate far larger than any other area of O'ahu. To accommodate the project growth, more than 30,000 housing units will be needed in 'Ewa between 2000 and 2025.

## **Anticipated Impacts and Mitigation Measures**

The Project may provide up to 11,750 residential units in a variety of housing types. D.R. Horton is aware of the current City and County of Honolulu affordable housing requirements (30 percent of the total number of units) and is prepared to price up to 30 percent of the total number of units developed on-site as affordable. In addition to home ownership opportunities, the project will provide commercial, educational, and recreational opportunities for residents.

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## **4.7.3 Economy**

## **Existing Conditions**

Presently, the Project area generates revenue in the form of rent from Aloun Farm Inc., Sugarland Farms, Inc., Rocker G. Livestock, Larry G. Jefts, Garst Seed Company, Roberts Hawaii, School Bus, Inc., and the Hawaii Agricultural Research Center; sales taxes from the sale of produce; and income taxes from employees of the various lessees.

## Anticipated Impacts and Mitigation Measures

The Project will include the development of residential, commercial, and industrial land that will generate property taxes and sales taxes each time a property is resold. The Project will generate income, excise, and property taxes for the State and the County. The economic and fiscal impacts of the project are currently being studied and a report of the findings will be included in its entirety in the Draft EIS.

## 4.7.4 Employment

## **Existing Conditions**

According to the State of Hawai'i Department of Labor and Industrial Relations website, Hawaii's seasonally adjusted unemployment rate dropped to 2.1 percent in October marking the third straight month Hawaii posted lowest unemployment rate in the nation. In Honolulu, the actual unemployment rate in October was 1.9 percent.

Presently, the Project area produces employment and income in the form of short-term agricultural and other leases that are revocable.

## **Anticipated Impacts and Mitigation Measures**

According to projects by Decision Analysts Hawaii, Inc. job growth in the Kapolei region will increase by nearly 160% over the next 20 years. Since the 2000 Census, jobs in the Kapolei region grew by 32 percent to nearly 25,000 in 2005. Reflecting the enormous growth that is expected to drive Kapolei's planned expansion, the projections show that jobs will increase to nearly 65,000 by 2025. The Project will generate direct, indirect, and induced jobs both within the Project area and on an island-wide basis. These jobs will occur both during construction and after construction as operational employment. Estimates of jobs created and potential income generated by the Project will be provided in the Draft EIS.

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#### 4.8 INFRASTRUCTURE

Within the Project area, there are no significant on-site infrastructure facilities. Extensive on-site and off-site improvements will be made, including roadways; water storage and transmission facilities; wastewater collection and treatment facilities, and electrical/communication systems. A preliminary engineering report for this Project will be included in the Draft EIS.

## 4.8.1 Roadways and Traffic

## **Existing Conditions**

Farrington Highway provides access to the Project area. It is a two-lane highway. Farrington Highway continues to the east from the Pālailai Interchange and becomes wider through Waipahu.

## **Proposed Conditions**

The City and County of Honolulu has plans for the widening of Farrington Highway to two lanes in each direction with a right-of-way width of 100 feet between the Kapolei Golf Course and Fort Weaver Road. The State Department of Transportation also plans to construct North-South Road along the eastern boundary of the UHWO campus site. North-South Road will connect the 'Ewa Beach and 'Ewa Marina areas with the H-1 Freeway (requiring the completion of 0.7 miles of Kapolei Parkway through Varona Village).

Mass transit will be one component of a multi-modal alternative that will provide a balanced transportation system in the Project area. The City and County of Honolulu Public Transit Authority operates TheBus on a supply and demand basis, subject to the availability of resources. In Kapolei, service to Honolulu is provided by buses traveling from Mākaha (Routes C, 93, and 93A), passing the property on Farrington Highway. Within the project vicinity, bus service is provided to and from Campbell Industrial Park (Route 413), Makakilo (Routes 411, 412, and 414), the Villages of Kapolei and 'Ewa Beach (Route 41), and the U.S. Veteran's Housing area (Route 415).

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## **Anticipated Impacts and Mitigation Measures**

The Project will generate traffic on local, collector, and regional transportation systems. However, continued development of Kapolei as the Second City and construction of the UHWO campus will help alleviate traffic from leeward and central areas of Oʻahu to Honolulu. The Project area will be designed to include residential, commercial, recreational, educational, and walking/biking facilities, enabling residents to live, work, play, shop, and learn within the community.

A Traffic Impact Analysis Report (TIAR) is being prepared to assess the impact of this Project on existing and projected traffic conditions. The TIAR will be included in its entirety in the Draft EIS.

#### 4.8.2 Water

## **Existing Conditions**

The Project area is within the BWS service area. The BWS has a 440-foot elevation system and a 228-foot elevation system. The service limit between the 440 system and the 228 system splits Parcel C of the Project area. A 5.0-million gallon (MG) storage tank provides storage for the 228-foot elevation system and this tank is located within Parcel G, adjacent to the H-1 Freeway. A 1.0-MG storage tank provides storage for the 440-foot elevation system and this tank is located within Parcel F, mauka of the H-1 Freeway. A 42-inch transmission line delivers water from the 440 system in Parcel F to the 228 system in Parcel G. Water from both 440 system and 228 system pass makai of the H-1 Freeway via transmission lines running through the Honouliuli Gulch crossing under the H-1 Freeway. These transmission lines connect both the BWS 440 and 228 systems to developed lands below the H-1 Freeway. There are also major transmission lines in Farrington Highway corridor. The transmission lines in Farrington Highway include 30-and 36-inch lines.

There is no non-potable water system in the area. However, irrigation water for agricultural lands in the area comes from a battery of wells commonly referred to as EP 5 & 6 located within Parcel C. The average irrigation use is approximately 2.0 to 3.0 million gallons per day (MGD), depending on the time of the year.

## **Proposed Conditions**

It is proposed to provide water system improvements to meet the Project's water demands and dedicate the improvements to the BWS. The project will require the installation of a 5.0 MG storage tank at the BWS 440 site in Parcel F. A new 24-inch transmission line will be installed parallel to the 42-inch running between the 440 tank site and 228 tank site to

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allow water to be pumped up to the 440 site. The pump station will be located at the existing 228 reservoir site in Parcel G.

Water for the 228 system will come from the existing 5.0 MG tank at the Honouliuli 228 site just mauka of the H-1 Freeway (Parcel G). The storage requirement for the project (1.5 MG) does not merit construction of a new tank at the 228 site. The project will contribute Facility Charges that will be used for the construction of a new 5.0 MG tank at the Honouliuli 228 site at the appropriate time.

The Honouliuli Gulch crossing under H-1 Freeway may not have sufficient capacity for additional transmission lines to carry water to the project boundaries. The installation of a tunnel (conventional construction or micro-tunneling) is being explored to allow the installation of transmission mains under the Freeway to the project.

It is intended that source (well supply) would be provided by BWS from existing sources with the developer paying the appropriate Facility Charges. The total average daily source requirement for ultimate build-out is estimated at 3.9 MGD.

With respect to non-potable water requirements, the project will be maximizing non-potable usage to minimize the demand on the potable system. Street right of ways of the Ho'opili project will have underground non-potable distribution systems. It is proposed to upgrade the existing non-potable source (EP 5 & 6 located within Parcel C) to a BWS dedicable standard to be used as the source for the non-potable system. It is also proposed to ultimately allow for future dedication of the non-potable system. It is estimated that the ultimate non-potable demand for the project will be approximately 2.1 MGD

## **Anticipated Impacts and Mitigation Measures**

New water system demands will tax the existing infrastructure including the existing source, transmission and storage components of the BWS potable water system. It will be a requirement that the project provide system upgrades to the transmission and storage components to ensure that the system operates effectively and meets BWS standards.

Although BWS cannot reserve water for future projects, it has indicated that there is water available to meet the estimated water demand for the Project (3.9 MGD). Water Facility Charges paid by the developer will be used by the Board to assist in the source replenishment caused by the project's water demands.

The project will be maximizing the use of non-potable water for irrigation to minimize the impact on the source component of the BWS system. It is proposed that the Project's greenbelts, parks and roadway medians use non-potable water for irrigation.

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A Conceptual Water Master Plan will be prepared and included in the Draft and Final Environmental Impact Statement for the Project in conjunction with the Land Use Petition processing.

#### 4.8.3 Wastewater

## **Existing Conditions**

Within the 'Ewa area, sewage is treated by the City and County of Honolulu's Honouliuli Wastewater Treatment Facility. The treatment facility is located at the corner of North Hanson Road and Geiger Road, approximately 7,200 feet (1.4 miles) south of Parcel C. Based on average daily flows, the facility has a primary treatment capacity of 38 million gallons per day (MGD), with future plans to expand to 51 MGD. The primary means of disposal is through a deep ocean outfall with a design capacity of 112 MGD. The facility was recently upgraded to produce 12 MGD of R-1 quality effluent, which is suitable for irrigation reuse.

The nearest existing sewer collection system to the Project area is the Makakilo Interceptor/Kapolei Interceptor system located along the OR&L railroad tracks. The Department of Hawaiian Homelands (DHHL) is currently extending a collection system component from the Makakilo/Kapolei collection in a northerly direction up the North/South Road alignment to serve its land holdings in the area. The component (42-inch sewer) has been oversized to accommodate the Hoʻopili project as well as the University of Hawaiʻi West Oʻahu (UHWO) campus.

## **Proposed Conditions**

The Ho'opili project will ultimately serve a projected 11,750 homes and commercial and retail space. This translates into an average daily sewage flow rate of 3.85 MGD.

A gravity collection system will be designed to City and County standards and ultimately dedicated to the City to serve the project. The point of connection to off-site collection systems will be at the southern boundary of Parcel C and at the common property line with DHHL. DHHL is installing a 36-inch collection system within its East Kapolei project and the collection system has been oversized to receive wastewater from the Hoʻopili project.

Two pump stations will be required for the project. One will generally be located the southeastern end of Parcel C. All sewage from the eastern one-third of Parcel C will flow by gravity sewer to the subject pump station. The pump station will in turn lift the sewage to the gravity flow system on the western potion of Parcel C that ultimately connects to the 36-inch sewer at the DHHL/Hoʻopili boundary.

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A second pump station will be required to serve the eastern half of Parcel B. Honouliuli Gulch bisects Parcel B and sewage from the eastern half of Parcel B will be collected by gravity sewer and directed to this pump station. The pump station will lift sewage into the gravity system within Parcel C.

An alternative for the Parcel B pump station is to connect to the existing City gravity systems within Farrington Highway corridor and ultimately connect to the Kunia and Waipahu pump stations. If this alternative is utilized there are expected upgrades to the existing gravity systems within Farrington Highway and surrounding streets as well as upgrades to both the Kunia and Waipahu Pump Stations.

Ultimate development of the Ho'opili project will exceed the capacity of the Makakilo/Kapolei Interceptors running along the OR & L railroad tracks. The Ho'opili project will participate in a future project to increase the capacity of the Makakilo/Kapolei Interceptor sewers from the intersection of North/South Road to the Honouliuli WWTP. Options being explored are a third interceptor or complete replacement of one of the existing interceptors.

## **Anticipated Impacts and Mitigation Measures**

The project will tax the existing sewer collection infrastructure in the area. To mitigate this effect, new collection system components consisting of gravity sewer, pump stations and relief sewers will be constructed.

The project will generate additional flow that must be treated at the Honouliuli WWTP. To mitigate the additional burden, the project will participate in the Wastewater System Facility Charge (WSFC) program and contribute funds (based on building permits) to expand the treatment plant. Land is available at the Honouliuli WWTP site to allow for expansion.

Preliminary contact with the City and County of Honolulu Department of Environmental Services has indicated that the sewer system has the capacity to accommodate the Project with a build-out beginning in four to six years and ending 15 to 20 years after. The Hoʻopili project area has always been within the service limits of the Honouliuli WWTP.

A Preliminary Wastewater Collection System Master Plan will be prepared and included in the Draft and Final Environmental Impact Statement for the Project in conjunction with the Land Use Petition processing

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## 4.8.4 Drainage

## **Existing Conditions**

The Project area is within three distinct drainage basins. These are the Kalo'i drainage basin, the Honouliuli Stream drainage basin and the West Loch drainage basin. The Kalo'i Basin stretches to the top of the eastern slopes of the Waianae mountain range and terminates at the ocean in the vicinity of Haseko's Oceanpointe development. The drainage basin mauka of the H-1 Freeway is 3,000 acres and generates a peak flow of 5,000 cubic feet per second (CFS). The drainage basin size increases to 4,330 acres and carries a peak flow of 8,900 CFS at the entrance to 'Ewa Villages. This is laterally equal to the southern boundary of Parcel C. Approximately 100 acres of the Ho'opili project are within this watershed.

The Honouliuli Stream drainage basin also stretches to the top of the eastern slopes of the Waianae mountain range. This basin contains of 6,600 acres (11,200 CFS – peak flow) of drainage area mauka of the H-1 Freeway and expands to 7,880 acres (12,300 CFS – peak flow) at its connection with the West Loch of Pearl Harbor. The terminus location is in the vicinity of the West Loch Golf Course. Approximately 450 acres of the Hoʻopili project are in the Honouliuli Stream drainage basin.

The West Loch drainage basin is the smallest drainage basin affecting the project. The basin upper reaches begin at the makai side of the H-1 Freeway and generally terminates at two locations at the West Loch of Pearl Harbor. One terminus is through West Loch Estates and the other is an overflow from an existing detention basin located east of Fort Weaver Road and just south of the OR&L railroad tracks (Parcel D). This basin contains approximately 937 acres and generates a peak flow of 2,500 CFS. The total basin is within lands that are part of the Hoʻopili project.

## **Proposed Conditions**

With respect to the portion of the project within the Kalo'i drainage basin, the project will be creating on-site detention basins to collect all storm water runoff and discharge the flow at a rate that will not exceed pre-development conditions. The project will also be providing storage and detention to meet the City and County of Honolulu Drainage Standards with respect to water quality standards. The basin size could be decreased at some time in the future when the terminus of Kalo'i basin is finalized. All developed projects discharging to the Kalo'i basin currently have discharge restrictions and these restrictions will continue until the Kalo'i basin terminus is finalized. The portions of the project within the Kalo'i drainage basin are Parcels A and the western most part of Parcel C adjacent to the North/South Roadway alignment.

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With respect to the Honouliuli Stream drainage basin, the project will provide detention basins to collect all storm water runoff and discharge the flow at a rate that will not exceed the 10-year recurrence flow rate. This is the recognized capacity of the Honouliuli Stream channel. The project will also be providing storage and detention to meet the City and County of Honolulu Drainage Standards with respect to water quality standards. The portions of the project within the Honouliuli Stream drainage basin are Parcels B and the northeastern part of Parcel C adjacent to Old Fort Weaver Road.

An alternative to on-site detention basins for the Honouliuli Stream drainage basin is one larger off-site detention basin located at Parcel E. Storm water runoff would be routed through the off-site basin to off-set the increased flow added at the actual project site.

With respect to the West Loch drainage basin, the project intends to collect all storm water and route it to the existing detention basin located on the east side of Fort Weaver Road and south of the OR& L railroad tracks. The routing would require the installation of a concrete channel from the southeastern end of Parcel C, under Fort Weaver Road (using the existing cane haul underpass) and connecting to the existing detention basin. The basin would be expanded to ensure that the water quality storage component of the City Standards was achieved. An overflow from the detention basin would discharge to the West Loch of Pearl Harbor (see Parcel D2). The portion of the project within the West Loch drainage basin is the bulk of Parcel C.

The overflow from the detention basin would have to cross Navy property. Permission of the Navy would be required. Initial inquiries have been made to the Navy see if the overflow can be negotiated. Issues with the Navy include security and access in a post-"9/11" environment, Navy plans for development in the overflow corridor, and the acquisition of a maintenance commitment by the City and County of Honolulu. The concept of the overflow across Navy property is not new and was approved in concept back in the mid- to early 1990's. Lack of action and the issues cited above are points that need to be resolved for the overflow option to move forward.

Should the overflow option across Navy property be realized, the project will solve drainage problems occurring on Fort Weaver Road, within West Loch Estates and within portions of 'Ewa Villages by effectively collecting the storm water that currently is misdirected across these properties.

The alternative drainage solution if the overflow across Navy property cannot be resolved is to have the project construct retention basins on site holding back the total volume of a 100 year- 24 hour storm. These basins would be constructed on the southern portion of Parcel C.

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## **Anticipated Impacts and Mitigation Measures**

The Project will create impervious surfaces such as roadways, roofs, paved parking areas, and sidewalks. These surfaces will cause an increase in storm water discharge within the Project area. However, detention basins and or retention basins are being planned and sited to detain and or retain storm water to ensure that areas downstream of the Project are not impacted.

Surface water quality can be impacted through development. The project will be providing detention basins to meet City Standards for water quality treatment. Structural methods may also be used to meet water quality requirements of the City Drainage Standards. Structural methods include the use of Stormceptor® type storm drain manholes.

A Drainage Master Plan will be prepared and included in the Draft and Final Environmental Impact Statement for the Project in conjunction with the Land Use Petition processing.

#### 4.9 Public Services and Facilities

The Project will increase the population of Kapolei. As such, the demand for public services (i.e., police and fire protection, public transportation) and public facilities (i.e., schools, hospitals, parks) will increase. However, the Project will include public facilities, including as many as five or more public school sites and approximately 210 acres of public parks and open space.

#### **4.9.1 Schools**

## **Existing Conditions**

The following table compiled from the State Department of Education (DOE) sources lists the past and projected enrollments of public schools within the vicinity of the Project area.

Table 7. Public School Enrollment							
School	2005- 2006 Capacity	2002-2003 Enrollment	2003-2004 Enrollment	2004- 2005 Enrollment	2005- 2006 Enrollment	2009 Projected Enrollment	2009 Enrollment Less 2005- 2006 Capacity
Middle and High	Schools – K	apolei Comple	×				
Kapolei High	1,953	1,234	1,738	1,872	2,042	2,712	759
Kapolei Middle	1 <i>,</i> 501	1,471	1,499	1,493	1,431	1 <i>,</i> 715	214
Elementary Schools – Kapolei Complex							
Barbers Point	636	302	328	413	414	426	-210
Kapolei	1,291	1,140	1,165 (Fall)	1,043	1,028	1,246	-45

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Elementary Schools – Campbell Complex							
'Ewa	844	768	789	791	834	893	49
Holomua	1 <i>,</i> 185	1,224	1,278	1,302	1,297	1 <i>,</i> 457	272
Iroquois Point	935	396	279	372	397	343	-592
Kaimiloa	729	664	634	600	648	618	-111
Pōhākea	681	504	512	497	492	826	145
Keone'ula					431	725	

Source: State of Hawai'i, Department of Education, March 2005 and December 2006

The UHWO is proposing a 12-acre elementary school site and the DHHL is proposing an elementary school site and a middle school site in its East Kapolei 2 project area. A 50-acre high school on DHHL land between Farrington Highway and the H-1 Freeway is under discussion.

For planning purposes, the DOE assumes an enrollment of 550 students per elementary school, 600 students per middle school, and 1,000 students per high school.

## **Anticipated Impacts and Mitigation Measures**

Based on preliminary consultations with the DOE, the proposed project could include as many as five or more public school sites. The Conceptual Land Use Plan (Figure 6: Conceptual Land Use Plan) shows possible locations for three elementary schools, one middle school, and one high school. In total, approximately 90 acres will be reserved for public schools and facilities to meet the demand for educational facilities in the growing 'Ewa region. This does not include the possibility that a private school or two may be included in the Project.

#### 4.9.2 Police and Fire Protection

## **Existing Conditions**

The proposed Project is located within Honolulu Police Department District 8, which encompasses the leeward coast and the 'Ewa Plain. There are approximately 100 field officers assigned to this district, and response time for the entire district fluctuates between five and seven minutes. In order to meet the growing needs of the 'Ewa Plain communities, in 2000, the City and County of Honolulu opened the Regional Kapolei Police Station at 1100 Kamokila Boulevard.

Fire protection in the Ewa Development Plan area is provided by the Honolulu Fire Department (HFD) 'Ewa Beach Fire Station (an engine company), Makakilo Fire Station (an engine company), and Kapolei Fire Station (an engine and ladder company, and the Battalion 4 Headquarters). The Kapolei Fire Station located in Kapolei Business Park was completed in 1995 to serve the expanding development on the 'Ewa Plain.

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## **Anticipated Impacts and Mitigation Measures**

The Project will increase the population of Kapolei and the demand for police and fire service. According to the *Ewa Development Plan*, to meet the projected population and economic growth in 'Ewa by 2020, three fire stations at 'Ewa Villages, Ko Olina, and Makaiwa Hills are planned, but service dates have not been determined. Within the Project area, access for fire apparatus, water supply, and building construction will be in conformance with existing codes and standards.

The Draft EIS will identify appropriate mitigation measures in order to address the Project's anticipated impacts on police and fire service.

## 4.9.3 Health Care/Hospitals

## **Existing Conditions**

Health care services in the 'Ewa region are provided by Hawaii Medical Center West (the nearest hospital facility), Pali Momi Medical Center, Wahiawā General Hospital, Kaiser Permanente Pūnāwai Clinic in Waipahu, and the recently opened Kapolei Medical Park (located across the Kapolei Shopping Center at the corner of Farrington Highway and Fort Barrette Road). In addition, medical services can be obtained at major hospital facilities in urban Honolulu, about a 30-minute drive from the subject property.

## **Anticipated Impacts and Mitigation Measures**

The Project will increase the population of Kapolei and the demand for healthcare facilities. The Draft EIS will identify appropriate mitigation measures in order to address the Project's anticipated impacts on existing healthcare facilities.

#### 4.9.4 Recreational Facilities

## **Existing Conditions**

Recreational facilities in the 'Ewa area include regional parks, community parks, neighborhood parks, and beach/shoreline parks. Regional parks are large recreational complexes. According to the City and County of Honolulu Department of Parks and Recreation (DPR), community parks serve an approximate population of 10,000 people and normally include play fields, courts, and a recreation building. Neighborhood parks serve an approximate population of 5,000 people and usually include play fields, courts, and a comfort station. Beach/shoreline parks are day use parks primarily for swimming, sunbathing, and picnicking. Existing parks in the 'Ewa area are listed in the following table.

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Table 8. 'Ewa Parks

Name	Туре	Size (acres)			
Barbers Point Beach Park	Beach	7.39			
'Ewa Beach Community Park	Community	13.25			
'Ewa Beach Park	Beach	4.88			
'Ewa Mahiko Neighborhood Park	Neighborhood	6.33			
Kahe Point Beach Park	Beach	4.47			
Kamokila Park	Community	5.89			
Kapolei Community Park	Community	12.00			
Kapolei Regional Park	Regional	69.39			
Makakilo Community Park	Community	8.50			
Makakilo Neighborhood Park	Neighborhood	4.01			
Mauka Lani Neighborhood Park	Neighborhood	4.40			
One'ula Beach Park	Beach	30.00			
Pu'uloa Neighborhood Park	Neighborhood	4.34			
West Beach Shoreline Park, North	Beach	10.00			
West Beach Shoreline Park, South	Beach	18.26			
Source: State Comprehensive Outdoor Recreation Plan, State of Hawai'i, Department of					

Land and Natural Resources, May 2003

## **Anticipated Impacts and Mitigation Measures**

The Project includes approximately 210 acres for park and open space. The City and County of Honolulu's Park Dedication Ordinance applies to all new residential developments and will mitigate the demand for recreational facilities. In addition, the Project may include organizations that provide recreational and/or social service facilities such as the Boys and Girls Clubs and YMCAs.

## 4.9.5 Public Transportation

#### **Existing Conditions**

Oahu Transit Services, Inc. under contract to the City and County of Honolulu operates TheBus on a schedule subject to the availability of resources. In Kapolei, service to Honolulu is provided by buses traveling from Mākaha (Routes C, 93, and 93A), passing on Farrington Highway. The Ewa Development Plan Public Facilities Map shows future transit nodes along Kapolei Parkway and the proposed North-South Road. Transit nodes are planned to facilitate TheBus system and any rapid transit system that may be planned in the future. Farrington Highway, Kapolei Parkway, and the proposed North-South Road were designated as transit corridors. A rapid transit corridor is planned to connect the City of Kapolei with Waipahu and onward to the Primary Urban Center. The corridor could provide for shuttle service, express bus service, or even higher-speed dedicated transit service from Waipahu to the City of Kapolei along the Farrington Highway right-of-way.

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According to the *Ewa Development Plan*, a rapid transit corridor is planned to connect the City of Kapolei to Waipahu and onward to the Primary Urban Center of Honolulu. Conceptually, the transit corridor would extend from the City of Kapolei along Kapolei Parkway (and its proposed extension) and up the proposed North-South Road, turning eastward along Farrington Highway to Waipahu One transit node is shown in the vicinity of the Hoʻopili property (at the intersection of Farrington Highway and the proposed North-South Road).

The Honolulu High-Capacity Transit Corridor Project (HHCTCP) has evaluated transit alternatives for the 23-mile long corridor between Kapolei and UH Mānoa. Four alternatives were analyzed (DTS 2006):

- **Alternative 1.** The No-Build Alternative includes existing bus and highway facilities and other committed transportation projects identified in the *Draft Oahu Regional Transportation Plan* (2030) by the Oahu Metropolitan Planning Organization.
- **Alternative 2.** The Transportation System Management Alternative provides an enhanced bus system based on a hub-and-spoke route network.
- Alternative 3. The Managed Lanes Alternative involves construction of a new two-lane viaduct starting at the H-1 Waiawa Interchange and ending at Pacific Street in Iwilei. An additional access point to enter and exit the Managed Lanes would be provided near Aloha Stadium. Buses, high-occupancy vehicles (with two or three or more passengers), and toll-paying single-occupant vehicles would be allowed to use the Managed Lanes.
- Alternative 4A. The Fixed Guideway Alternative is a high-capacity transit line with a Kamokila Boulevard / Salt Lake Boulevard / King Street / Hotel Street / Kapi'olani Boulevard alignment.
- Alternative 4B. The Fixed Guideway Alternative is a high-capacity transit line with a North-South Road / Camp Catlin Road / King Street / Queen Street / Kapi'olani Boulevard alignment.
- Alternative 4C. The Fixed Guideway Alternative is a high-capacity transit line with a Fort Weaver Road / Farrington Highway / Kamehameha Highway / Dillingham Boulevard / Ka'aahi Street / Beretania Street / King Street / Kai'ali'u Street alignment.
- Alternative 4D. The Fixed Guideway Alternative is a high-capacity transit line with a North-South Road / Farrington Highway / Airport / Dillingham Boulevard / Hotel Street / Kapi'olani Boulevard with a Waikīkī spur alignment.

The results of the alternatives analysis were submitted to the Honolulu City Council in November for its use in selecting the Locally Preferred Alternative (LPA). On December 22, 2006, the City Council adopted Bill 79 (2006), CD2, FD2 which selects the fixed guideway alternative as the LPA. The LPA route travels between Kapolei and the University of Hawaii at Manoa, starting at or near the intersection of Kapolei Parkway and Kalaeloa Boulevard, down Saratoga Avenue to North/South Road (green route) or through

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Kamokila Boulevard (yellow route), as determined by the city administration before or during preliminary engineering. The route then proceeds to Farrington Highway across Ft. Weaver Road, to Kamehameha Highway to Honolulu via Dillingham Boulevard to UH Manoa with a branch to Waikiki. The City will now undertake preliminary engineering and prepare the environmental disclosure document for the LPA. A "minimum operable segment" or MOS will be selected as the first phase of the project, subject to Council approval.

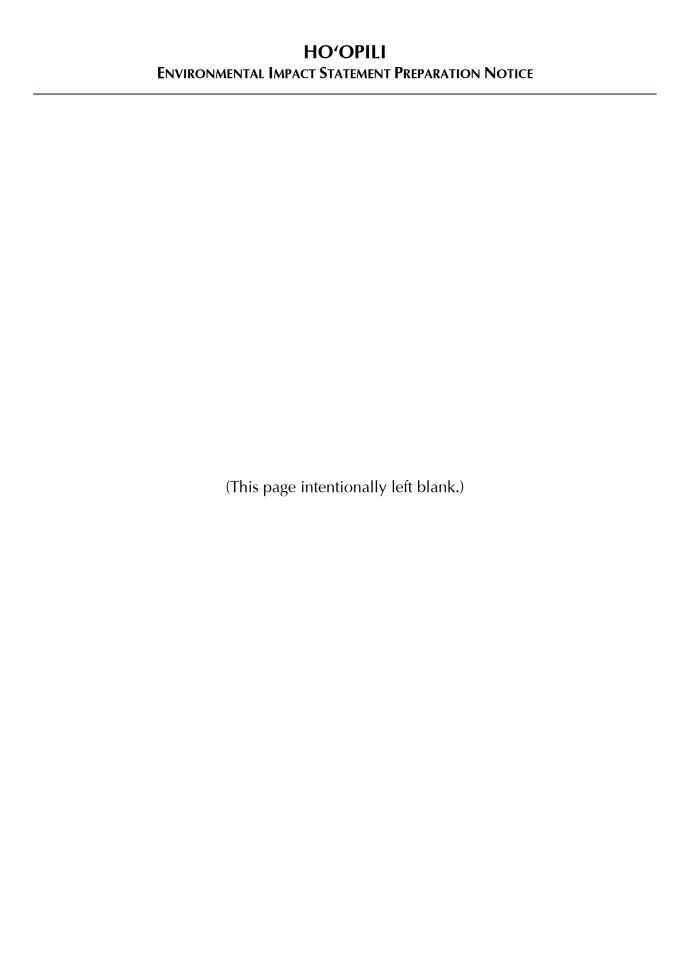
Both of the possible Kapolei alignments include at least one station adjacent to the Ho'opili site.

The Fixed Guideway Alternative alignments that are adjacent to the Ho'opili site would either be at-grade with limited grade crossings or on elevated structures. The fixed guideway could be as narrow as 25 feet wide. If the structures are elevated, they would be supported by six foot wide columns and the structure could be about 30 feet tall.

At this time, no decision has been made regarding the technology that would be used for the Fixed Guideway Alternative. This decision will be made at a later stage of project development. Now that the City Council has select the Fixed Guideway Alternative that follows either Farrington Highway and/or North-South Road adjacent to the Hoʻopili site, continued coordination will be integral. Following the Council's decision, the City will prepare a draft EIS and request approval from Federal Transit Administration to begin preliminary engineering (project design). The earliest that construction could begin on a selected alternative would be 2009. Due to the size and cost of the overall project, it is likely to be built in several phases lasting several years, starting with the MOS.

## **Anticipated Impacts and Mitigation Measures**

The Project will be designed to be walkable/bikable and transit-ready, but not transit-dependent. The use of public transportation will be encouraged within the Project area, as TheBus passes through it along Farrington Highway and transit nodes and corridors are located nearby. With several public schools and retail areas proposed, the proposed Hoʻopili Conceptual Land Use Plan is planned as a community in residents can live, work, play, shop, and attend school. Additionally, the UHWO campus will enable 'Ewa residents to attend a higher education institution without commuting to Honolulu. Increased use of public transportation means fewer residents driving their own vehicles and less traffic on roadways. As the Project and the City of Kapolei develops over several years, vehicular traffic into Honolulu is likely to gradually decrease as more jobs are created in Kapolei and Kalaeloa.



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## 5.0 ALTERNATIVES TO THE PROPOSED ACTION

In compliance with the provisions of Title 11, Department of Health (DOH), Chapter 200, Environmental Impact Statement Rules, Section 11-200-10(6), the alternatives considered are limited to those that would satisfy the objectives of the proposed UHWO campus, while minimizing the potential for adverse environmental impacts. The feasible alternatives must realistically address the project's economic characteristics while also responding to the surrounding land uses that will be impacted by the project. In conformance with applicable regulations, other possible alternatives have been investigated to identify alternative sites, the appropriate uses for the property, and how they would best be accomplished.

### **5.1 ALTERNATIVE SITES**

There are very few large parcels left on O'ahu that are designated for residential development (as shown on the *Ewa Development Plan*). The Project is designated mostly Low and Medium Density Residential. As such, the City and County of Honolulu has long recognized that most of the Project area is best used for residential and other development.

#### 5.2 No-action Alternative

The "no-action" alternative would not be consistent with stated governmental policies, which direct future growth to the 'Ewa region. Under this alternative, the site would remain as agricultural land, underutilized in terms of meeting the demand for residential homes (including affordable homes) and public schools. Additionally, employment opportunities offered during construction and operation of the project would not be provided.

The "no-action" alternative was rejected because it is not consistent with government plans to develop Kapolei as the Second City.

# 5.3 ALTERNATIVES RELATED TO DIFFERENT DESIGNS OR DETAILS OF THE PROPOSED ACTIONS WHICH WOULD PRESENT DIFFERENT ENVIRONMENTAL IMPACTS

Different designs could be applied to the Project, and depending on the density and design capacity, would result in different environmental impacts. For example, a higher density would reduce the buildable area and quantity of surface runoff. However, buildings would be larger and taller. Spreading out the community into a larger land area would reduce the density but consume more land, increase the quantity of surface runoff, and require a much larger investment in grading and infrastructure. The demand for

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potable water and the quantities of wastewater, solid waste, and traffic generated would vary with different designs, depending on the number/quantity of residential units, schools, commercial square footage, and roads.

# 5.4 ACTIONS OF A SIGNIFICANTLY DIFFERENT NATURE WHICH WOULD PROVIDE SIMILAR BENEFITS WITH DIFFERENT ENVIRONMENTAL IMPACTS

There are no known actions significantly different to the Project that would provide similar benefits. The Project may provide up to 11,750 residential units, as many as five or more public school sites, 210 acres of parks and open space, and employment opportunities during and after construction.

## 5.5 ALTERNATIVE OF POSTPONING ACTION PENDING FURTHER STUDY

Development of the 'Ewa region as O'ahu's Second City has been studied and planned for many years. Further study of any proposed development on the property would not be consistent with the *Ewa Development Plan* or the State's objective of providing new educational opportunities within an area planned for major population growth. Therefore, this alternative was rejected, as it would not achieve the overall objectives for the Project, which would create a mixed-use community including residential, business, and commercial areas; schools; parks and open space.

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## 6.0 CONSULTATION

## 6.1 Individuals/Organizations to be Consulted During the EIS Process

This EISPN will be distributed to the following individuals and organizations.

## City Agencies

- Board of Water Supply
- City Council Councilmember Todd Apo (District 1)
- Department of Community Services
- Department of Design and Construction
- Department of Environmental Services
- Department of Facility Maintenance
- Department of Parks and Recreation
- Department of Planning and Permitting
- Department of Transportation Services
- 'Ewa Neighborhood Board, No. 23
- Fire Department
- Makakilo/Kapolei Neighborhood Board, No. 34
- Police Department
- Waipahu Neighborhood Board, No. 22

## State Agencies

- Department of Business, Economic Development and Tourism
- Department of Business, Economic Development and Tourism Strategic Industries Division
- Department of Business, Economic Development and Tourism Land Use Commission
- Department of Business, Economic Development and Tourism Office of Planning
- Department of Defense
- Department of Education
- Department of Hawaiian Home Lands
- Department of Health Environmental Planning Office
- Department of Land and Natural Resources
- Department of Land and Natural Resources State Historic Preservation Division
- Department of Transportation
- Office of Environmental Quality Control
- Office of Hawaiian Affairs
- State Legislature Representative Sharon Har
- State Legislature Senator Mike Gabbard
- University of Hawai'i Environmental Center

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## Federal Agencies

- Department of the Army Army Engineer District, Civil Works Branch
- Department of the Interior Fish and Wildlife Service
- Department of the Navy

## Other Individuals/Agencies

- The Gentry Companies
- Hawaiian Electric Company, Inc.

In addition, the EISPN will be sent to the following libraries:

- Hawai'i State Library;
- 'Ewa Public Library;
- Kapolei Public Library;
- University of Hawai'i Hamilton Library;
- Department of Business, Economic Development and Tourism Library;
- Legislative Reference Bureau; and
- City and County of Honolulu Department of Customer Services Library (formerly the Municipal Reference and Records Center).

## HO'OPILI ENVIRONMENTAL IMPACT STATEMENT PREPARATION NOTICE

## 7.0 REFERENCES

Hawai'i, State of. Department of Education. School Status and Improvement Report: School Year 2004-2005. Available at: <a href="http://arch.k12.hi.us/school/ssir/2005/leeward.html">http://arch.k12.hi.us/school/ssir/2005/leeward.html</a> (February 2006).

Honolulu, City and County of. Department of Planning and Permitting. (2003) Community Profiles: 2000 by Development Plan Area. Available at: http://honoluludpp.org/planning/demographics2/CP2kDPA.pdf. (February 2006).

PBR HAWAII. DHHL East Kapolei Development Parcel B Final Environmental Assessment. January 2005. Honolulu, Hawai'i. Report prepared for the State of Hawai'i Department of Hawaiian Home Lands.

PBR HAWAII. *University of Hawai'i West O'ahu Final Environmental Impact Statement*. December 2006. Honolulu, Hawai'i. Report prepared for the University of Hawai'i.

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